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EDUCATION FOR SUSTAINABILITY – THE KEY FACTOR IN THE DEVELOPMENT OF GREEN ENTREPRENEURSHIP

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Abstract: Sustainable development has become a top priority on the global agenda in recent years. Scientific research, trends in country development, and practical experience related to environmental degradation and the effects of climate change clearly demonstrate the need to alter economic development models. The focus of this paper is to evaluate global issues, such as climate change, that require a change in our lifestyles and a revolution in the way we think and act. To achieve this change, we require new skills, values, and attitudes that lead to more sustainable societies. This pressing need must be addressed by education systems by defining relevant learning objectives and learning contents, introducing pedagogical methods that properly prepare learners, and motivating their institutions to incorporate sustainability principles in their management structures. The Climate Bank Roadmap data was used to conduct an empirical analysis, which clearly reflected the importance of an appropriate educational response in the new 2030 Agenda for Sustainable Development. The result of the paper underline that in this way, the accumulation of knowledge is supported for understanding the complexity of the world, the development of green entrepreneurship, critical thinking, but also the capacities for action to respond to these challenges through sustainable solutions.

Keywords: green entrepreneurship, sustainable development, education, sustainability.

JEL Classification: Q01, Q57.

1. Introduction

Creating learning opportunities that are environmentally sustainable is critical to the present and future of our planet. The ecological crisis affects everyone and every aspect of society. Timely strategic action is needed to help Europeans fully participate in the green transition of their economies and societies, rather than simply react. Ecological sustainability learning is part of this strategic approach.

Goal 4.7 of the 2030 Agenda states that by 2030, signatories must ensure that all students acquire the knowledge and skills they need to promote sustainable development; this includes education for sustainable development and sustainable lifestyles, human rights, gender equality, the promotion of peace and A culture of non-violence, global citizenship and appreciation of cultural diversity, and the contribution of culture to sustainable development.

Education for sustainability is a key objective as it helps people understand and respond to the impacts of the climate crisis by giving them the knowledge, skills, values and attitudes they need to act as agents of change. The importance of education and training in tackling climate change is recognised by the United Nations Framework Convention on Climate Change, the Paris Agreement and the related Agenda for Action on Climate Empowerment, which require governments to educate all major stakeholders and policy groups. engage. and action on climate change.

Developing a more sustainable lifestyle requires awareness of current changes in the world that require more sustainability.

Education is critical to sustainable development. Today, education is critical to helping leaders and citizens develop solutions for a better, more sustainable future. Unfortunately, our current pool of knowledge, skills and experience in various fields does not provide solutions to all current global, social and economic problems. While humanity has experienced many crises in the past and overcome them brilliantly, we are currently facing bigger problems and a growing population. While we can learn from history to solve today's problems, current realities do not warrant that new generations must learn what sustainability means on their own. Education is key to learning and a sustainable future (see Figure 1).



Figure no. 1. Key tools for climate change and environmental education

Source:

[https://www.presidency.ro/files/userfiles/EDUCA%C8%9AIA%20PRIVIND%20SCHIMB%C4%82RILE%20CLIMATICE%20%C8%98I%20MEDIUL%20%C3%8EN%20%C8%98COLI%20SUSTAINABLE\(1\).pdf](https://www.presidency.ro/files/userfiles/EDUCA%C8%9AIA%20PRIVIND%20SCHIMB%C4%82RILE%20CLIMATICE%20%C8%98I%20MEDIUL%20%C3%8EN%20%C8%98COLI%20SUSTAINABLE(1).pdf)

The concept of sustainable development must be implemented at the whole society level, in which general education, especially higher education, plays a crucial role. Educational institutions must use resources wisely to achieve sustainable development and provide young people with life experiences in a sustainable environment. They must become catalysts for necessary changes at the level of society as a whole, and their graduates must become instruments for the transformation of society as a whole towards sustainable development. Because most forms of economic activity become inefficient when controlled centrally, the notion that economic activity must be led by entrepreneurs who respond to policy incentives through managerial and technological innovation has become dominant over the past two decades.

These private sector investments in eco-innovations not only generate profits for entrepreneurs and investors, but can also create significant positive externalities for society and the environment as a whole, especially if they not only help create a small niche market, but It can also create huge positive externalities for society and the environment as

a whole. For them, driving the future has the potential to scale and enable sustainable transformation of the entire industry. The United Nations stated that the sustainable development of the earth will be the main concern of the United Nations in the next 12 years, and called on countries to take practical measures to solve social, economic and environmental problems.

Each generation has the same goal, which means economic, social and technological growth and development, which means a prosperous life. Persistence in the pursuit of these goals has brought mankind to the stage of development it has now reached. More and more resources are becoming scarce, the climate is changing for the worse and the environment is deteriorating by the day. Societies are becoming increasingly unbalanced and many countries are facing significant difficulties in accessing the resources they need for development. Amid growing pressure from environmental, social and economic constraints, humanity has begun to recognise that it will self-destruct if it continues to consume irrationally, waste and ignore the signals of this lifestyle. The long boom of recent years has fuelled these habits, which means that the promises of the modern economy may have created the conditions for its own failure.

In this context, Von Hauff and Kleine, Pierre Chapuy, Raderbauer argue that sustainability has three permanently interacting dimensions, namely environmental sustainability, social sustainability and economic sustainability. In addition, corporate social responsibility is about contributing to sustainable development. With this ultimate goal in mind, companies need to consider the environmental and social impact of best practices to contribute to their progress and protect the environment.

Sustainability has many advantages in the short and long term. We cannot sustain the Earth's ecosystems or continue to operate without making more sustainable choices. Without changes to damaging processes, we are likely to run out of fossil fuels, large numbers of animal species will become extinct, and the atmosphere will be irreparably damaged.

2. State of the art

Education plays a key role in solving global problems, and young people can be the driving force. The young people of the future will be able to adapt to new changes and create positive changes for society. The purpose of Education for Sustainable Development is to empower/encourage creative and motivated young people to focus on transforming society into a sustainable way of life - meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Education and training policies and investments that focus on inclusive green and digital transformation are key to Europe's future resilience and prosperity. Young people entering the labor market during this period will have a more difficult time finding their first job.

While partial unemployment schemes, wage subsidies and business support should help limit job losses, the COVID-19 pandemic will have serious consequences for the labor market. Digital skills are a must, even more so in the post-COVID-19 world. Almost all further education and jobs in all sectors require some form of digital skills, but on average two in five Europeans aged 16 to 74 do not have these skills (DESI).

The transition to an environmentally sustainable, circular and climate-neutral economy has significant implications for jobs and society (Commission reflection paper). Citizens expect governments to prioritize environmental protection when planning economic

recovery measures to address the economic and social consequences of the crisis caused by the COVID-19 pandemic and promote the transition to a greener, more sustainable world.

Only if people have the necessary skills and education can Europe achieve a sustainable economic recovery and achieve green and digital transitions, while demonstrating its role as a world leader, strengthening its position in global competition and remaining committed to a just transition. To achieve this transformative goal (see Table no.1).

Table no. 1 – Steps to follow for the transition to a sustainable economy

Profound change in citizens' behavior and skills	There is a need to make such change possible starting with education systems and educational institutions as catalysts. Actions should be geared towards changing behavior by encouraging skills for the green economy, by supporting new and sustainable education and training infrastructure and by renovating existing buildings ("renovation wave"), thus creating enabling environments for this change (COM 2019) .
The green transition	It requires investment in education and training to increase the number of specialists who act towards a climate-neutral and resource-efficient economy.
Effectively supporting transitions to sustainability	By integrating sustainable environmental perspectives in the natural and human sciences and supporting changes in skills, methods, processes and cultures.
Education and training at all levels on sustainable development and green entrepreneurship	It should equip citizens with digital skills, but also with other skills, such as entrepreneurship and the ability to learn, that are needed to navigate a labor market transformed by technological change.

Source: own processing

Education plays a vital role in human progress, especially during periods of major change such as the one we are experiencing today. In this context, the transition to a green economy will bring about fundamental changes in society, and education will play a vital role.

The concept of green entrepreneurship connects the business sector and the sector. In other words, educating people about sustainability and entrepreneurship will create businesses that save the planet. Entrepreneurship refers to the stage of establishing a business and exposes the author and the business he innovated to protect the environment.

Green entrepreneurs view environmental values as an essential part of their identity and seek to capitalize on the competitive advantage their businesses bring to the marketplace. Environmental challenges are closely linked and linked to economic activities and social lifestyles. The functioning of our economy, embedded in our society, depends on our planet, which has limited and limited resources.

All great things are the result of small steps taken consistently towards a goal. The objective of green entrepreneurs is to protect the environment by exploiting the cultural heritage of different regions and developing businesses that aim to:

- Use of recycled materials.
- Responsible use of natural or cultural resources.

Start-up entrepreneurs benefit from new opportunities such as: B. The potential to create a transformative and impactful shift towards a more sustainable business paradigm. Environmentally friendly practices create a positive corporate image, serve as a model for regulations that ensure environmental protection, reduce tax costs through legislation that provides tax incentives for those working to improve the environment, and encourage cooperation among business partners. is also increasing.

Companies with green values are an attractive option because they increase competitiveness and offer many other benefits for the sustainability of companies, people and the planet.

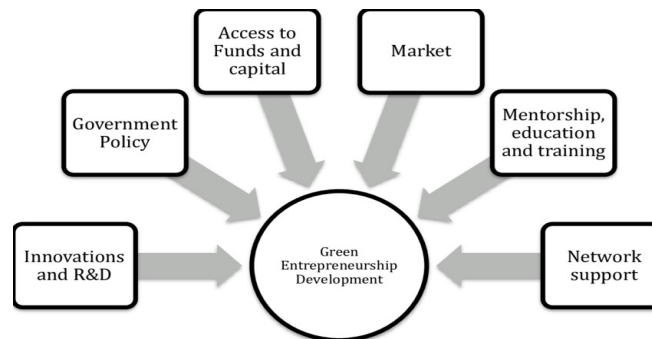


Figure no. 2. Components of a green Entrepreneurial Ecosystem

Source: https://www.researchgate.net/figure/Components-of-a-green-Entrepreneurial-Ecosystem_fig1_318208391

The mission of a green entrepreneur is not easy, but it can be very effective, backed by the strength and resources of an ecosystem that understands that protecting the planet must be seen as a core business value.

In Romania, entrepreneurs in the green sector face several obstacles. One is education about the real impact people have on the environment, on the one hand, and information about existing sustainable practices, on the other. There are many ways to support green entrepreneurship and the development of environmentally innovative solutions, but in recent years these have become an increasingly common topic in public debate and are being debated more intensively globally.

3. Literature review

Increasing the level of education and awareness regarding climate change is one of the objectives targeted by the National Strategy for the Sustainable Development of Romania 2030 and was also foreseen in the National Strategy on Climate Change and Economic Growth based on Low Carbon Emissions for the period 2016-2020 (CRESC) and in its Action Plan 2016 – 2020 (to be updated). Last but not least, "facilitating ecological education to promote environmental protection measures and address climate change issues in and outside schools" 19 is assumed by the current Government in the Government Program. In

addition, the National Education Act was amended to include environmental competences among the key competences in the Act.

“A fundamental shift is needed in the way we conceive of the role of education in global development, as it has a catalytic impact on the well-being of individuals and the future of our planet.... Now, more than ever, education has a responsibility to adjust its speed to the challenges and aspirations of the 21st century, and to promote the right kinds of values and skills that will lead to sustainable and inclusive growth and peaceful coexistence.” (Irina Bokova, Director-General of UNESCO)

A good starting point for expressing EDD values related to teaching and learning is represented by Earth Charter. This is an ethical principle that includes respect and care for the community that protects life, ecological integrity, universal human rights, respect for diversity, economic justice, democracy and a culture of peace.

The Earth Charter, launched in June 2000 in The Hague, is the product of a universal intercultural dialogue about shared goals and values, in which more than 2,000 organizations representing millions of people participated. It has been used with success around the world in educational programs around the world.

Amran et al. (2010) highlight sustainability as a key issue for the 21st century business community, especially in the context of significant adverse social and environmental impacts caused by the recent crisis and rapid industrialisation.

Bennett defined in 1991 the notions of environmental entrepreneur, "green entrepreneur", "eco -entrepreneur" and "ecopreneur", the characteristics on the basis of which we can identify green entrepreneurs being that green entrepreneurs are intrinsically motivated. Their business activities have a general character positive on the natural environment and on environment sustainability, and acts consciously to secure a future may sustainable.

Over the past decade, the green economy has become an important policy framework for sustainable development in both developed and developing countries. It offers an attractive framework for achieving a more resource-efficient, low-carbon, less environmentally damaging and socially inclusive society. The green economy concept has become increasingly popular in international, regional and national policy circles: initially as a response to the financial crisis (Bina and La Camera 2011), but also as an engine for growth and development. It is an operational policy agenda to achieve measurable progress in linking environment and economy (Schmalensee 2012) as a 'pillar' for implementing sustainable development to drive the transition to a low-carbon green economy.

A 2014 United Nations report points out that entrepreneurship has provided the opportunity for many of the poor to earn a sustainable livelihood.

It is a considerable driver of decent jobs and can significantly contribute to sustainable development by creating jobs and stimulating economic growth and innovation, improving social conditions and helping to address environmental challenges. Thus, sustainable entrepreneurship is widely recognized as the answer to the question of the development and decrease of social inequalities (authors such as Dean and McMullen, 2007; Cohen and Winn, 2007) and the social challenges (Zahra et al., 2009) will face in this century.

In an analysis of the main findings of the two decades of cross-national analysis of environmental attitudes, de Franzen and Vogl showed that the average concern with environmental issues increases as a country's wealth increases, in general, environmental concerns have slightly decreased in the last two decades, especially in those countries that recorded a lower level of economic growth. In countries such as the US, Japan and Germany,

the percentage of people who say they are willing to pay much higher prices or much higher taxes to protect the environment fell by about 8% on average between 1993 and 2010. The study found that at the individual level, environmental concerns are determined by people's age, gender, education, income and ideological preferences and post-material values.

In particular, in the last decade, changes at the national level have influenced the choices made by firms, increasingly focusing on corporate environmental responsibility or environmental corporate social responsibility (ECSR).

The concept is defined by Mazurkiewics as "the duty to bear the environmental implications of the company's operations, products and facilities, eliminate waste and emissions, maximize the efficiency and productivity of its resources and minimize practices that could negatively affect the enjoyment of the country's resources by future generations."

The growing demand for green skills in most sectors of the economy is an important part of the debate on how to achieve them.

Every job must contribute to a more sustainable economy. A key challenge is to introduce sustainability issues into existing areas of training and learning. Green capabilities can include the knowledge, values and attitudes and technical skills that are essential to promote sustainable economic, environmental and social outcomes for industry and communities. The development of green skills includes the upskilling of workers as well as the development of new skills.

4. Key skills for the transition to a green economy

Young people in Romania are increasingly interested in climate change and environmental education, and are increasingly involved in actions related to climate change prevention. There is also a commitment to expand access to environmental and climate education through participation in international agreements (such as the Paris Agreement) and recent government programmes. At the same time, the National Education Act has been revised 1/2011, incorporating environmental capabilities into the Act's key competences.

Climate change and environmental education refers to education that promotes sustainable lifestyles through the development of eco-social skills. Such education aims to familiarise young people with the physical and socio-economic problems caused by climate change and to improve ways of coping with them.

In both green and sustainable economies, individuals must possess basic (general) sustainable development capabilities. In addition, in the green economy, technical skills are needed to create green jobs. Having a skilled workforce with the necessary professional education is a prerequisite for a green economy. It is therefore necessary to focus training efforts on training in specialised technical skills, which are explicitly sought after by the labour market, this issue is particularly relevant for STEM disciplines (Science, Technology, Engineering and Mathematics).

There are four key competences for a sustainable society. The first category corresponds to traditional general skills - instrumental, interpersonal or systemic skills - which can be applied to everyday situations. The second type comprises the skills needed to support the behavioural and social styles of a green economy. The third category of skills are those that make green jobs technically possible and are specific to each productive sector of the green economy, while the fourth category comprises skills that come from continuous education processes to update professionals. All four are part of the necessary knowledge that citizens should possess to achieve the future sustainability of our society.

People need to acquire knowledge to understand the complex world they live in. They must have the capacity to cooperate, support and act to bring about positive change

(UNESCO, 2016). These individuals can be referred to as 'citizens of sustainability' (Wals, 2015; Wals and Lenglet, 2016).

In general, everyone agrees that "members of sustainability" must possess certain core competencies that enable them to engage with the modern world in a constructive and responsible manner.

Education for sustainability is not just about teaching sustainable development and adding new training materials and courses. Universities need to see themselves as places of learning and experiencing sustainable development, so all their operations should focus on sustainability principles. The educational institution as a whole needs to change in order to make the transition to a green economy more effective.

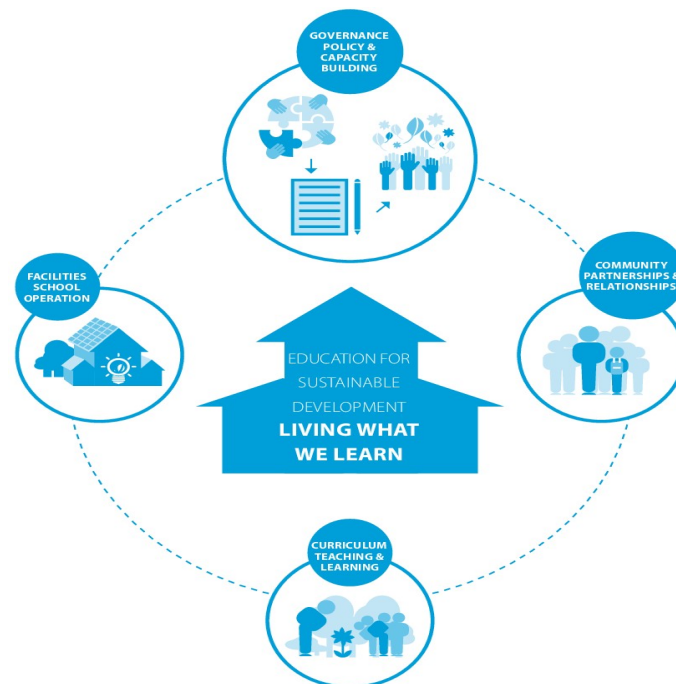


Figure no. 3. Whole institution approach (UNESCO 2014a: 89)
Source: https://www.researchgate.net/figure/The-whole-institution-approach_fig2_323442329

All educational institutions need to consider their responsibility to comprehensively address sustainable development issues, to promote the development of sustainable competences and to develop specific learning outcomes for each of the sustainable development goals. It is therefore essential to use action-oriented transformative pedagogy and to include content related to the SDGs in school curricula.

5. Methodology

The methodological approach to achieve the goals of this work is the content analysis of the document (The EIB Group Climate Bank Roadmap 2021-2025).

The approach followed three stages of analysis. The first is preparation. This involved searching and identifying the possible source of the required data, mainly from journal publications in databases such as SCOPUS, Web of Science and journals, newspapers, websites, reports, policies, action plans of public bodies.

The second stage involved reviewing and sorting the materials, where the collected documents were studied in detail and classified according to the objectives of the study.

The last stage consists in interpreting the statistical data from The EIB Group Climate Bank Roadmap 2021-2025 for Romania.

A questionnaire was used to obtain the data and it was applied to 1000 people in each country of different ages to ensure a representative sample.

Following the application of the EIB climate questionnaire in Romania, the following results were obtained:

- 84% of Romanians believe that climate change and its consequences are the biggest challenges for humanity in the 21st century.

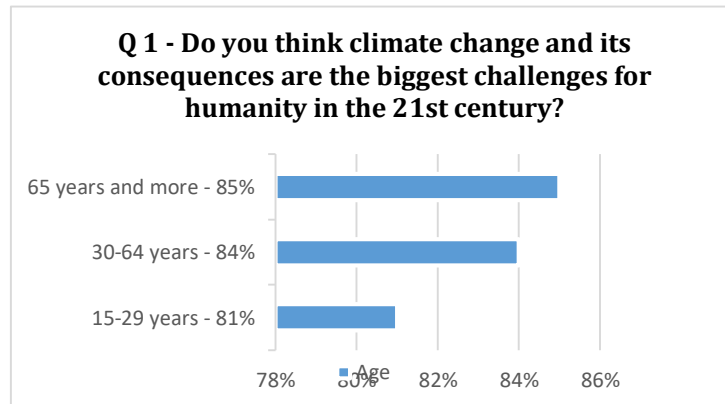


Figure no. 4: Interpretation answers Q 1

Source: <https://www.eib.org/en/publications/the-eib-group-climate-bank-roadmap>

- 88% of Romanians believe that climate change has an impact on their daily lives (11 percentage points higher than the European average of 77%).

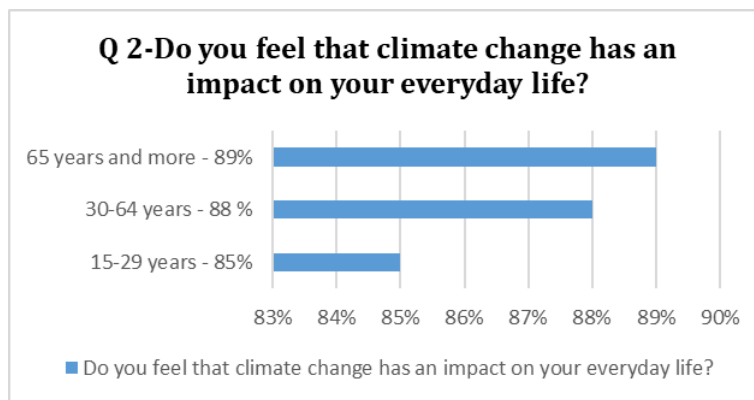


Figure no. 5: Interpretation answers Q 2

Source: <https://www.eib.org/en/publications/the-eib-group-climate-bank-roadmap>

- 64% believe their country will not be able to significantly reduce carbon emissions by 2050 in line with the Paris Agreement.

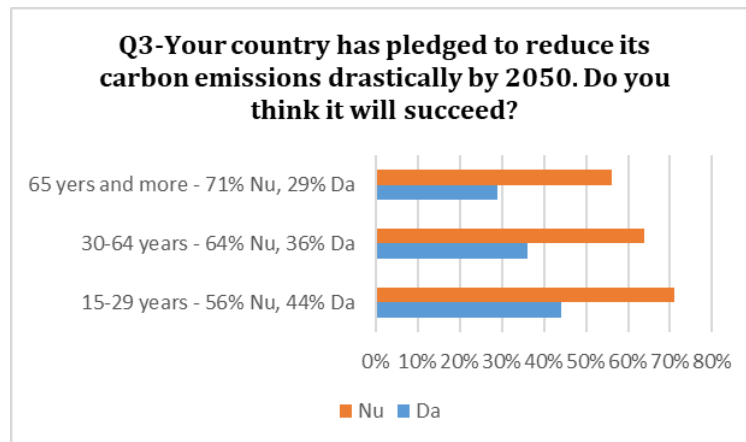


Figure no. 6: Interpretation answers Q 3

Source: <https://www.eib.org/en/publications/the-eib-group-climate-bank-roadmap>

- 76% agree with taxing products and services that contribute the most to global warming.

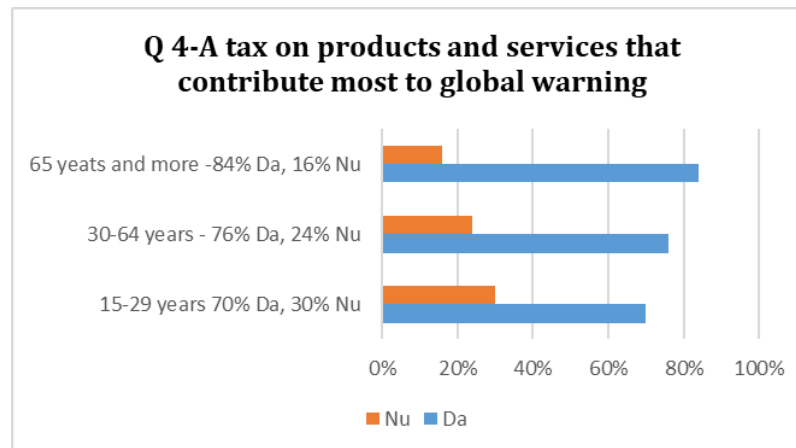


Figure no. 7: Interpretation answers Q 4

Source: <https://www.eib.org/en/publications/the-eib-group-climate-bank-roadmap>

- 95% of the respondents expressed support for strengthening education and raising children's awareness of sustainable consumption.

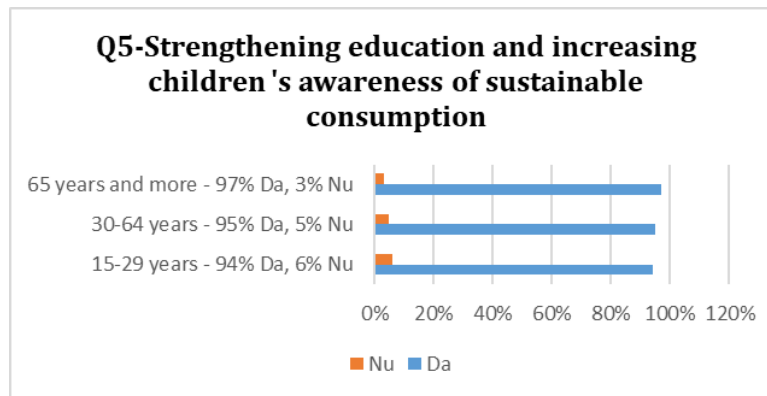


Figure no. 8: Interpretation answers Q 5

Source: <https://www.eib.org/en/publications/the-eib-group-climate-bank-roadmap>

6. Results and discussion

Following the interpretation of the data, it emerged that 85% of Romanians are more worried about the climate crisis than their own government. They are therefore quite pessimistic when it comes to their country's ability to make an ambitious green transition, 64% believe their country will not be able to drastically reduce carbon emissions by 2050 as committed in the Paris Agreement.

The difference between the generations is obvious in this case, namely 15 points between people aged 30 or older (44% of whom believe that Romania will succeed) and people aged over 64 (29%). 71% of people aged over 64 believe that Romania will not be able to meet the goal set for 2050. 56% of respondents aged between 15 and 29 share this pessimism.

As a result, almost two-thirds (63%) of Romanians are in favor of stricter government measures – similar to those implemented to combat the COVID-19 crisis – that would require changes in people's education and behavior.

The most popular solutions for combating climate change among Romanians are :

- (76 %) would support – to a greater extent than Europeans in general (69 %) – a tax on the products and services that contribute most to global warming. Even 75% of respondents with lower incomes would favor such a tax.
- Romanians also support a minimum 5-year warranty for any electrical or electronic product (94%)
- strengthening education and raising young people's awareness of sustainable consumption (95 %).

The EIB Group's support for climate action and environmental sustainability can be divided into 12 focus areas, 10 of which correspond directly to the European Green Deal, as shown in Figure no. 9.



Figure no. 9: Main themes of the European Green Deal programme

Source: <https://www.eib.org/en/publications/the-eib-group-climate-bank-roadmap>

Structuring around these focus areas helps to ensure that the EIB Group is fully aligned with the EU, both in terms of objectives and in terms of use of the EU budget. This provides a consistent basis for strengthening dialogue with Member States on investment plans - from medium-term recovery and resilience plans to 2030 national energy and climate plans, national adaptation strategies and plans, just transition territories or long-term national transition plans.

People of all ages need to be able to develop knowledge, skills and lifestyles to live as sustainably as possible, adopt new consumption patterns and contribute to a greener future. Education and training play an important role in helping the public move from environmental awareness to individual and collective action to protect the environment.

In the field of education and training, climate change, biodiversity and sustainability initiatives are increasingly being implemented in Europe. However, despite progress and growing public interest, environmental sustainability education has not yet become a systematic part of EU policy and practice.

7. Conclusions

We hope that after reading this material, young entrepreneurs, as well as entrepreneurs with longer experience, will gain a much broader understanding of the issue of sustainable development, as well as the multiple methods by which these principles can be operationalized in the development of a business. In the coming years, as the implications of a sustainable approach to development will become more and more widely applied in all spheres of human activity, the adoption and application of these principles will become increasingly important for the competitiveness of a business, in all areas of activity.

Thus, the early adoption of the principles of sustainable development and their introduction into the routine of activities, right from the moment of developing a business, can offer a series of sustainable benefits to all entrepreneurs.

The entrepreneurs of the future will be those who will design sustainable and flexible businesses, who will have knowledge about sustainability and who will be able to easily adapt to new market, environmental and social demands.

European policies in the field show us the way forward. These are also in a continuous transformation, following the market, social and environmental requirements registered at the level of the European Union.

Concern for sustainable business development is currently quite low, and the brave entrepreneurs who have already ventured into this field are relatively few. The good news is that the interest in green and sustainability education is increasing, the business environment being more and more concerned with issues for which they are already looking for or implementing innovative, alternative solutions that can bring long-term impact.

In Romania, entrepreneurs in the green sector face multiple obstacles, one of which is, on the one hand, education regarding the real human impact on the environment, and on the other, information on existing sustainable practices. There are quite a few opportunities that come to support the development of green entrepreneurship or eco -innovative solutions, but in recent years they have started to be a topic that has appeared more and more often in public debates and is talked about even more intensively at a global level.

The responsibility of the future belongs to us, those who decide and act now to change the present and build a desired future, a projection with a multitude of possibilities. In the knowledge-based society, where information technology and communications play an essential role, and the fourth industrial revolution is already foreshadowing in the most developed economies, a redefinition of the level of education and professional training of citizens called to implement the principles is required which are the basis of sustainable socio-economic development.

In this context, in addition to knowledge, it is necessary to develop the capacity to innovate, to create new, competitive products and processes, to capitalize on the abilities, skills and knowledge possessed by different individuals, who collaborate to achieve a common goal in a context globally efficient and sustainable.

In the wake of the climate crisis, the current sustainability movement has become an even more attractive priority for businesses as people begin to live more sustainable lives. In the future, a positive impact on the climate, an improved impact on the environment, people and the atmosphere, and a productive contribution to society along the entire value chain are likely to be corporate expectations. Companies will be held accountable for all aspects of the industry and any environmental damage or harmful emissions should be limited or eliminated during the production process.

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FUNCTIONS OF PUBLIC FINANCE IN THE TOWN HALL OF BRAILA MUNICIPALITY

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***Abstract:** The appearance of public finances is due to certain needs and objective causes, their main function being that of procuring the financial resources that the state needs, through the central and local public administrations, to exercise its powers and, in this way, to intervene in the economy and society in general. Public finances at the Braila City Hall are necessary, subjectively and objectively, because they contribute to the achievement of the tasks assumed by the Braila Municipality through the Development Strategy, which could not be carried out without the financial levers. The public finances of Braila City Hall are indispensably linked to its existence and the role of the public sector in the economy. Thus, they express social relations, of an economic nature that arise in the process of establishing and using public financial resources between the Municipality of Braila, on the one hand, and the citizens of the Municipality of Braila, on the other hand, in order to satisfy the needs of the general interest of the Municipality. In conclusion, the role of the public finances of Braila City Hall is to satisfy the needs of general interest, or the collective needs of the citizens of Braila City.*

***Keywords:** conceptual premises, distribution function (of resources), allocation function, stabilization function, distribution function, control function.*

***JEL Classification:** G21.*

1. Conceptual approaches to finance functions

As a generalized expression of a certain group of economic processes and relations, the public finances of Braila Municipality have a certain social mission to fulfill, in the sense that certain economic-social processes are carried out through them and play an important role through the contribution brought to the achievement public objectives or the general development of society, including through the performance of various economic and social activities.

Conceptually, the function assigned to public funds denotes their ability to mediate, under conditions considered optimal, the direct realization of certain economic processes expressed in monetary form and the development of the corresponding relationships between the participants as well as influencing the way they are carried out. Most often, the fulfillment of the functions of public finances it takes shape in the formation, distribution and use of public (financial) funds in the context of the economic-social activities in which the Braila City Hall is involved as a local public authority.

Three functions are assigned to local public finances:

- distribution function
- the allocation function
- stabilization function (adjustment)

The function of distribution appears as a component of the one of distribution, signifying the mediation by public finances of some processes of redistribution of resources between natural and legal persons with the involvement of the public authority. This function is manifested by taking over to public funds some parts of the incomes or assets of various natural or legal persons in the form of taxes and fees, and then distributing them in the form of public expenses carried out according to some criteria of equity or social justice. By default, its fulfillment is realized in the distribution of a part of the GDP among the members of the society.

The allocation function expresses the mediation by the public finances of the satisfaction of some social needs through the offer of public utilities created on account of the financial resources available to the public authorities, in favor of the Brăila City Hall

The stabilization function expresses the mediation by public finances of certain influences with a stabilizing character on the evolution of economic-social life, having the ability to contribute to ensuring price stability, a high degree of employment of the labor force, maintaining balance, thus contributing to maintain an acceptable rate of balanced economic growth

In order to carry out these functions, Brăila City Hall has in its organizational structure the Directorate of Local Public Finances. The structure and composition of the Brăila Local Public Finance Directorate is presented as follows:

1. The Tax Assessment Service for Natural Persons:

- Fiscal Assessment and Tax Inspection Department;
- Compartment of Budgetary Revenue Collections and Fiscal Certificate Issuances;
- Department for Receiving, Checking and Registering Fiscal Documents.

2. Legal Entities Tax Assessment Service

3. Tax Collection and Enforcement Tracking Service:

- Enforcement Department;
- Asset Valorization Department.

4. IT Service - Tax and Budget Data Administration:

- Compartment Informatics;
- Fiscal and Budgetary Data Administration and Implementation Department, Public Relations.

5. Public Accounting Service:

- Department Accounting of Budgetary Revenues and Expenditures;
- General Accounting Department.

6. Budget-Finance Service:

- Local Public Debt Department.

In 2023, the total number of personnel within the Directorate was 77, of which:

- 7 public management positions;
- 69 public execution functions;
- 1 contractual staff position.

1. The Tax Assessment Service for Natural Persons

In 2023, the following operations were carried out by the staff of the Tax Assessment Service for Natural Persons for a total number of at least 193,470 roles:

→ More than 60,142 requests, statements and addresses received from natural persons, economic agents, judges, police, bailiffs, bank bailiffs, etc. were registered and resolved, of which:

o 17,757 tax declarations regarding the establishment of tax on buildings, applications for the removal of buildings and land from the fiscal records, applications for the application of exemptions according to the provisions of Law no. 227/2015, various communications from public institutions (Police, ANAF, Prosecutor's Office, Court, Bailiffs, etc.), tax declarations and rectification declarations for sanitation tax, etc.;

o 20,399 tax attestation certificates for natural persons regarding local taxes and fees, for the alienation of movable or immovable property, mortgages, auctions, social benefits, inheritances, etc.;

o More than 21,986 tax declarations for establishing the tax on the means of transport and declarations for the removal from the tax records of the means of transport registered in

R.E.M.T.I. (if both the seller and the buyer reside in the Municipality of Braila, a single number is registered for 2 declarations)

→ In 2023, 16,292 models are registered for which exemptions were made (war veterans, political deportees, disabled persons, etc.).

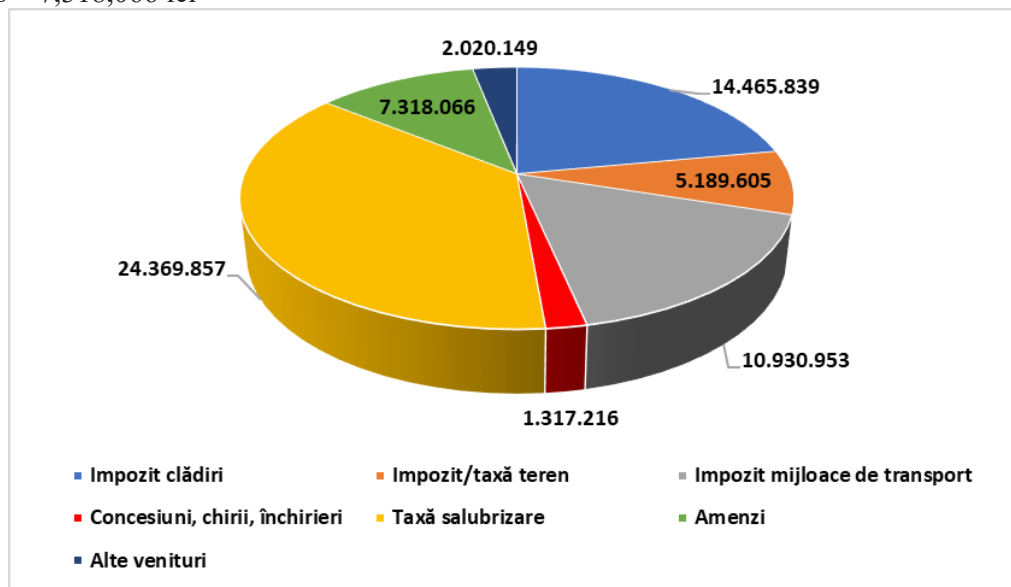
→ A number of 143,207 receipts were drawn up and issued representing the collection of taxes and fees on land, buildings, cars, company taxes, tracking expenses, fines, concessions, rents, rentals, etc; (55,438,554 lei)

→ A number of 9,875 bank card payments (11,914,908 lei) through the EPOS system and a number of 23,064 payments (10,230,570 lei) through the SNEP system were registered and processed in the fiscal records, creating a number of 956 orders payment for the transfer of amounts from the collection account to debit accounts;

→ A number of 1003 payment orders were drawn up regarding the compensation of some debits with the amounts of overpayments resulting from car write-offs, sales of land, buildings, etc.;

→ Receipts from individuals in 2023 were 65,611,685 lei, and the main sources of income of the local budget were:

- o Building tax = 14,465,839 lei
- o Land tax/tax = 5,189,605 lei
- o Means of transport tax = 10,930,953 l
- o Concessions, rents, rentals = 1,317,216 lei
- o Sanitation fee = 24,369,857 lei
- o Fines = 7,318,066 lei



2. Legal Entities Tax Assessment Service

Main activity object

Determining, establishing, collecting and controlling local taxes and fees owed by legal entities, according to Law no. 227/2015 regarding the Fiscal Code, with subsequent amendments and additions.

Summary of activity for the year 2023

On December 31, 2023, a number of 8105 active economic agents, which were not in a special state (insolvency, liquidation, dissolution, etc.) were registered in the service's database.

During the analyzed period, the following actions were carried out mainly within the service:

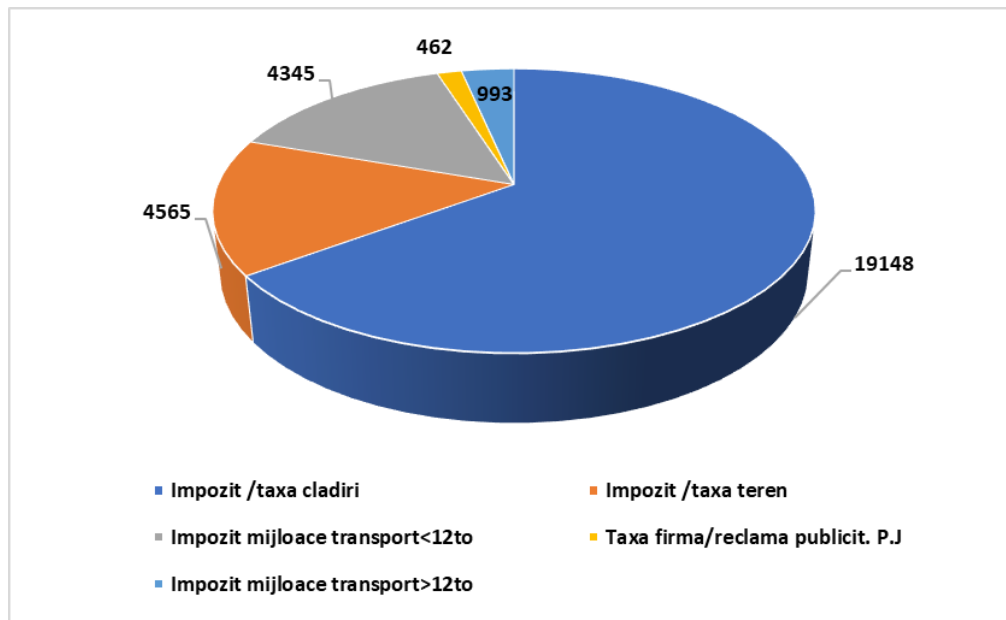
- a number of 9948 tax declarations were registered, checked and implemented in the computer program (buildings, land, motor vehicles, slow vehicles, company, advertisement, publicity, shows, etc.);
- a number of 18,094 tax decisions were issued;
- 4,878 tax attestation certificates were issued for legal entities regarding taxes, local taxes and other revenues of the local budget, for auctions/disposals of goods/mortgages/extensions of credit lines/financing programs, etc.;
- a number of 4,607 requests from economic agents, bailiffs, liquidators, police, courts, prosecutor's office, ANAF, etc., were registered and resolved;
- a number of 173 payment orders were drawn up, according to the compensation/restitution/distribution reports;
- 256 correspondence slips were issued for the transmission of a number of 7875 envelopes to taxpayers - legal entities;
- 34 economic agents were penalized for non-submission or late submission of tax declarations, the total amount of collections being 6434 lei;
- a number of 13,999 receipts were issued to economic agents with a collection value of 6,862,270 lei;
- a number of 5448 SNEP transactions were carried out, with a collection value of 1,084,386 lei.
- a number of 2224 POS transactions were carried out, with a cash value of 2,666,284 lei.

The situation of receipts from legal entities, including economic agents in special situations, on the main sources of income of the local budget, in comparison with the receipts for the year 2022, was:

NO. CRT	SOURCE	CODE	LEVEL OF COLLECTIONS		%
			year 2022	year 2023	
1.	Tax / building tax	07.01.02	19164	19148	99.91
2.	. Land tax	07.02.02	4481	4565	101.87
3.	Tax on means of transport <12to	16.02.02	4243	4345	102.40
4.	Company fee/advertisement. P.J	18.50.00	456	462	101.32
6.	. Means of transport tax>12to	5033	1055	993	94,12
7.	. GRAND TOTAL		29399	29513	100,4

From the model presented, there is an increase in receipts, on total sources of 0.4% At the level of 2023, the profit tax collection at the source was 3004 thousand lei.

The structure of receipts, on the main sources from legal entities, for the year 2023, is highlighted in the following diagram:



3. Tax Collection and Enforcement Tracking Service

The Tax Collection and Enforcement Follow-up Service within the Local Public Finance Directorate carried out its activity during 2023 with a number of 10 inspectors and 2 legal advisors.

The main activity of the service consists in the recovery of taxes, local taxes, contraventional sanctions and the collection of other enforceable titles from individuals and legal entities, by applying the provisions of Law no. 207/2015 on the Fiscal Procedure Code, with subsequent amendments and additions.

The forced execution of tax debts was carried out by issuing enforceable titles based on the provisions of Law no. 207/2015 on the Code of Fiscal Procedure, with subsequent amendments and additions, and other enforceable titles issued according to the legislation in force.

The forced execution begins with the communication of the summons, accompanied by a copy of the enforceable title. If within 15 days from the communication of the summons the debt is not extinguished, the forced execution continues with the application of the forced execution measures.

Activities of organizing and archiving execution files.

The documents issued in the enforcement procedure are archived both electronically and physically in the specially arranged spaces at the address where the service operates. Issuance and transmission of summonses. Application of enforcement measures. Results.

Thus, during the year 2023, a number of 6,595 summonses for claims in the amount of 22,317,007 lei sent to individuals and legal entities; 155 garnishments for claims in the amount of 3,068,241 lei transmitted to third parties for natural and legal persons; 486 movable and immovable seizures instituted.

Minutes of findings of contraventions. Results.

For 7,814 reports of contravention for natural and legal persons - for the amount of 10,102,691 lei - debited and enforced execution was triggered.

640 minutes of clarification/reduction of fines were drawn up for contraventions paid within the legal term of 48 hours/15 days and for those transformed by the court into hours of community service.

Cessation of seizures. Results.

86 addresses were issued to stop the seizure of cash availability for legal entities and 830 for individuals.

The amount of debits, natural and legal persons, collected for the year 2023. Results.

The initiation of enforcement and the application of enforcement measures determined the collection of 11,871,886 lei from the local budget of Brăila Municipality, an amount representing outstanding debts owed by individuals and legal entities.

Minutes of subtraction. Results.

As a result of the good collaboration with the Brăila Court and the Trade Registry Office, the Tax Collection and Enforcement Follow-up Service drew up a number of 36 debit reduction minutes for commercial companies written off on the basis of the Insolvency Law because the Civil Sentences ordered the closure of the insolvency procedure and the deletion of debtors from the records of the Trade Register.

Cases pending before the courts. Results.

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Conditions of competitions for filling vacant positions

- Ensuring specialized logistic and technical support related to the organization in good conditions of the meetings of the Brăila Municipal Local Council;
- Configuration and verification of telephone exchange software;
- Ensuring specialized technical support regarding IT procedures related to the National Electronic Payment System regarding the Municipality of Brăila, according to the provisions of H.G. no. 1235/2010, with subsequent amendments and additions;

- Software infrastructure update for establishing metropolitan links with local tax collection centers;
- Technical support for the integrated IT system "An Administration at the service of the citizen", project financed by the Administrative Capacity Operational Program - 19 modules;
- The Law 10, Legal Court Files modules have been updated - software applications developed within the ELO Enterprise programming environment;
- Development of the CFP internal module;
- Updating and administration of WordPress platform website modules;
- Update WordPress platform interface REST modules;
- Administration of the online appointment platform for identity documents ci.programari.primariabr.ro;
- Subunit IT application administration (Budget-Accounting);
- Administration of IT applications Budget, Accounting, Salaries;
- Technical support regarding accessing data related to obsolete applications;
- Solving problems arising in the operation of applications, escalating incidents that cannot be solved locally, to the support service of the suppliers, testing the changes made and depending on the results, implementing them in the versions in production;
- Development, testing and implementation of software modules (VBA/Access-Excel, Java/Spring, JavaScript/React, EloScript, SQL – Microsoft SQL Server, MariaDB, PL/SQL-Oracle, PHP);
- Implementation and administration of a centralized antivirus solution at the level of workstations and servers;
- Configuration and administration of NGFW protection solutions (pfSense/FortiNet)
- Credential generation for accessing the giseul.ro payment platform through the intermediary physically handed applications.

The submitted activity fell within the following coordinates:

- Lex-Expert legislative program updates – approx. 144 updates;
- Posts, updates, configurations for the institution's websites (including asset and interest declarations, announcements, communiqués, public procurement, online consultation, provisions, financial statements, projects, CLM meetings – 2233);
- Client-type computer interventions - approx. 300 cases (deviruses, data recovery, repairs, installation of software and operating systems);
- Server-type computer interventions – approx. 500 cases (from virtual machine setups/installations to hardware subassemblies replacement);
- Printer interventions – 612
- Interventions on active and passive network equipment – more than 1168 configurations and

incident resolution (from simple equipment restarts, flood detection to firmware reinstallations and hardware repairs / replacement of capacitors or power supplies, replacement of cables, plugs, etc.) ;

- Data were saved - daily - backup checks - weekly;
- Online appointment cancellation requests (approx. 528 cases);
- Fiscal year closing/opening procedures – All procedures are carried out only once for 30 days in the months of December/January every year;
- Implementation and maintenance of hardware infrastructure (LAN networks, low current networks, fiber optic metropolitan network) for the institution's premises;
- Registration of 4743 internal/external documents and registration of 8014 documents for the purpose of Preventive Financial Control.

4. Public Accounting Service

- Main activity object
- Ensures the chronological and systematic recording, processing, reporting and keeping of information regarding the financial position according to the specific normative regulations in the financial-accounting field.
- Summary of the activity for the year 2023
- recording in the accounting of income through the cash register and bank according to the account statements issued by the Treasury of the Municipality of Brăila, related to the budget classification developed by the Ministry of Finance, return of guarantees for participation in the auctions organized by the municipality of Brăila;
- ensuring the keeping of accounting records of all income categories;
- organization of the accounting of expenses incurred according to the approved budget, of extra-budgetary means and special purpose funds;
- recording in the accounting record of operations generated by European projects;
- registration of payroll related to the salary rights of own employees;
- ensuring the verification of supporting documents certifying the payment of financial obligations;
- ensuring the preparation of the verification balance taking into account the concordance between the analytical and synthetic accounts, the recording of operations related to the results of the inventory of patrimonial assets and the preparation of monthly, quarterly and annual financial statements;
- performing cash collection and payment operations;
- the transfer of payment obligations to the state budget, the social insurance budget and other withholdings (installments, garnishments, etc.) and the preparation of the necessary documents for their payment at the deadlines provided by law;
- the chronological and systematic recording of operations regarding the movement of assets and patrimonial values;
- registration of material and monetary values based on legally prepared documents;
- follow-up and verification of supporting documents certifying the payment of suppliers;
- ensuring the preparation of payment orders for making payments to suppliers and other patrimonial obligations;
- ensuring the drawing up of payment provisions, granting advances for settlement and tracking their settlements;
- ensuring the preparation of the check sheet for withdrawing amounts from the bank, respecting the payment ceiling according to the legislation in force;

- ensuring the accounting records of the documents underlying the entry and exit of material values from the entity's warehouse.

From a quantitative point of view, the following accounting documents resulted:

- 61 provisions for payment and collection of salaries and other expenses;
- 3039 payment orders for expenses, 5200 payment orders for persons receiving refugee aid
- 5100 employment proposals, liquidation and payment orders;
- 27 statements regarding economic activity;
- 12 monthly SOBIS software transfer operations of receipts/deductions/debits from the Integrisoft program;
- 12 check balances;
- 4 quarterly financial statements;
- 12 monthly financial statements;
- 860 account sheets;
- 35 income check sheets, 12 salary check sheets and 78 various expenses;
- 560 fixed assets sheets.

5. Budget-Finance Service

STRUCTURE OF THE SERVICE

The Budget-Finance Service also includes the Local Public Debt Department in its structure.

COMPOSITION OF THE SERVICE

In 2023, the total number of staff within the Budget-Finance Service was eight, of which:

- a public management position;
- seven public execution functions, one of which is within the Local Public Debt Department.

MAIN OBJECT OF ACTIVITY

The foundation and elaboration of the budget project of the municipality of Brăila, as well as its rectification projects.

SUMMARY OF ACTIVITY FOR THE YEAR 2023

The main activities carried out by the Budget-Finance Service in 2023:

- The foundation and elaboration of the budget project of Brăila municipality, its publication and submission for approval to the Brăila Local Municipal Council;
- Elaboration of the draft of the centralized general budget of the Brăila municipality and its submission for approval to the Brăila Local Municipal Council;
- Foundation and development of projects for the rectification of the local budget;
- Elaboration of projects for the rectification of the centralized general budget of Brăila municipality;
- Analysis of requests regarding transfers of budget credits, preparation of materials regarding these operations and submission for approval to the main authorizing officer of credits;
- The opening of budget credits for subordinate units, according to the requests sent by them;
- Monitoring the budgetary execution of personnel expenses;
- Preparation of the budget execution account, quarterly and annually, and submission for approval to the Local Municipal Council;
- Centralization of funding requests of educational units regarding: teacher transport, student rights with special educational requirements, HGR no. 536/2016 regarding the stimulation of high school performance in pre-university education, school competitions, student scholarships, capital expenditures;

- Centralization of requests for funding of social assistance units, as well as of public services of public utility;
- Completing the local public debt record register of the institution.

The activities carried out materialized in:

- 15 substantiations and elaborations of the local budget (the draft of the initial budget and 14 drafts of its rectification);
- 15 elaborations for the centralized general budget (the draft of the initial budget and 14 drafts of its rectification);
- 2 dispositions of the Mayor of Braila Municipality;
- 5 execution accounts (3 quarterly and 2 annual of which, one forecast and one definitive);
- 360 applications for opening budgetary credits;
- 1,604 dispositions for allocation of budget credits;
- 17 staff expense monitoring (one annual, 4 quarterly and 12 monthly);
- 550 addresses regarding communication budget provisions subordinate units.

Major objectives for 2024

The objectives aim at the implementation and management of financial resources and obligations, to be assumed by the budget of the municipality of Brăila for the year 2024, taking into account:

- ensuring and maintaining fiscal-budgetary discipline, transparency and medium-term sustainability in the use of local public finances;
- efficient management of local public finances to serve the public interest, ensuring economic prosperity and anchoring budget policies in a sustainable framework;
- efficient management of local public finances to serve the public interest, ensuring economic prosperity and anchoring budget policies in a sustainable framework;
- prudent management of resources, assumed obligations and fiscal-budgetary risks;
- ensuring the predictability of the level of quotas and taxation bases;
- the prioritization of expenses so as to ensure the conditions for a sustainable development of Brăila municipality.

The initiation of enforcement for all taxpayers, individuals and legal entities, who register outstanding debts on Dec. 31, 2023 in all suburbs and the application of enforcement measures in order to collect the claims.

Transmitting the minutes of contravention to the court in order to convert the fines into hours of community service, in the case of offenders / debtors / taxpayers who do not own assets or traceable income, according to the legal provisions in force.

Transmission and transfer of enforcement files, as appropriate, for taxpayers who have changed their tax domicile (for tax sources, means of transport and fines)

6. Conclusions

Local public finance appeared with the evolution of society and is part of the objective process of the evolution of human society and requires the existence of minimal conditions in order to be able to manifest its relational character of an economic nature. The conditions that made possible the emergence of public finances were:

- the emergence and development of commodity-money relations to the extent that it allows the formation and use of state resources in monetary form
- the appearance of the state, which for the exercise of functions and tasks on the internal and external level needed important financial resources, which could not be procured within the framework of commodity-money relations

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ANALYSIS OF PROFITABILITY, SOLVENCY, LIQUIDITY AND FINANCIAL DISCIPLINE OF ROMANIAN ENTERPRISES

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Abstract: *Performance is a fundamental concept of economic analysis, a permanent concern for practice, and an economic climate conducive to entrepreneurship brings positive effects throughout society: financial balances in the economy are restored, production and services increase and include new activities, employment increases and the standard of living of the population rises. This paper analyses whether the dynamics in Romanian enterprises confirm the empirical observation that between 2014/2016 and 2021 the performance of Romanian enterprises has been increasing. Specifically, the paper finds that enterprises in Romania have increased their capacity to produce profit, the financial structure of the enterprise has improved, in terms of increasing capitalization and reducing debt. Enterprise solvency and liquidity are also increasing, and although financial discipline seems to be improving, there are still segments of the economy/sectors of activity with discipline problems, with many economic agents unable or unwilling to pay their debts because they do not collect their claims or do nothing to receive them.*

Keywords: *profitability, solvency, liquidity, financial discipline, Romanian enterprises.*

JEL Classification: *E44.*

1. Introduction

In recent years, for which statistical information is available, entrepreneurial structures in the Romanian economy have recorded significant growth, their performance generating important benefits for Romanian society as a whole. Unfortunately at the moment, in the absence of reliable information on the evolution of Romanian companies over the last two years, it is impossible to predict whether the trend at the end of the second decade and the beginning of the third has continued. In particular, after the pandemic crisis, the world and Romanian society continued to face major upheavals, with important consequences for economic structures: the disorganisation of logistics chains prior to the health crisis and their rebuilding along different lines, the two wars, the almost continuous energy crises, the climate crisis and, last but not least, the technological changes brought about by the digitisation of work, administrative and domestic activities, which are disrupting customs and traditions.

Performance is a fundamental concept of economic analysis, a permanent concern in practice. Performance results from reference to various internal or external variables, past results or the output of other operators. It is also often possible to equate performance with competitiveness (Niculescu, 2005, p. 42).

An economic climate favourable to entrepreneurship has positive effects on society as a whole: financial balances in the economy are restored, services increase and include new activities, employment increases and the standard of living of the population rises.

This paper aims to analyse whether the dynamics of enterprises, seen through a series of aggregated financial indicators, confirm the empirical observation that the performance of Romanian enterprises has been on the rise during the period mentioned above.

As working methods, ratios are used, as well as a series of common financial indicators, with a predictive role for post-factum analysis.

2. Profitability of Romanian enterprises

The ability of the enterprise to produce profit is expressed by the profitability category. Profits, and therefore the profitability of enterprises, result from the prices set by the supply-

demand ratio, from income exceeding expenditure, from the orientation of the production of goods and services in relation to the needs of the public. Profitability is expressed by two measures, an absolute one, when we refer to profit seen in absolute terms, and a relative one, as the rate of profit, when we refer the mass of profit to the capital or resources of the enterprise or the flows that generate it (turnover, value added) (Gheorghiu, 2004, p. 189).

Profits of Romanian companies increased between 2018 and 2021 by more than 60 billion, i.e. about 80% of the value they had in 2018, with the biggest increase in 2021 (40 billion out of 60 billion recorded for the whole period) and explained by the resumption of economic activities after the lockdown during the pandemic crisis in 2020. About 60% of the total profit in the economy is generated by services and trade (about 46 billion lei in 2018 and 81 billion in 2021). Next, industry - mining, manufacturing and utilities - generated profits of about 20 billion lei in 2018 and about 35 billion in 2021. From the data in Table 1 we also notice the variability of profits generated by agriculture, due to the permanent dependence on weather conditions.

Table 1. Evolution of net profit for all enterprises in Romania and by sector of activity (billion lei)

Sector of activity	2018	2019	2020	2021
Agriculture	4,09	3,55	2,33	8,02
Extractive industry	4,48	5,09	3,21	5,04
Services	23,96	29,53	28,26	41,09
Utilities	0,63	1,11	4,37	4,91
Real estate	4,24	4,12	4,71	7,50
Construction	6,54	8,99	11,60	11,73
Manufacturing industry	14,97	12,42	15,46	24,24
Commerce	21,81	26,26	29,98	39,92
Economy total	80,72	91,07	99,92	142,45

Source: BNR, www.bnr.ro, Secțiunea Statistică, *Rapoarte asupra stabilității financiare: serii de date statistice utilizate în grafice*, <https://www.bnr.ro/Rapoarte-asupra-stabilitatii-financiare--7673.aspx>, accessed on 10 Nov. 2023

Table 2. Evolution of some rates of return - % (calculated for all enterprises in Romania)

Indicator	2014	2015	2016	2017	2018	2019	2020	2021
Commercial rate of return (EBIT margin ratio: operating result/turnover) - %	-	-	6,2	7,1	7,1	7,4	8,0	9,1
Financial rate of return (operating result/equity) - %	11,2	14,5	17,3	19,3	19,5	19,6	18,9	22,7

The same high values are observed for the dynamics of rates of return (Table 2.). Thus, between 2016 and 2021, the commercial rate of return, calculated by relating the operating result to turnover, which basically speaks of the efficiency of the company's commercial and pricing policy (Hristea Ana Maria, 2013, p. 143) (Niculescu Maria, 1997, p. 309), increases by 50%, to an average of 9%. Basically, out of 100 lei received by the enterprise, 9 lei are profit, compared to only 6 lei in 2016.

Large increases are also noted in financial profitability, a doubling between 2014 and 2021, from 11% to 22%, but their dynamism hides an unresolved reality of the Romanian economy, the undercapitalisation of many small and medium-sized enterprises with capital at the legal minimum of 200 lei.

Table 3. Evolution of commercial rate of return (net profit margin: net profit/operating income) in Romania, total and by sector of activity for companies with a turnover of more than the RON equivalent of 1 million euro) - %

Sector of activity	June 2015	June 2016	June 2017	June 2018	June 2019	June 2020	June 2021	June 2022
Agriculture	4,34	6,66	9,85	8,93	3,67	0,39	2,93	12,45
Commerce	2,30	3,41	3,35	3,17	3,50	3,91	4,10	4,56
Construction	0,92	2,54	2,90	4,70	6,11	8,06	4,76	4,01
Real estate	3,89	13,68	14,38	17,63	14,40	14,49	13,61	22,91
Extractive industry	14,62	12,98	21,30	18,02	23,40	17,23	15,67	20,60
Manufacturing industry	5,48	4,76	3,97	4,43	2,70	2,48	5,10	4,54
Services	5,75	5,78	7,26	7,07	7,74	6,51	5,88	6,86
Utilities	6,56	6,07	5,89	6,11	5,59	8,26	8,47	11,73
Economy total	4,38	4,70	4,99	5,04	4,82	4,83	5,26	6,47

Table 3 captures some information on the commercial rate of return, calculated on the basis of net profit, by sector of activity. The data only cover major enterprises in the Romanian economy, with a turnover of more than one million euro, but with 80% of the economy and more than 60% of the workforce. Thus, the commercial rate of return increases by 50% between 2015 and 2021, from 4.38% to 6.47%. By economic sector, the highest returns are seen in real estate, mining and quarrying, utilities, and when weather conditions are good, agriculture.

In conclusion, the ability of the enterprise to produce profit, both in terms of profit mass and rates of return, shows positive trends between 2014/2016 and 2021:

- increase in absolute profit size by more than 60 billion;
- increase in the commercial rate of return (profit margin) by 50% from 6% to 9%;
- doubling the financial return (on equity) from 11% to 22%;
- growth across the board in most sectors, except manufacturing.

3. Financing of Romanian enterprises

Beyond the accounting categories that we find in the balance sheet, and which is the source for financial analysis, assets, liabilities, equity, it mirrors how the assets and receivables held by the firm were obtained (Berman et al, 2011, p. 103).

Between 2015 and 2021, Romanian enterprises have strengthened their financial autonomy, equity has increased its contribution to the financing of the enterprise from 30% to 37% and correspondingly debt has decreased from 62% to 57%.

Romanian enterprises finance themselves through debt mainly from suppliers, with trade debt contributing 17%, i.e. one out of six lei comes from their trading partners.

Another source of company financing comes from affiliated entities or shareholders, including loans from parent companies, who contribute between 11 and 12% of debt.

Banks, non-bank financial institutions and foreign financial institutions provide 10% of the resources of Romanian companies, because in relation to the other debts they have important costs attached and also come with a number of restrictions and external control over the debtor companies.

Table no. 4. Financing structure of non-financial companies in Romania - %

Indicator	2015	2020	2021
1. Capital	30	35	37
2. Provisions and deferred income	8	7	7
3. Total debt, of which:	62	58	56
3.1. External private financial debt	-	2	2
3.2. Domestic loans (banks and NFIs)	-	8	8
3.3. Trade debts	-	17	17
3.4. Debts to the state	-	4	4
3.5. Liabilities to affiliated entities and shareholders (including external parent-subsidiary loans)	-	12	11
3.6. Other debts	-	15	14

In conclusion, there is an improvement in the company's financial structure, greater autonomy in decision-making and reduced vulnerabilities due to the highly variable economic environment.

4. The risk of bankruptcy of romanian companies (solvency and liquidity)

Bankruptcy risk is the analysis of the firm's ability to meet its commitments to third parties, and therefore the assessment of the solvency and liquidity of the firm (Stancu and Stancu, 2012, p. 37).

However, before exploring, the solvency and liquidity of Romanian enterprises, I think we should analyse the ability of enterprises to generate income, through assets held: asset turnover. Asset turnover, in fact, evaluates the management of the company's assets or in other words the sales generated by each monetary unit invested in assets (Helfert, 2006, p. 123).

Between 2016 and 2021, asset turnover increases by 5%, from 90%, to over 95% and only in 2020, the pandemic year, did it fall below the limits of the range analysed. Presumably, the increase in asset utilisation efficiency, in the absence of primary data, is explained by increases in turnover, which are higher than the increase in asset value.

The leverage effect (assets/equity, also called the financial capital structure (Brezeanu, 2008, p. 361) or capital multiplication factor (Halpern et al., 1998, p. 119) increases until 2016, after which it declines. The value at the end of the interval however remains well above the initial value. The development in the first part, the increase in the value of leverage, can be explained by the first meaning of the indicator, the financial structure of the company, in the sense that the process of falling interest rates or lax conditions in the economy make companies finance their investments from debt (whatever, bank, commercial, from their own shareholders), the decrease after 2016 is explained by the second meaning of the ratio, capital multiplication, which slows down against the background of increasing equity. By whichever name it is called, it is a cause of financial returns. While it dominates the increase in the financial rate of return between 2014 and 2016 (see the information in Table 2), the much more modest increases in this profitability after 2016 are explained by the absence of the impact of this variable.

Table 5. Evolution of certain financial indicators
(calculated for all enterprises in Romania) - %

Indicator	2014	2015	2016	2017	2018	2019	2020	2021
Asset turnover (turnover/assets) - %	-	-	90,3	93,7	92,5	94,5	87,4	95,5
Leverage (assets/equity) - %	221,6	212,0	306,3	290,9	296,3	281,4	271,6	259,5
Short-term debt ratio (short-term debt/assets) - %	-	-	47,7	46,8	44,5	43,4	42,6	41,8
Long-term debt ratio (medium and long-term debt/assets) - %	-	-	19,6	18,8	21,7	21,1	20,6	19,7
Solvency ratio (debts/equity) - %	-	-	206,3	190,9	196,3	181,4	171,6	159,5
Overall liquidity (current assets/short-term liabilities) - %	90,4	92,4	95,3	98,5	103,3	107,0	111,6	118,3
Immediate liquidity (current assets without inventories/short-term liabilities) - %	-	-	90,4	92,4	73,3	76,2	80,5	83,0
Liquidity at sight (cash and financial investments/short-term liabilities) - %	16,2	19,6	20,0	20,9	21,4	23,1	25,9	27,3

The increase in the financial autonomy of enterprises (strengthening of the share of equity financing of enterprises), seen in the previous paragraph, obviously leads to a decrease in indebtedness visible only at the level of short-term debt, because long-term debt remains in 2021 at a level of about 20%, the same value as in 2016.

Solvency decreases arithmetically, which shows a decrease in the vulnerabilities of the company and is a direct result of the reduction in short-term debt and the increase in equity.

Liquidity also shows positive trends:

- general liquidity increasing by about 30%, available short-term assets being about 20% higher than the liabilities due during the year;

- immediate liquidity is approaching the 30% threshold, a lot as ca. 90% of Romanian companies are small, and the optimal threshold for them is much lower (I even consider that they have excess liquidity, negatively affecting profitability);

- partial liquidity (called immediate liquidity in works published by the NBR), though decreasing, ends the interval above the optimal threshold of 80% (in the two pre-trend years against a background of an increase in inventories below optimal values).

In conclusion, the indicators analysed to assess the impact of financial risks on the company show positive trends, which tells us that the solvency and liquidity of the company are increasing and the potential risks are decreasing.

5. Financial discipline of Romanian enterprises

Tables 5 and 6 provide a range of information on the dynamics and structure of the enterprise's debts, respectively, on the time taken to collect them, including some data on the sectorial characteristics of this last indicator.

The analysis of the evolution of indebtedness indicates processes of reduction of short-term indebtedness. In structure, the magnitude of these declines is different:

- it is much larger in the case of debts to suppliers, where the decrease is around RON 20 billion, decreasing in percentage terms by a third between 2013 and 2021;

- the magnitude of the decrease is much smaller for debts to public budgets and the category "other creditors". Thus, although the two are each reduced by around 2 billion at the end of the analysis period compared to the beginning, within the period we have many steep sinusoids, even reaching maximum values, which does not indicate that the reduction trend will last.

However, even if short-term debt (to suppliers, budgets and other creditors) decreases from 101 billion lei in 2013 to 78 billion lei in 2021, this category of debt remains high, accounting for about 60% of net profit in 2021.

Table 6. Evolution of certain debts of non-financial companies in Romania (billion lei)

Year	Debts to suppliers	Debts to public budgets	Other creditors
2013	56,25	23,22	21,19
2014	53,71	18,51	20,31
2015	52,43	24,63	19,69
2016	46,81	26,10	19,71
2017	44,85	23,27	22,01
2018	48,01	17,28	20,21
2019	45,05	17,05	18,67
2020	40,71	19,75	22,40
2021	37,47	20,69	18,69

Reducing short-term leverage, while beneficial for increasing financial discipline, still means a reduction in corporate financing. From Table 7, it can be seen that the firm's financing problems increase slightly, with the firm recovering its debts more slowly.

While on average, the time to recover receivables increases by only 4 days between 2017 and 2020 (within the range even decreasing in 2018 and 2019), contradictory movements are observed by sector of activity:

- in the construction, real estate and utilities sectors, there are quite significant decreases in the recovery period (e.g. 75 days in real estate);
- the time taken to recover debts is increasing in agriculture, mining and quarrying and services, even by 30 days in some sectors;
- but there is also relative stability in the recovery period in manufacturing and trade, i.e. in more than 50% of the economy.

Table 7. Evolution of the recovery period of claims at the level of all companies in Romania and by sector of activity (days)

Sector of activity	2017	2018	2019	2020
Total / Average	88	87	85	92
Real estate	276	260	247	201
Agriculture	146	153	157	164
Extractive industry	120	115	106	151
Construction	156	148	134	134
Enterprise services	117	117	117	133
Utilities	124	122	105	116
Population services	60	67	72	94
Manufacturing industry	79	77	75	82
Commerce	58	59	58	59

In conclusion, although financial discipline seems to be improving, there are still segments of the economy/sectors of activity with discipline problems, with many economic agents unable or unwilling to pay their debts because they do not collect their claims or do nothing to recover them.

5. Conclusion

The company's ability to produce profit, both in terms of profit mass and rates of return, we note positive trends between 2014/2016 and 2021:

- increase in absolute profit size by more than 60 billion;

- increase in the commercial rate of return (profit margin) by 50% from 6% to 9%;
- doubling the financial return (on equity) from 11% to 22%;
- growth across the board in most sectors, except manufacturing.

There is an improvement in the company's financial structure, greater autonomy in decision-making and reduced vulnerabilities due to the highly variable economic environment.

The indicators analysed to assess the impact of financial risks on the enterprise show positive trends, which tells us that the solvency and liquidity of the enterprise are increasing and the potential dangers are decreasing.

Although financial discipline appears to be improving, there are still segments of the economy/sectors with discipline problems, with many economic agents unable or unwilling to pay their debts because they do not collect their claims or do nothing to recover them.

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PRACTICING A RESPONSIBLE TOURISM IN BUKOVINA BY ANALYZING THE MAIN STATISTICAL INDICATORS FOR THE PERIOD 2019-2022

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Abstract: *At the social level, tourism provides people with access to „trees of civilization” and the beauty of society, promotes the exchange of opinions, ideas and thoughts, thus equally promoting the intellectual formation of individuals. At the economic level, tourism has become a factor of economic progress and has a broad and positive impact on the development of society as a whole. The need for sustainable economic development increasingly reveals to us the importance of developing and approving strategies, whose ultimate goal is that the natural and anthropogenic tourism potential of Bukovina is not negatively affected by tourism, but, on the contrary, to protect the interests of future generations. A trip to Bukovina, in addition to traveling through a fascinating geographical space, also means entering a mythical universe and coming into contact with a unique spirituality and human attitude. Due to ancient traditions and customs, unique monuments and special craftsmanship, and not least to a cultural center of international importance, Bucovina must regain the attention of tourists as a purely ecotouristic area.*

Keywords: *green destination, ecotourism, tourism brand, sustainability.*

JEL Classification: *M31, Q57.*

1. Introduction

Bukovina, as a tourist destination, has many resources (natural, cultural, historical and balneary) and is actually like a vast open-air museum where it remained inscribed in stone, wood, etc, color and speech are a significant part of the struggle, the dreams and efforts of our ancestors.

Suceava County, gifted by nature with an exceptional landscape, it is from a tourist point of view a prime area of the country and occupies one of the first positions in terms of economic, human and tourist potential, and this land of Suceava means history, traditions and customs of certain originality, monuments and crafts of rare ingenuity.

The tourist destination Bucovina must be promoted as effectively as a ”loc single” both on the domestic and international market.

The tourism industry is very fragmented, consisting of many different large and small companies, and the development of tourism in this area requires coordination, investment, training and marketing, and, essentially coordination between government and local authorities, businesses and local communities.

For many years, we have been using terms such as agrotourism or ecotourism to refer to a type of rural tourism characterized by accommodation in a traditional home and kitchen based on products collected from the household.

The pressure on this type of tourism is quite strong and some real estate investments have turned some traditional villages into real residential villas, affecting the environment.

Fortunately, there are many places in Romania that are not very accessible, and in these places nature is protected and local cultural traditions and cuisine are preserved.

According to the principles of ecotourism, an ecotourism destination must meet the following conditions:

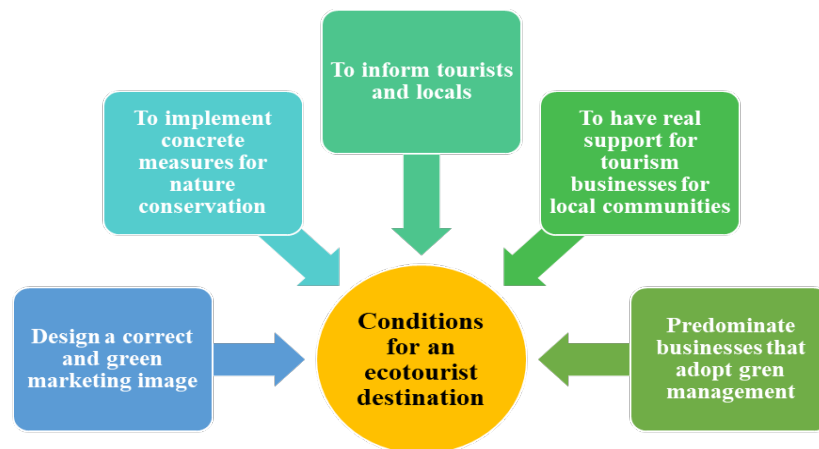


Figura nr.1. Conditions that an ecotourism destination must meet

Source: own processing

In Romania, ecotourism is represented by several non-governmental organizations, which aim to stimulate the development of sustainable practices, such as the Dorna Country Ecotourism Association, the Ecological Association, Center for Protected Areas and Sustainable Development Bihor, National Association for Rural Ecological and Cultural Tourism of Romania. Romania and ECO-Romania Association (Candrea A.N., Hertanu A., 2015). One of the entities, ECO-Romania Association, has developed an accreditation system for accommodation units in ecotourism and tourist routes (AER).

2. Literature review

The tourist destination is the geographical place or place where a visitor or tourist stops either for a night of accommodation or for a period of time, or the terminal point of the holidays of the tourists, or, whether they travel for tourism or business purposes (Stancioiu A.F., 1999).

The Ecotourism Destination concept has been developed since 2012 by the central public authority for tourism, in partnership with nationally representative institutions and organizations (Ministry of Environment, Waters and Forests, and, The National Institute for Research and Development in Tourism and the Ecotourism Association of Romania), based on the National Ecotourism Strategy, Global Criteria for Sustainable Tourism (GSTC) and the European Ecotourism Standard (EETLS).

Unlike attractions, considered to be generally single units, places or geographical areas of small size and easy to delineate, based on a single distinctive feature, tourist destinations are larger areas, which include a number of individual attractions, as well as services offered to tourists (Vellas F., Becherel L., 1999).

Ecotourism involves nature-based activities and has as main principles to mitigate the environmental impact (Singh S. et. all, all, 2015) And have a wide range of benefits for the local community (Dorobantu MR., Nistoreanu P., 2012).

According to the definition of the World Tourism Organization, it has the following characteristics: it is designed for small groups and involves small and local enterprises, has an important educational aspect, which is, with a high focus on mitigating the negative impact on the environment, including on communities and supports the socio-economic development of the natural area (UNWTO).

3. Responsible tourism in times of pandemic and postpandemic

Sustainable travel has driven European tourism policy in recent years, driven by growing demands and expectations from travellers and host communities. While the COVID-19 crisis has paralyzed the travel industry in recent years, it has also been a unique opportunity to reset, change cultural mindsets and build resilience.

The COVID-19 pandemic has created greater awareness of the need for the transition to green tourism, providing additional incentives and opportunities to address these issues throughout the tourism ecosystem.

This disruption creates significant opportunities for reshaping tourism, and, accelerate the transition to greener and more sustainable tourism development models through innovative policies and ensure that recovery plans are in line with the Paris Agreement and Sustainable Development Goals (SDGs).

Given that Russia's war in Ukraine is exerting further increasing pressure on prices, this could provide an additional impetus to accelerate the transition to net zero, as economies reintroduce energy security priorities and businesses move to more resource-efficient practices.

The problems caused by the emergence of an epidemic, pandemics have a strong impact on the tourism industry.

The tourism industry has been the most affected by the suspension of activities and travel restrictions. There have been situations where tourism operations have been completely suspended for a period of time.

4. Methodology

The purpose of the research is to analyze the evolution of accommodation activity in Bucovina in the last 4 years. Based on the proposed purpose, the following objectives have been set:

- analysis of the literature referring to reception structures and accommodation activity through the practice of responsible tourism;
- evolution of the main tourist indicators in Bukovina between 2019-2022.

As a result of the research, we found that the accommodation units in Bucovina register increases in some of them (hotels, hostels, tourist and agrotourism hostels), but also decreases or stagnations in others (tourist pops, motels, cottages), due to factors of objective and subjective nature.

In order to achieve the purpose and the achievement of the objectives, the following research methods were used: the analysis of the scientific-methodical literature, the observation, the statistical-mathematical method of data processing and interpretation.

It is found that Romanian tourists, but especially foreign tourists who visit Bukovina, tend to choose accommodation units from rural or ecotouristic areas, the latter being the most appropriate form of hospitality in Bucovina.

As a result of the research we could see that from an economic activity representing almost 3% of GDP, at country level, tourism has decreased, in Romania, to zero. For 3 months (march-may), in Bukovina almost 95% of the accommodation capacities were closed, leaving only those that hosted people in quarantine or medical staff.

Table no.1. Evolution of the number of tourist accommodation structures in Bucovina in 2019-2022

Tourist accommodation facilities with accommodation functions	2019	2020	2021	2022
Hotels	49	52	54	55
Hostels	15	17	19	20
Motels	6	6	6	6
Tourist villas	21	22	22	24
Tourist lodges	12	11	12	12
Tourist pensions	117	122	132	136
Agrotourism pensions	235	249	257	263
Campsites	4	4	4	4
Tourist pops	3	3	3	2
Total	462	526	509	422

Source: Statistical data processed from the Tourism Breviary of Suceava County, National Institute of Statistics Bucharest, Suceava County Department of Statistics - <http://statistici.insse.ro>

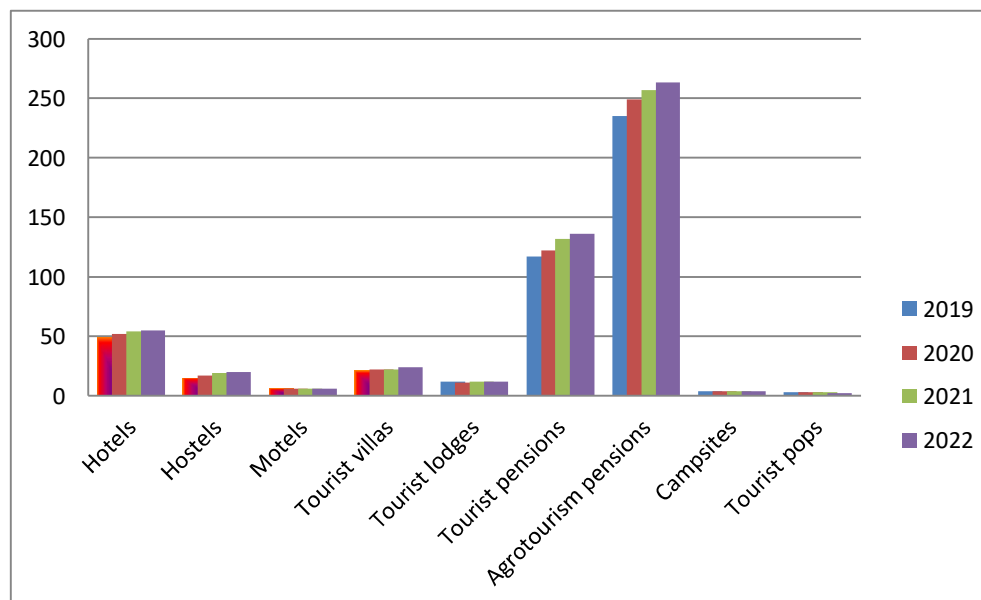


Figure no.2. Evolution on reception structures with functions of tourist accommodation in Bucovina in 2019-2022 (own processing)

Source: <http://statistici.insse.ro>

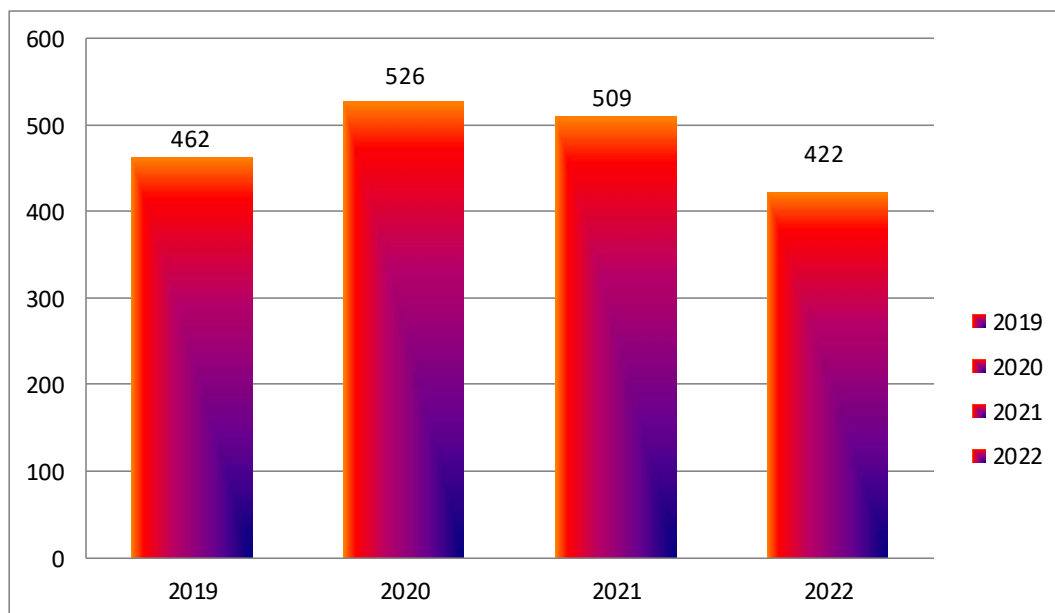


Figure no.3. Evolution of the total number of reception structures with functions of tourist accommodation in Bucovina in 2019-2022 (own processing)

Source: <http://statistici.insse.ro>

The spectacular increase in the number of agro-tourism hostels is very important because tourism activities in rural areas are an economic alternative for Bucovina and contribute to economic growth.

The development potential of the region is extremely high, and this can be seen in the growing trend of the tourist dynamics of Bucovina.

The COVID-19 crisis has changed the way we see our lives and the tourist activity in Bucovina has been strongly affected.

Table no.2. Evolution of arrivals in tourist accommodation structures with functions of tourist accommodation in Bucovina in the period 2019-2022

Tourists/Years of reference	2019	2020	2021	2022
Romanian tourists	409.793	248.997	435.680	488.300
Foreign tourists	56.128	5.483	14.679	40.857
Total tourists	465921	254.480	450.359	529.157

Source: Processing of statistical data processed from the Tourist Breviary of Suceava County, National Institute of Statistics Bucharest, Suceava County Directorate of Statistics <http://statistici.insse.ro>

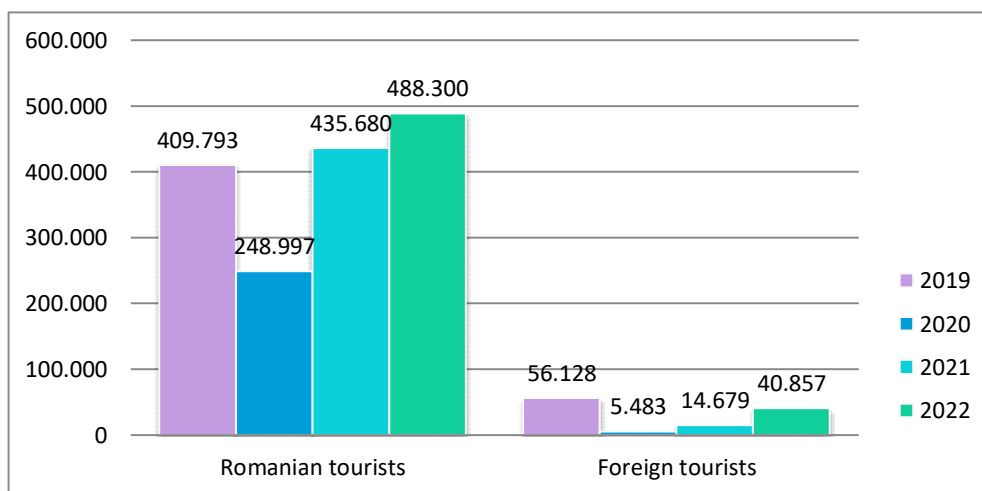


Figure no.4. Evolution of arrivals by types of tourists in reception structures with functions of tourist accommodation in Bucovina in the period 2019-2022 (own processing)

Source: <http://statistici.insse.ro>

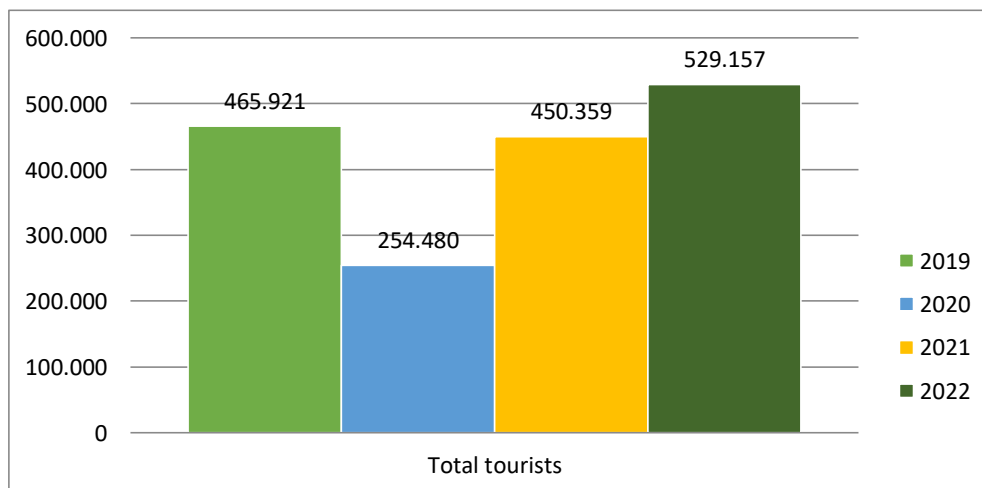


Figure no.5. The total evolution of arrivals in reception structures with functions of tourist accommodation in Bucovina in the period 2019-2022 (own processing)

Source: <http://statistici.insse.ro>

Analyzing the data provided by the National Institute of Statistics (Figure 4 and 5), we note that the number of arrivals in 2020 decreased by 45% compared to the number of arrivals of tourists registered in 2019. This decrease occurs against the backdrop of the COVID-19 crisis, with strong repercussions on the tourism industry in Bucovina.

Restricting or even banning travel, the suspension of the activity of reception structures with tourist accommodation functions in Bucovina led to a drastic decrease in the number of arrivals in the region.

We can also see that the highest number of arrivals of tourists was recorded in Bucovina (529,157 arrivals) in 2022.

Table no.3. Evolution of overnight stays in tourist accommodation structures with tourist accommodation functions in Bucovina in 2019-2022 (number of overnights)

Nights/ Years of reference	2019	2020	2021	2022
Romanian tourists	924.586	527.782	894.596	1.046.132
Foreign tourists	89.861	12.383	27.082	69.221
Total tourists	1.014.447	540.165	921.678	1.115.353

Source: Statistical data processed from the Tourism Breviary of Suceava County, National Institute of Statistics Bucharest, Suceava County Department of Statistics - <http://statistici.insse.ro>

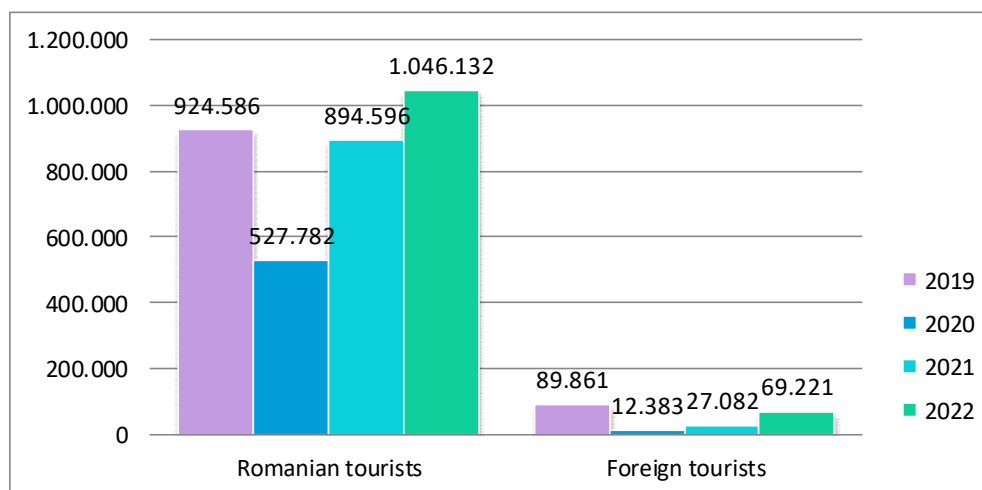


Figure no.6. The evolution of overnight stays by type of tourists in accommodation establishments in Bucovina in 2019-2022 (own processing)

Source: <http://statistici.insse.ro>

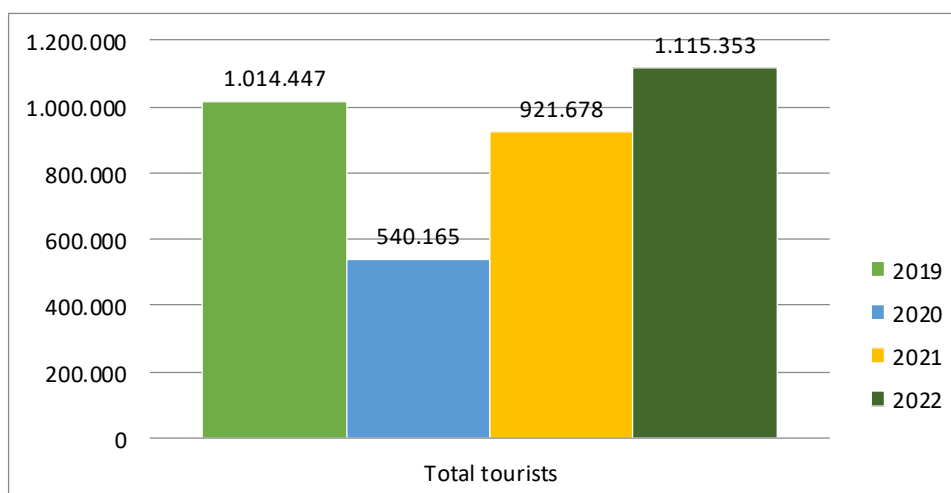


Figure no.7. Total evolution of overnight stays in tourist accommodation establishments in Bucovina in 2019-2022 (own processing)

Source: <http://statistici.insse.ro>

Figure 7 shows the evolution of the indicator "Overnight stays in tourist accommodation establishments in Bukovina" from which we can observe a decrease in 2020 caused by the COVID 19 crisis. The recorded data show a decrease of about 54% in the number of overnight stays in 2020 compared to the values recorded in 2019. From the year 2021 onwards this indicator has registered a gradual increase reaching 1.115.353 overnight stays in 2022.

The structure of tourists by origin (Romanian-foreign) is clearly unequal, in favour of local tourists. This highlights the regional character of tourism in Bucovina and calls for an aggressive promotion of this tourist destination at international level.

More and more local and foreign tourists are coming to stay in the countryside, attracted by the possibility of discovering the environment, the change of lifestyle, and sports activities in nature.

7. Conclusions

A good development of tourism in rural areas can contribute to the development of entrepreneurial initiatives among local people, with a high chance of success if the value of the attractive elements of the Bucovina area is realised.

In the context of globalisation, Romania needs to make many changes in order to compete in the tourism sector.

Although Romania's tourism potential has been and is still considered promising by Romanian and foreign researchers, Romanian tourism is still in a stage of development and recovery.

On the road to efficiency, Romanian tourism must adopt a global mentality and take into account the existing international competition.

The sustainable development of the travel and tourism industry depends directly on the sustainable development of other related sectors.

Therefore, improving the general infrastructure, raising the standard of living, improving hygiene and health conditions are the direction to follow.

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ANALYSIS OF THE REGIONAL ECONOMIC IMPACT OF HYBRID CONFLICTS ON TRADE RELATIONS

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***Abstract:** In the last period, the international economy is marked by a diversity of fundamental transformations that reshape the architecture of the interdependencies on the basis of which it operates. The World Trade Organization has seen preliminary signs of fragmentation in trade flows, with exports and imports reorienting along geopolitical lines. Trade can contribute to the propagation of shocks because it exposes economies to external risks, but it can also be a source of shocks. The positive effect of trade on resilience has been demonstrated by recent crises, including the COVID-19 pandemic and the war in Ukraine. Since the start of the war in Ukraine, trade has played an important role in the adjustment of net food importing countries. As with economic security, trade can theoretically increase or decrease the likelihood of conflict. In theory, the relationship between trade and economic security is not very clear. The multilateral trading system incorporated by the World Trade Organization is fundamental to achieving the resilience benefits of international trade by helping economies obtain inputs from around the world on transparent and comparable terms. The war in Ukraine highlights that this allows rapid adjustment of trade flows when unforeseen shocks occur.*

***Keywords:** international trade, conflict, geopolitics, resilience.*

***JEL Classification:** F51, F53.*

1. Introduction

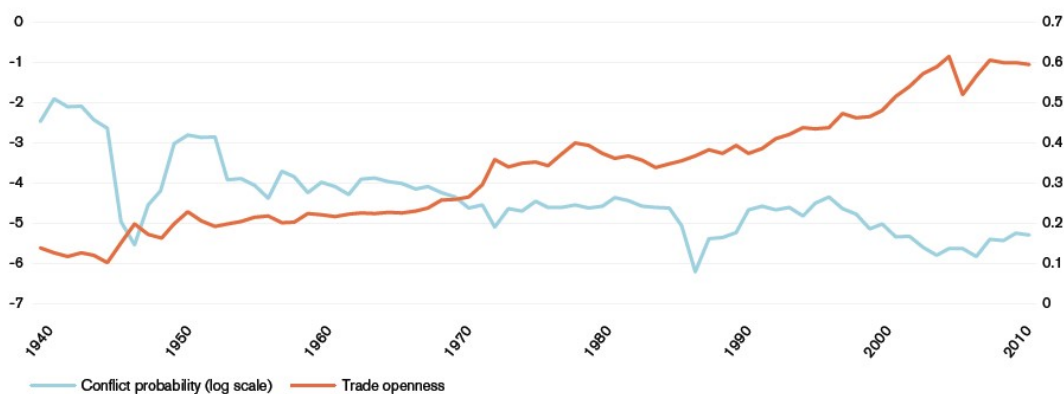
In recent years, a series of crises have changed the way trade, interdependencies between states and the trade-security relationship are viewed. What was considered essential for economic progress and security is sometimes seen today as a source of risks that must be limited. Furthermore, security concerns are no longer expressed only in reference to conflicts, but cover the much broader notion of economic security. Despite disruptions in global supply chains, trade remains a source of security, especially when part of a rules-based multilateral system. Trade provides greater economic security by helping economies better prepare for, cope with, and recover from shocks. Trade increases the resources available to invest in security by amplifying income. It facilitates the efficient delivery of essential services such as insurance, telecommunications, logistics and health services. It allows economies to adjust more easily to shocks by providing them with new sources of supply in the event of a shortage in the domestic market or other markets in the event of a fall in domestic demand. Beyond crises, the diversification effect produced by trade reduces asymmetric dependencies as well as the likelihood that suppliers in a dominant position can use trade as a weapon. In fact, trade has always been a source of economic security. Empirical research often shows that the beneficial effects of trade on resilience outweigh its harmful effects. Over the past 50 years, greater openness to trade has limited macroeconomic volatility in most economies. The positive effect of trade on resilience has been demonstrated by recent crises, including the COVID-19 pandemic and the war in Ukraine. Since the start of the war in Ukraine, trade has played an important role in the adjustment of net food importing countries. The sharp drop in Ukrainian grain exports to several African economies was expected to be offset by an increase in grain exports from other major grain suppliers, including Argentina, France and the United States. The multilateral trading system embodied by the WTO is fundamental to reaping the resilience benefits of international trade. It helps economies obtain inputs from

around the world on transparent and comparable terms. The war in Ukraine highlights that this allows rapid adjustment of trade flows when unforeseen shocks occur.(WTO, 2023)

Trade tends to reduce the likelihood of conflict. As with economic security, trade can theoretically increase or decrease the likelihood of conflict. The literature identifies three main mechanisms by which trade increases the likelihood of conflict. First, trade generates economic dependencies. These dependencies can limit the range of actions available to policy makers and expose countries to the effect of changes in the rules or policies of some governments. Second, trade relations can be a source of conflict, as demonstrated by the war between England and the Netherlands and the continental blockade instituted by Napoleon, which aimed to control, respectively, sea trade routes around the world and the European market. Third, trade increases economic output and therefore resources that can be used in conflict. These conflict-inducing effects of trade are counterbalanced by at least four mechanisms by which trade reduces the likelihood of conflict. First, trade increases the opportunity costs of conflict. If two economies with close trade ties went to war, both would suffer economically. Second, trade promotes openness to change and mutual understanding. It can help improve communication and encourage contacts between public and private actors in different economies. Third, trade redirects resources within economies to benefit interest groups with an interest in peaceful and stable relations. Fourth, trade provides non-violent tools in crises. Measures that, for example, would impose import barriers or export restrictions and ultimately suspend trade would effectively address disparities related to information asymmetry. (WTO, 2023)

Empirical work supports the idea that trade has a pacifying power, although it is certainly not capable of preventing conflict. Most empirical studies conclude that the conflict-reducing effect of trade tends to be stronger. Figure 1 presents data that clearly supports this, showing that there has been an inverse relationship between trade openness and the likelihood of conflict since World War II.

Figure no. 1. There is a strong correlation between trade openness and lower conflict probability



Source: (WTO, 2023), p.55

Various works focusing on bilateral trade concluded that a doubling of trade between two economies reduced the probability of conflict by 20% on average, a finding confirmed by numerous studies. Particularly in terms of trade openness at the country level, multilateral interdependence reduces the likelihood of conflict. Recent studies show that both bilateral and multilateral interdependence foster the promotion of peace. Greater bilateral trade

independence contributes to a peace effect for neighboring countries, while openness to global trade promotes peace between more geographically distant economies. (WTO, 2023)

2. Analysis of the impact of the conflict in Ukraine on regional trade

2.1 EU-Russia relations – general framework

The Bilateral Partnership and Cooperation Agreement (PCA) has been the general framework for the EU's political and economic relations with Russia since 1994. The trade-relevant sections of the PCA aim to promote trade and investment and develop mutually beneficial economic relations. At the 2003 St. Petersburg summit, the EU and Russia strengthened their cooperation by creating four "common spaces": an economic space; a space of freedom, security and justice; an external security space; a space for research, education and culture. At the regional level, the EU and Russia, together with Norway and Iceland, initiated cross-border cooperation in the Baltic Sea and Barents Sea region in 2007. In July 2008, negotiations began for a new agreement between the EU and Russia, which was to include "legally binding commitments" in areas such as political dialogue, justice, freedom, security, economic cooperation, research, education, culture, trade, investment and energy. A "Partnership for Modernization" was launched in 2010. Negotiations for the visa facilitation agreement were concluded in 2011. However, Russia's intervention in Crimea led to the suspension of all these discussions and efforts. In 2014, the European Council decided to freeze cooperation with Russia. EU-Russia relations have been strained since 2014 due to the following causes: Russia's illegal annexation of Crimea, support for separatist groups in eastern Ukraine, destabilization policies in the neighborhood, disinformation and interference campaigns, and domestic human rights violations. Since 2012, when Russia joined the WTO, EU-Russia trade relations have also been governed by multilateral WTO rules. (European Parliament, 2024)

The EU reassessed its relations with Russia through the 2016 EU Global Security Strategy, defining them as "a key strategic challenge". In March 2016, the Council established five guiding principles to be applied in the EU's relations with Russia:

- (1) the implementation of the Minsk agreements on the conflict in eastern Ukraine, as an essential condition for any substantial change in the EU's position vis-à-vis Russia;
 - (2) strengthening relations with the EU's eastern partners and other neighbors, including those from Central Asia;
 - (3) increasing EU resilience (e.g. in energy security, hybrid threats or strategic communication);
 - (4) a selective cooperation with Russia on topics of interest to the EU;
 - (5) the need to make interpersonal contacts and support civil society in Russia.
- (European Parliament, 2024)

Since the large-scale invasion of Ukraine in February 2022, Russia has been considered an aggressor of Ukraine and the EU has reoriented its strategy towards the Russian Federation. In March 2022, the EU adopted the Strategic Compass for Security and Defense, recognizing that Russia poses "a direct and long-term threat to European security", thus marking a major shift in EU-Russia relations after 2016. This approach was supported and in NATO's Strategic Concept, adopted in June 2022, which states that "the Russian Federation represents the most significant and direct threat to the security of allies and to peace and stability in the Euro-Atlantic area". (European Parliament, 2024)

2.2 EU trade relations with Russia

Until February 24, 2022, Russia was one of the main trading partners of the European Union. Since 2014, Russia's illegal annexation of Crimea and its destabilizing role in eastern Ukraine have severely damaged EU-Russia relations. As a result, some political dialogues and cooperation mechanisms, including in the field of trade, have been suspended. Following Russia's invasion of Ukraine on February 24, 2022, the European Union adopted unprecedented measures aimed at significantly weakening Russia's economic base, depriving it of critical technologies and markets, thereby significantly reducing its ability to wage war.

In 2021, before recent trade sanctions began to take effect, according to (European Commission, 2024), in 2021 Russia was the EU's fifth largest trading partner, accounting for 5.8% of the EU's total merchandise trade EU with the whole world. In 2020, the EU was Russia's number one trading partner, accounting for 37.3% of the country's total merchandise trade with the world. 36.5% of Russia's imports come from the EU and 37.9% of its exports to the EU. In 2021, total trade in goods between the EU and Russia amounted to EUR 257.5 billion. EU imports were worth €158.5 billion and were dominated by fuels and mining products – mainly mineral fuels (€98.9 billion, 62%), wood (€3.16 billion, 2.0%), iron and steel (EUR 7.4 billion, 4.7 %) and fertilizers (EUR 1.78 billion, 1.1 %). EU exports in 2021 amounted to EUR 99.0 billion. These were led by machinery and equipment (€19.5 billion, 19.7%), motor vehicles (€8.95 billion, 9%), pharmaceuticals (€8.1 billion, 8.1%), equipment and electrical machinery (EUR 7.57 billion, 7.6 %) and plastics (EUR 4.38 billion, 4.3 %). Two-way trade in services between the EU and Russia in 2020 amounted to EUR 29.4 billion, with EU imports of services from Russia accounting for EUR 8.9 billion and exports of services to Russia accounting for EUR 20.5 billion. In 2019, the EU was the largest investor in Russia. The stock of EU foreign direct investment (FDI) in Russia amounted to EUR 311.4 billion, while the stock of Russian FDI in the EU was estimated at EUR 136 billion. (European Commission, 2024)

Regarding the current state of EU-Russia trade relations, in July 2014, in response to Russia's military intervention in Ukraine, the EU adopted a set of restrictive measures against Russia targeting four economic sectors: access to finance, arms, products with dual use and specific technologies for oil production and exploration. In August 2014, Russia reacted by introducing a political ban on imports of a range of agricultural and food products from the EU. The product definition was expanded in October 2017. In February 2022, following a new military aggression by Russia in Ukraine, the EU adopted additional sanctions targeting the energy, transport, technology and financial sectors, as well as imposing restrictive measures on natural persons. There are currently 13 sanctions packages in place (the latest – 23 February 2024). Trade with Russia is heavily restricted by EU sanctions. In addition, from 15 March 2022, the EU, together with the G7 countries and other like-minded partners, stopped treating Russia as the most favored nation in the WTO. This deprives Russia of its main trading advantages as a WTO member. (European Commission, 2024)

The main trade policy measures applied by the EU against Russia are:

- ✓ Arms embargo
- ✓ Ban on exports of:
 - Dual-use items and advanced technology products that can contribute to Russia's defense and security capabilities (e.g. quantum computers and advanced semiconductors, electronic components and software)
 - Goods that contribute to the strengthening of Russian industrial capabilities, including the energy industry
 - Transport equipment, goods used in aviation, space industry and maritime navigation

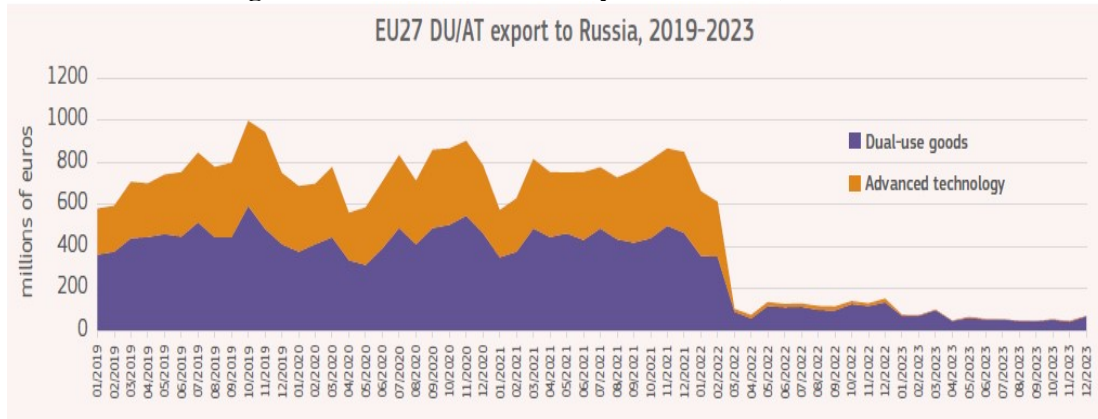
- Civilian firearms
- ✓ Prohibition of imports of:
 - Iron and steel, including some goods processed in third countries using Russian inputs
 - Cement, rubber products, timber, aluminum spirits, liquor, high-end seafood and other goods that generate significant income for Russia
 - Gold and diamonds
- ✓ Transit bans for certain goods prohibited on the territory of Russia
- ✓ Prohibition on providing technical support or brokerage services for prohibited goods, as well as selling, licensing, transferring or reporting intellectual property rights and trade secrets
- ✓ "Anti-circumvention instrument", which allows restrictions on the export of sanctioned goods to third countries with a continuing and particularly high risk of circumvention
- ✓ Operators' obligation to contractually prohibit the re-export of certain sanctioned goods
- ✓ Prohibition to provide certain services (business, legal consulting, IT consulting, etc.) (European Commission, 2024)(European Council, 2024)

2.3 The effects of the conflict in Ukraine on EU-Russia trade

Regarding the effects of the conflict in Ukraine on EU-Russia trade, EU restrictions on the export of dual-use and advanced technologies are designed to prevent Russia from obtaining the goods and technologies it needs to develop and produce weapons. By mid2023, trade in these technologies had fallen by more than 80% compared with pre-war levels (2019-2021). The remaining few exports of dual-use and advanced tech to Russia are allowed strictly and exclusively under exemptions and derogations e.g., for medical purposes, or (mostly) “grandfathered” existing projects in Russia. They are subject to assessment and authorisation by Member State authorities. The number and value of such these has steadily decreased over time, with only 9 recorded for the last quarter of 2023, worth less than EUR 1 million. (European Commission, 2024)

The most sensitive dual use and advanced tech items used in Russian military systems are so-called “battlefield items” or Common High-Priority (CHP) items. Thanks to the sanctions, their direct export practically stopped in 2023 (-97% compared to pre-war figures). However, as Russia keeps building illegal indirect conduits for these crucial items via third jurisdictions, sanctions enforcement and anti-circumvention efforts by the EU and Member States become ever more important.

Figure no. 2. EU27 DU/AT export to Russia, 2019-2023



Source: (European Commission, 2024), p.3

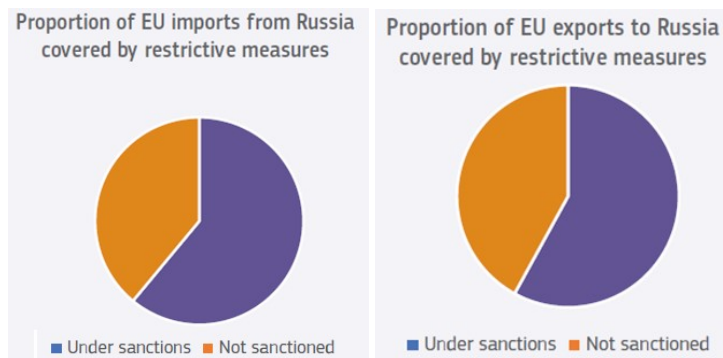
Figure no. 3. EU27 export of CHP items to Russia, 2019-2023



Source: (European Commission, 2024), p.3

The EU has imposed far-reaching import and export bans on trade with Russia, to deny Moscow’s war machine vital revenue, goods and technology. So far, 61 % of pre-war EU imports from Russia and 58 % of pre-war EU exports to Russia (both in 2021 terms) have been placed under EU restrictive measures.

Figure no. 4. Proportion of EU imports/exports from/to Russia covered by restrictive measures



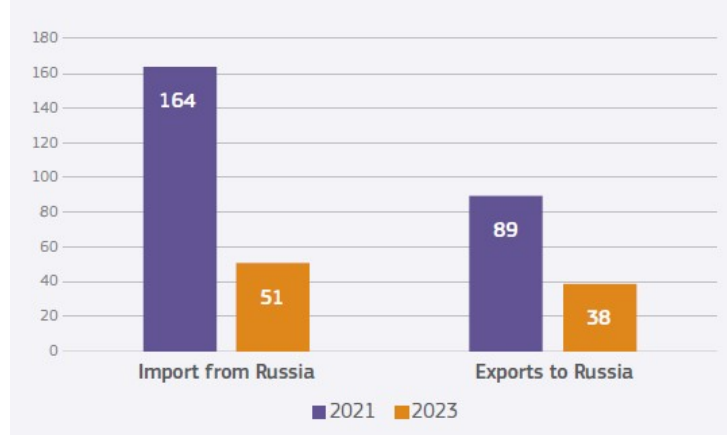
Source: (European Commission, 2024), p.3

On the import side, the sanctions cover many high-revenue areas (coal, crude oil and refined oil products, wood, steel, processed metals and most recently diamonds).

On the export side, they target goods and technologies across a range of key sectors of Russia’s military-industrial complex (e.g. aviation, space, energy and maritime) and other goods which enhance Russian industrial capacities.

Total EU imports from Russia are down by 69 %, from a value of EUR 164 billion in 2021 to EUR 51 billion in 2023.

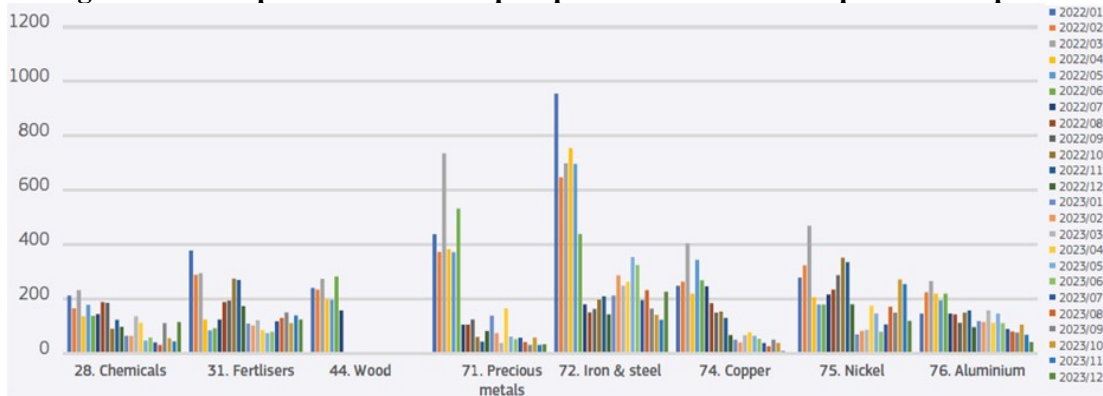
Figure no. 5. EU imports and exports to Russia, 2023 vs 2021



Source: (European Commission, 2024), p.4

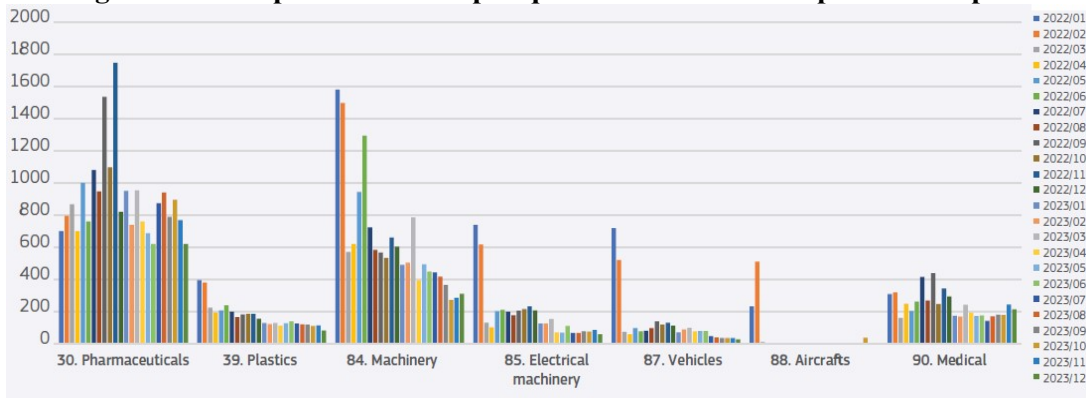
Total EU exports to Russia in 2023 clocked in at EUR 38 billion (down 57 % from 2021, EUR 89 billion).

Figure no. 6. Imports from Russia per quarter of selected HS product chapters



Source: (European Commission, 2024), p.4

Figure no. 7. Exports to Russia per quarter of selected HS product chapter.



Source: (European Commission, 2024), p.4

Very limited access to Western technologies under the international sanctions, eroded human capital due to mobilisation and emigration, and massive military investments with little spillover to the civilian sectors will damage Russia’s economic potential over time.

Figure no. 8. War and sanctions have reduced Russia’s growth prospects according to the IMF



Source: (European Commission, 2024), p.1

According to the IMF, Russia’s economy remains 4.9% smaller in 2023 than the pre-war counterfactual and GDP growth is expected to slow to 1.1% in 2025. (European Commission, 2024)

3. Conclusions

Multilateral trade and multilateral institutions greatly amplify the trade-induced conflict reduction effect. In particular, evidence shows that multilateral trade and participation in trade networks reduce the likelihood of conflict. More diversified trade limits the risk of interstate hostilities and violent disputes because multilateral trade reduces potentially exploitable dependencies between economies. Furthermore, multilateral trade could greatly limit the conflict-generating role played by asymmetries, the main theoretical vector through which trade can promote conflict. Economies that participate in trade networks are less exposed to the conflict-inducing effects of asymmetric dependence because individual relationships matter less and therefore offer fewer opportunities for external coercion. In addition, multilateral trade creates incentives for third parties to act as intermediaries between conflicting parties. Conflicts undermine trade ties with third parties and create negative externalities for trading partners that maintain significant economic relations with the

belligerents. International organizations and trade agreements can contribute to peacebuilding; regional trade agreements may promote peaceful relations given the likely increase in the opportunity costs of war. By ensuring the predictability and transparency of trade, regional or multilateral international institutions such as the WTO stabilize international relations.

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SUSTAINABILITY THROUGH SOCIAL CHANGE

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Abstract: *The integration of the concept of sustainability in the economy of a country is the current desire all over the world. Modern business models, based on innovative technologies, have the role of generating sustainable products, services and processes, but also of creating added value. With a view to the intelligent use of resources, with the aim of preserving them and for the generations to come, companies, regardless of their size and object of activity, are trying to implement their business models through which "do more with less". This major objective can be achieved through the synergy of several aspects, mainly the use of innovative techniques and technologies, the use of ecological raw materials and renewable energy sources. However, the implementation of these ways of approaching a business is not possible without the acceptance and support of society. Building a sustainable society must be something that is accepted by its members. Only in this way the entrepreneurs' initiatives have a chance of being integrated into the economy. The present paper approaches sustainability from the perspective of the social changes necessary in order to integrate it into society.*

Keywords: *sustainability, social innovations, innovative technologies.*

JEL Classification: *Q56, O35, O32.*

1. Introduction

Planning the sustainable development of a society must focus on the implementation and maintenance of all aspects derived from the basic principles of sustainability, aspects that are applied in the daily activity of the members of a community

This paper tries to contribute to the identification of how sustainability should be integrated into the organizational culture. The development of organizations and society in general must shape their social behaviour in such a way as to assimilate in their personal lives as many "friendly" practices as possible with the environment.

Sustainability, considered as a science, aims to identify the interactions between global social and human systems, as well as to understand the mechanism that led to the degradation of these systems and the concomitant risks to the security and comfort of human beings (Steinfeld, Mino, 2009).

Integrating the concept of sustainability into daily activity requires a careful approach from all the factors involved. Only in this way, implementation and acceptance by community members can be successful. In order to use resources intelligently, with the aim of preserving them and for the generations to come, companies, regardless of their size and object of activity, are trying to implement business models that "do more with less".

This major objective can be achieved through the synergy of several aspects, mainly the use of innovative techniques and technologies, the use of ecological raw materials and renewable energy sources. However, the implementation of these ways of approaching a business is not possible without the acceptance and support of society.

Building a sustainable society must be something that is accepted by its members. Only in this way, the entrepreneurs' initiatives have a chance of being integrated into the economy.

All factors involved in the justification and application of sustainability decisions must base their actions on realistic information and data. In this sense, it is opportune to create an online statistical database, as comprehensive as possible.

This paper approaches sustainability from the perspective of the social changes necessary for its integration into society.

2. Sustainability from concept to practice

In order to limit the energy used in carrying out activities, as well as to reduce the resulting amount of waste, all organizations must implement, in their own activity, a series of measures with the role of contributing to limiting the impact on the environment.

These aspects can be achieved through actions carried out at the global level of the entire organization, but also at the individual level of each employee.

In order to succeed in developing sustainably, any society must succeed in implementing in the collective mind, the need to address environmental protection measures.

The problem of the deterioration of the environment by human activity has been recognized and addressed formally, worldwide, on the occasion of several joint activities of the UN member countries and not only.

During the works of these conferences, a series of topics were addressed that could respond to the sustainability wishes (figure 1).

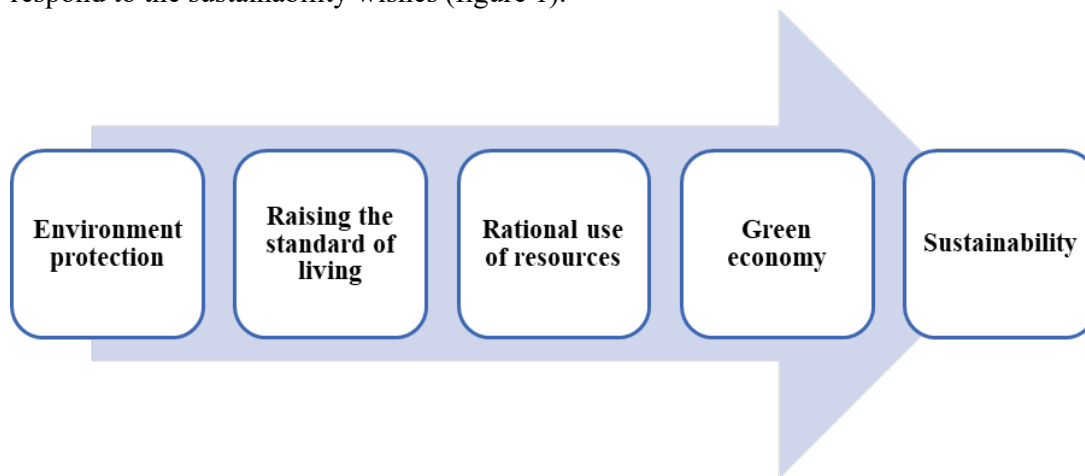


Figure 1. Themes addressed within the UN conferences

The main milestones over time, at which the aspects of environmental protection, sustainability and sustainable development were identified and addressed, are:

- 1972, Stockholm – UN Conference on the Environment.
 - For the first time, 113 countries discussed in an organized way the effects of human activity on the environment, effects manifested through pollution, damage to the environment, flora and fauna
- 1983, the World Commission on Environment and Development, also known as the Brundtland Commission, was established at the UN level.

Through its activities, this commission highlighted two essential aspects:

- Development must contribute to raising the standard of living of all members of the communities
- Development must be carried out without polluting the environment and without depleting resources

- 1992, Rio de Janeiro – UN Conference on Environment and Development.
 - The main message conveyed in the proceedings of this conference was "the necessary changes would only come about by changing our attitude and behaviour". The foundations of several international agreements have been laid.
- 2002, Johannesburg – United Nations Summit for Sustainable Development
 - During the works, the need to eradicate poverty, protect health, approach modern production and consumption models was emphasized.
- 2012, Rio de Janeiro – UN Conference on Sustainable Development.
 - New, modern themes were addressed regarding the green economy and the creation of an institutional framework for sustainable development
- 2015, New York – The United Nations General Assembly adopts the Sustainable Development Goals through a resolution called the 2030 Agenda
- 2022, Stockholm – "Stockholm+50" Summit
 - The proceedings of this conference marked the fiftieth anniversary of the first UN Conference addressing environmental issues.

3. Social changes necessary for the implementation of sustainability concepts

Addressing the social changes necessary to implement sustainability concepts is a topical issue designed to highlight the synergy of several aspects, mainly the use of innovative techniques and technologies, the use of ecological raw materials and renewable energy sources.

The implementation of these ways of approaching a business is not possible without the acceptance and support of society.

The challenges to which members of society are constantly subjected, must generate solutions in the way each of us, at the individual or group level, deal with the problems of environmental protection, rational use of resources, health assurance, ecological approach of the economy and ultimately of long-term sustainability.

Sustainability is a concept that should become familiar to every member of a community.

In order to be able to put into practice the theoretical aspects addressed on the occasion of various international conferences, the members of a community and, in general, the members of society as a whole, must assume and assign a series of actions aimed at transforming their lifestyle into one as more sustainable.

At the national and international level, there are a number of projects that allocate the necessary funds to educate and raise awareness of the population in the field of sustainability (SNEM, 2023).

Sustainable development depends on several aspects. One of these, extremely important, refers to the population's ability to understand the need to apply concrete, well-defined measures in order to reduce the impact of human activity on the environment.

The approach to a sustainable lifestyle must not represent an illusion, but must become more and more, a long-term decision, on a personal and group level.

Living sustainably does not have to mean giving up on modern aspects of life or returning to outdated ways of doing things. On the contrary, sustainability must generate modern techniques and technologies, innovative approaches to production activities, economic, but also those aimed at everyday life.

Moreover, at the level of economic organizations, sustainability is seen as a major objective. In order to identify how companies deal with sustainability issues, the 2014/95

directive was adopted at the European Union level. This document specifies the obligation of companies with over 500 employees to report annually a series of information on how social responsibility and sustainability activities are approached.

The main social changes aimed at generating sustainability are:

- adopting a sustainable, environmentally friendly lifestyle
- limiting consumption to the level necessary for decent living
- readjustment to a simpler lifestyle that does not require high energy consumption
- the implementation and use of modern, innovative technologies
- selective waste collection
- recycling
- increasing the level of education in the field
- focusing on quality over quantity
- The transition from the linear economy to the circular economy.

In general, the solution to sustainability issues is individual responsibility. The analysis and interpretation of certain aspects related to sustainability can lead to the identification of the main social changes that can maximize the integration of sustainability concepts in the collective mind (figure 2).

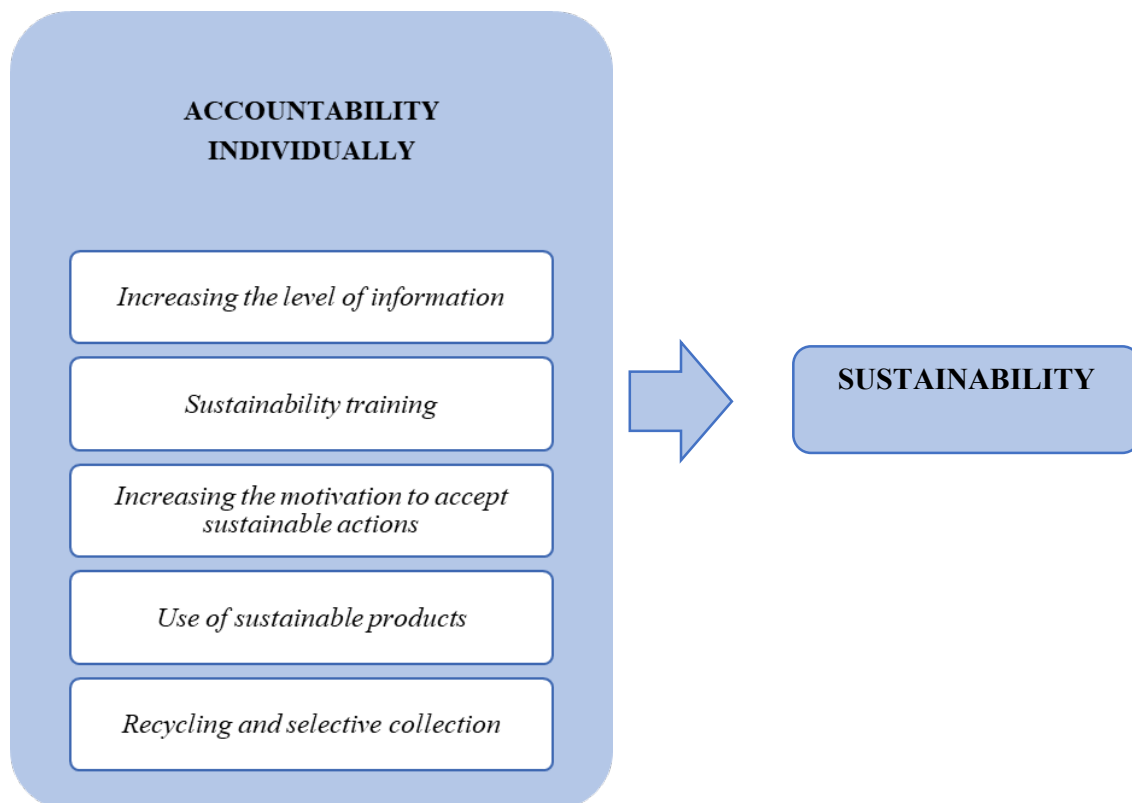


Figure 2. Aspects of individual responsibility in the field of sustainability

Building a sustainable society must be something that is accepted by its members. Only in this way the entrepreneurs' initiatives have a chance of being integrated into the economy.

All factors involved in the justification and application of sustainability decisions must base their actions on realistic information and data. In this sense, it is appropriate to maintain an online statistical database, as comprehensive as possible.

Within the Department for Sustainable Development within the General Secretariat of the Government, the Romanian Sustainability Code was developed (figure 3). This is a tool, which any organization can use for free in order to register a sustainability report, it meets the requirements of the European Union.

In 2022, the CSRD Directive was published, which refers to the reporting that organizations must carry out, regarding aspects related to sustainability.

In this sense, with the financial year 2024, all organizations that have more than 500 employees, have the obligation to report aspects related to:

- environment
- social / personal
- human rights
- fighting corruption
- Bribery.

From 2025, these obligations will also apply to companies with over 250 employees.



Figure 2. Romanian Sustainability Code - Reporting platform

Source: [Home \(gov.ro\)](https://www.gov.ro) [Despre Codul Sustenabilității \(gov.ro\)](https://www.gov.ro)

4. Conclusions

The implementation of sustainability concepts is a priority theme in the future development of organizations. To be able to achieve the synergy of several aspects, mainly the use of innovative techniques and technologies, the use of ecological raw materials and renewable energy sources, all the factors involved must have access to real, complete and relevant information.

The challenges to which members of society are constantly subjected, must generate solutions in the way each of us, at the individual or group level, deal with the problems of

environmental protection, rational use of resources, health assurance, ecological approach of the economy and ultimately of long-term sustainability.

In order to monitor the aspects of sustainability, organizations must produce mandatory or voluntary, sustainability reports that will contribute to the creation of a statistical database accessible to interested parties. Based on this data, organizations can reassess their activities in order to apply more firm measures that generate sustainability now and in the future.

Organizations and society in general can only develop harmoniously based on the principles of sustainability. In this sense, all members of society, salaried or not, must shape their social behaviour in such a way as to assimilate in their personal life as many "friendly" practices with the environment as possible. The role of the organizations is to encourage this type of practices, to familiarize as many people as possible with the need to apply these measures as urgently as possible.

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MICRO-ENTERPRISE INCOME TAX

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***Abstract:** The drafting of this article started from the need to correctly determine the result of exercise of microenterprises in our country. The result of the exercise is one of the most important indicators of the performance of economic entities. The tax regime of micro-enterprises is advantageous for the economic entities that fall within its scope. It is therefore very important to know the criteria that must be met for an economic entity to fall into this category, as well as how to get out of this category. At the same time, we need to consider the taxation mechanism in the framework of the micro-enterprise income tax in order to be able to determine correctly, from a tax point of view, the tax due and the result for the year.*

***Keywords:** microenterprise, income, expenses, tax result, microenterprise income tax.*

***JEL Classification:** M41.*

1. Taxable persons

Micro-enterprises are represented by Romanian legal entities that on 31 December 2023 cumulatively meet the following conditions:

- have earned income that did not exceed the equivalent in lei of €500,000 at the BNR exchange rate valid at the end of the financial year in which the income was recorded;
- their share capital is held by natural and/or legal persons other than the State and its administrative-territorial units;
- it is not in dissolution, followed by liquidation, registered in the commercial register or with the courts, in accordance with the law;
- more than 80% of its income is derived from activities other than consultancy and/or management;
- has at least one full-time employee or its equivalent;
- has associates/shareholders holding more than 25% of the value/number of shares or voting rights in no more than three Romanian legal entities that qualify for the microenterprise income tax system.

The equivalent of a full-time employee is represented by the following accepted options:

- they have people employed on individual part-time contracts if the sum of the part-time working hours is the equivalent of a full-time working day
- they have concluded management or agency contracts, with remuneration at least at the level of the minimum gross salary.

(The number of the existing employees is checked at the end of the last month of the quarter in question)

Legal entities classified as micro-enterprises can opt for micro-enterprise income tax starting from the fiscal year following the one in which they meet the micro-enterprise conditions if they have not been paying micro-enterprise income tax after January 1, 2023.

Newly established legal entities may opt to pay income tax on micro-enterprises from the first tax year if they meet the condition related to the holders of the share capital and, within 30 days of establishment, employ at least one full-time employee or its equivalent.

2. Tax rates

The income of micro-enterprises is taxed in 2024 at the following rates:

- 1% for micro-enterprises with revenues not exceeding €60,000 inclusive and which do not carry out activities covered by the Tax Code at the 3% tax rate;
- 3% for micro-enterprises that exceed the threshold of €60,000 in income or that earn income from main or secondary activities expressly provided for by the Tax Code as falling under the 3% tax rate, such as publishing and software development, accommodation and restaurant activities, etc.

If the revenue achieved by a micro-enterprise exceeds the threshold of €60,000 during the year, it is taxed at the 3% tax rate starting from the quarter in which the value threshold was exceeded.

3. The scope of the tax on the income of micro-enterprises

Income from any source is included in the scope of the microenterprise income tax, from which the following is deducted:

- revenue relating to the costs of stocks of products, services in the course of execution;
- revenue from the production of tangible and intangible fixed assets;
- revenue from subsidies;
- income from provisions and adjustments for impairment or loss of value, irrespective of the type of taxation at the time of establishment;
- income arising from the repayment or cancellation of interest and/or penalties for late payment which were non-deductible expenses in the calculation of taxable profit;
- income from compensation from insurance companies – reinsurance for damage to stocks/assets, ECHR compensation);
- income from exchange rate differences;
- value of trade discounts granted after invoicing (recorded in account 709 “Trade discounts granted”);
- income from dividends received from a Romanian legal person;
- income obtained from a foreign state with which Romania has a double taxation agreement, if it has been taxed in the foreign state.

For the purpose of determining the income tax on micro-enterprises, the following shall be added to the tax base:

- the value of trade discounts received after invoicing, recorded in account 609 “Trade discounts received”;
- the favourable exchange rate difference recorded cumulatively since the beginning of the year (credit balance on account 765 “Income from exchange rate differences” + RC 768 “Other financial income” – RD 665 “Expenses from exchange rate differences” – RD 668 “Other financial expenses”) - in the calculation of the fourth quarter;
- legal reserves or revaluation reserves reduced or cancelled, initially deducted in the calculation of taxable profit and not taxed during the period in which the micro-enterprises were also liable for corporation tax - regardless of the reason (change in the purpose of the reserve, distribution to shareholders in any form, liquidation, division, merger, etc.);
- reserves representing tax relief, set up during the period when micro-enterprises were also liable for corporation tax – used to increase paid-up subscribed capital, cover losses, distribute to shareholders, etc.

4. Exit from the income tax system for micro-enterprises

Exiting the income tax system for micro-enterprises can be achieved as follows:

- when the income of a micro-enterprise exceeds €500,000 during a year, in which case the micro-enterprise becomes liable for corporate income tax from the quarter in which the limit was exceeded, taking into account the income and expenses incurred in that quarter;
- when income from consultancy and/or management exceeds 20% of the total income;
- when the micro-enterprise no longer has at least one full-time employee or the equivalent for a period of not more than 30 days;
- by option, when micro-entities with a share capital of at least 45,000 lei and at least 2 employees may opt to fall within the scope of the corporate income tax, with the proviso that this option is definitive and the calculation and payment of corporate income tax is made from the quarter in which these conditions are cumulatively met;
- if the shareholding structure changes during the year, in the sense that parts of the share capital become owned by the State or its administrative-territorial units, or if the partners/shareholders of a micro-enterprise hold more than 25% of the share capital of another micro-enterprise (in which case they have to choose only one micro-enterprise to pay income tax);
- the micro-entity has gone into dissolution, followed by liquidation, registered in the commercial register or with the courts, according to the law.

5. Determination of microenterprise income tax due

In order to illustrate the mechanism for determining the income tax payable by micro-enterprises, we will start from the situation of S.C. Orion S.R.L., which was incorporated on 5 June 2023 with the main activity “retail sale of footwear and leather goods”, CAEN code 4772, and which presents the following statement of income and expenditure for 2023:

Indicators	Quarter II (June 2022)	Quarter III (July - September 2022)	Quarter IV (October - December 2022)
Income from sale of goods	600.000	1.620.000	5.200.000
Income from royalties, management leases and rentals	100.000	100.000	300.000
Income from exchange rate differences		8.000	12.000
Income from claims from a transport insurance company		12.000	30.000
Income from operating subsidies	10.000	10.000	15.000
Income from the release of provisions for litigation			17.000
TOTAL	710.000	1.750.000	5.574.000
Expenditure on goods	400.000	1.300.000	4.100.000
Expenditure on services provided by third parties	15.000	90.000	250.000
Social expenses	3.000	3.000	10.000
Expenditure on salaries	10.000	150.000	200.000
Expenditure on labour insurance contributions	25	375	500

Expenditure on sponsorship of an association registered in the register of religious entities/units			10.000
Expenditure on the member's travel to a ski resort for personal reasons			15.000
Expenditure on fuel		8.000	10.000
Expenditure on depreciation of means of transport		2.125	4.500
Expenditure on depreciation of fixed assets		3.000	3.000
Expenditure on exchange rate differences		6.000	11.000
Expenditure on provisions for litigation		17.000	
TOTAL	428.025	1.579.500	4.614.000

The amounts relate to each quarter separately.

Upon its establishment S.C. Orion S.R.L. is a company liable for income tax on micro-enterprises. The share capital is 50.000 lei. S.C. Orion S.R.L. has, since its establishment, 1 employee with a full-time individual contract of 8h/day. In July it employs 2 full-time employees. In August it purchases a commercial space and a car, and in October a second car, which are used both for business and other purposes. The sole partner of the company is Constantin Ion. The company complies with the provisions of Law 31/1990 on the obligation to set up a legal reserve and in December transfers 5% of the annual gross profit to the legal reserve.

Determination of income/profit tax

Taxable income	2nd Quarter	3rd Quarter	4th Quarter
Turnover	700.000	1.720.000	5.500.000
TOTAL (from the beginning of the year)	700.000	2.420.000	7.920.000
Test < 500.000 euro / 4.948.100 lei	Yes	Yes	NO
Tax base in the quarter in question	700.000	1.720.000	
Income tax	21.000	51.600	

Calculation of the 3% income tax rate in the second quarter:

$$700.000 \text{ lei} \times 3\% = 21.000 \text{ lei}$$

Calculation of the 3% income tax rate in the third quarter:

$$1.720.000 \text{ lei} \times 3\% = 51.600 \text{ lei}$$

In the 4th quarter the company exceeds the turnover of €500.000 (500.000 EURO x 4,9481 lei/EURO = 2.474.050 lei) and becomes liable for income tax. From this quarter onwards, the company is liable for corporation tax, determined according to the specific tax rules:

Total income	5.574.000
Total expenditure	4.614.000
Gross profit	960.000

Non-deductible expenses	
Fuel expenses	5.475
Social expenses	1.000
Expenditure on sponsorship of an association registered in the Register of religious entities	10.000
Expenditure on travel to a ski resort by an associate on his/her own behalf	14.000
Expenditure on depreciation of means of transport	4.500
Expenditure on depreciation of real estate	3.000
TOTAL non-deductible expenses	37.975
Tax depreciation deduction	7.500
Legal reserve deduction	10.000
Total tax deductions	17.500
Taxable profit	980.475
Income tax before sponsorship	156.876
Sponsorship	10.000
Income tax after deduction of sponsorship	146.876

1) Fuel expenses: 10.000 lei, related VAT 1.900 lei

According to Law 227/2015 only 50% of the VAT on fuel expenses is tax deductible, i.e. 950 lei. This results in a total fuel expenditure of 10,950 lei (10,000 + 950).

Fuel expenses deductible in the calculation of corporation tax = $10,950 \times 50\% = 5,475$ lei

It also follows that 5,475 lei are non-deductible fuel expenses for the calculation of corporation tax.

2) *Social expenses = 11.000 lei*

Limit = $5\% \times 200.000 = 10.000$ lei

Non-deductible expenses = $11.000 - 10.000 = 1.000$ lei

3) *Accounting expenses with car depreciation = 4.500 lei*

Deduction limit $1500 \text{ lei} \times 3 \text{ months} \times 2 \text{ cars} = 9.000$ lei

It follows that the amount of 4,500 lei is fully included in the tax deductions.

4) *Legal reserve*

The legal reserve is deductible up to 20% of the share capital

$50,000 \times 20\% = 10,000$ lei

$960,000 \times 5\% = 48,000$ lei

5) *Taxable profit: $960,000 + 37,975 - 17,500 = 980,475$ lei*

6) *Income tax: $980,475 \times 16\% = 156,876$ lei*

7) *Sponsorship: 10.000 lei*

$156.876 \times 20\% = 31.375$ lei

$5.500.000 \times 0,75\% = 41.250$ lei

It follows that the amount of 10,000 lei relating to sponsorships is fully deductible from the income tax due.

8) *Final corporation tax: $156,876 - 10,000 = 146,876$ lei*

6. Conclusions

The calculation of the tax result and income tax of micro-enterprises is one that requires good knowledge of the legal provisions in the field of taxation as well as good professional judgement. In determining the tax result, the activity carried out by the

enterprise in question and the structure of the income and expenditure during the tax year must be analysed rigorously.

It is worth pointing out that the tax system for micro-enterprises is favourable to them because the tax rates of 1% and 3% on the income making up turnover are very low.

It should also be noted that from the 2023 financial year onwards, when a micro-enterprise leaves the scope of the micro-enterprise income tax, it cannot return to this tax regime.

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DIGITAL ECONOMY AND SOCIETY INDEX (DESI) IN ROMANIA AND AT THE EUROPEAN LEVEL

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***Abstract:** The European Commission publishes annual Digital Economy and Society Index (DESI) reports to monitor the state of digitalisation in Member States. Thus, each year the reports included country profiles, which helped Member States to identify priority areas for action, as well as thematic chapters providing an EU-wide analysis of key digital policy areas. The DESI ranks Member States according to their level of digitalisation and analyses their relative progress over the last five years, based on their starting point. In this paper we look at our country's position according to the latest report. We also found that digitalisation in the EU is uneven, although there are signs of convergence. While the leaders have remained unchanged, there is a substantial group of Member States that cluster around the EU average. Achieving the Digital Decade goals depends on a collective effort by all.*

***Keywords:** digitalisation, digital economy, digital policy.*

***JEL Classification:** O2, O5.*

1. DESI – Romanian position

The European Commission publishes annual Digital Economy and Society Index (DESI) reports to monitor the state of digitisation in Member States. Thus, each year the reports included country profiles, which helped Member States to identify priority areas for action, as well as thematic chapters providing an EU-wide analysis of key digital policy areas.

The DESI ranks Member States according to their level of digitisation and analyses their relative progress over the last five years, based on their starting point. In this paper we look at our country's position according to the latest report. We also found that digitisation in the EU is uneven, although there are signs of convergence. While the leaders have remained unchanged, there is a substantial group of Member States that cluster around the EU average. Achieving the Digital Decade goals depends on a collective effort by all.

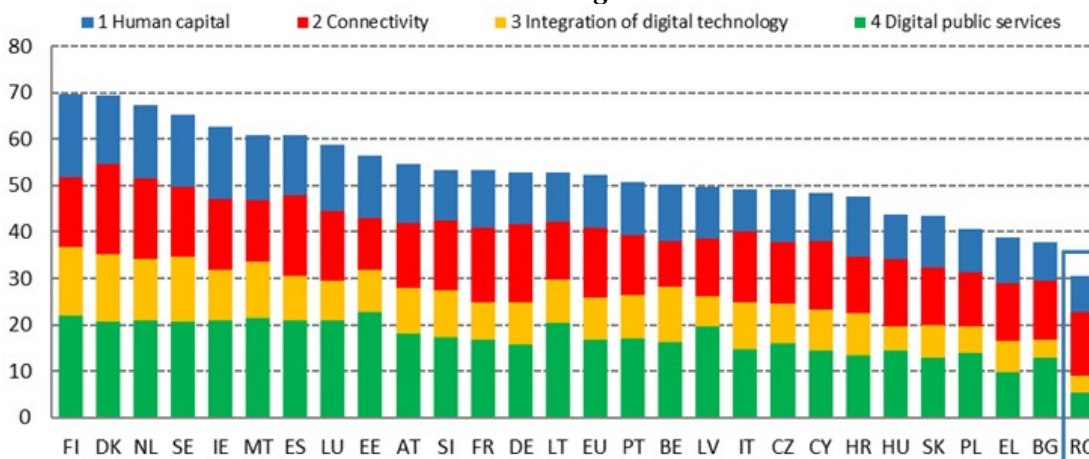
The Commission has adjusted the DESI to align it with the four cornerstones set out in the Commission's proposal for a decision "The Roadmap for the Digital Decade Policy Agenda", which is currently being negotiated by the European Parliament and the Council. The proposal sets EU-wide targets to be achieved by 2030 to achieve a comprehensive and sustainable digital transformation in all sectors of the economy. Of the DESI 2022 indicators, 11 measure the targets set under the Digital Decade. In the future, the DESI will be even more closely aligned with the Digital Decade to ensure that all targets are discussed in the reports.

It is important to note that most Member States that had a lower level of digitisation 5 years ago are progressing at a faster pace than the rest, indicating a general convergence in digital in the EU.

Achieving the Digital Decade goals depends on a collective effort by all. Each Member State will contribute to this ambitious goal from a different starting point, determined by resources, comparative advantages and other relevant factors such as population size, size of economy and areas of specialisation. For example, Member States with large economies or populations will need to perform well to enable Europe as a whole to reach the targets by 2030.

"Romania ranks 27th out of 27 EU Member States in the 2022 edition of the Digital Economy and Society Index (DESI). Importantly, its relative annual growth lags behind that of its peers, indicating that it is not converging with the rest of the Member States. Our country lags behind on several indicators in terms of the human capital dimension, with a very low level of basic digital skills compared to the EU average, but maintains its high rankings in terms of the proportion of female ICT specialists employed (2nd place) and ICT graduates (4th place)."

Chart 1. Digital Economy and Society Index (DESI) ranking



Source: <https://digital-strategy.ec.europa.eu/en/policies/desi>

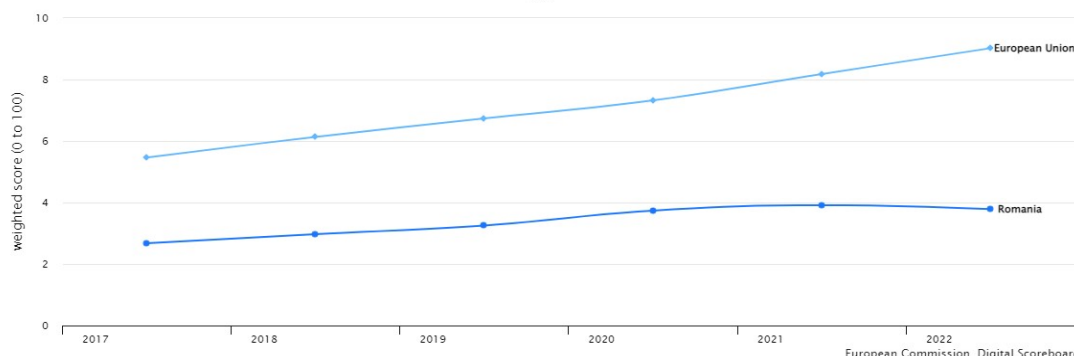
A significant step change in the pace of Romania's digital skills preparation is essential if the EU is to achieve the Digital Decade target on digital literacy and ICT skills.

Romania performs relatively well in connectivity, which is the dimension where it performs best. "Fixed broadband take-up of at least 100 Mbps (57%) and coverage of very high capacity fixed networks (87%) exceed the EU average. This is also important in light of the Digital Decade target of 100% gigabit network coverage of all households by 2030."

Chart 2

DESI evolution in Romania, 2017-2022

Digital Economy and Society Index, by Integration of Digital Technology
RO



Source: <https://digital-strategy.ec.europa.eu/en/policies/countries-digitisation-performance>

"However, the country's performance in integrating digital technologies and digital public services is weak compared to other EU Member States. The share of SMEs with at least a basic level of digital intensity (22%) and the percentage of businesses exchanging information electronically (17%) is the lowest in the EU."

The low level of digitisation and relatively slow progress is preventing the Romanian economy from taking full advantage of the opportunities offered by digital technologies. This is aggravated by the very low level of digital public services for both citizens and businesses.

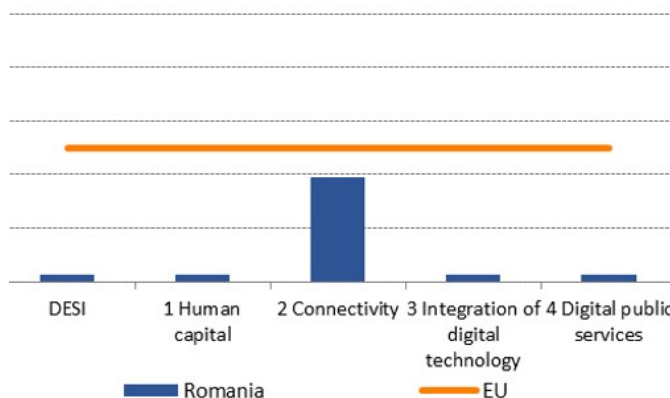
Among the causes that led to this situation we mention: the continuation of the COVID-19 pandemic in 2021, frequent changes of government (five governments in the last four years) but also the level of corruption that directly or indirectly affects. All of these and others represent particular challenges for our country.

Digitisation continues to be a key priority of the current government, along with simplifying legislation and creating a business-friendly regulatory environment. It is leading the digital transformation of the public sector through the Public eGovernment Policy 2021-2030 (adopted on 3 June 2021), a flagship project to establish a framework for eGovernment services and tools.

"With investment support of almost €6 billion (20.5% digital tagging), Romania's Recovery and Resilience Plan (RRP) includes extremely important measures to fully embrace digitisation across all dimensions of DESI, namely digital skills, connectivity, business support and digital public services."

Chart 3

Relative performance on DESI, 2022



Sursa: <https://digital-strategy.ec.europa.eu/en/policies/desi>

"With the refugee crisis triggered after Russia's invasion of Ukraine, Romanian operators have made free SIM cards with free calls and data available to Ukrainians. By March 2022, around 400,000 SIMs have been distributed. Moreover, operators announced a coordinated approach with the General Inspectorate for Emergency Situations to direct mobile operators to immigration points and to install Wi-Fi hotspots in camps."

These measures were implemented by the end of March and are now under review. According to ANCOM, agreements are in place with Ukrainian telecom counterparts not to charge roaming fees.

Taking into account the role of audiovisual media services in shaping public opinion and the right of the public to have access to reliable and up-to-date sources of information on Russia's aggression against Ukraine, the National Audiovisual Council (NAC) adopted a

recommendation to audiovisual media service providers on 24 February 2022, requiring them to comply with legal obligations to provide accurate information to the public.

The NAC is rapidly monitoring how issues related to the Russian Federation's aggression against Ukraine are covered in news broadcasts and debates, with the aim of correctly informing the public by verifying information, avoiding misleading information and respecting ethical rules.

In addition, "CNA recommended to Romanian citizens, through an information spot broadcast by broadcasters under a public service announcement, to inform themselves "exclusively from official sources" in the context of the war in Ukraine. The NAC organised a videoconference on 11 April 2022 to which broadcasting regulators from countries bordering Ukraine were invited."

The NAC seeks cooperation based on the exchange of best practices, so that authorities inform each other, avoiding manipulation and misinformation.

2. Status of the main areas of digitisation in Romania compared to EU Member States

2.1 Human capital

Romania ranks 27th in terms of the human capital dimension of DESI 2022. The country faces a lack of basic digital skills among the population. "Romania ranks well below the EU average for at least basic digital skills (28% vs. 54%) and higher basic digital skills (9% vs. 26%). 41% of people in Romania have at least basic digital content creation skills, below the EU average of 66%. Romania is also below average in terms of the proportion of ICT specialists employed, 2.6% compared to 4.5%, but the percentage is steadily increasing. In contrast, the level of female ICT specialists and ICT graduates remains high and has increased to 26% and 6.7% respectively, scoring among the best. The share of enterprises offering ICT training stagnates at 6%, significantly below the EU average."

Table 1. Developments in digital skills in Romania

	România			UE
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
1a1 Cel puțin competențe digitale de bază	NA	NA	28%	54%
% persoane fizice			2021	2021
1a2 Competențe digitale de bază peste nivelul de bază	NA	NA	9%	26%
% persoane fizice			2021	2021
1a3 Cel puțin competențe de bază în crearea de conținut digital³	NA	NA	41%	66%
% persoane fizice			2021	2021
1b1 Specialiști TIC	2.3%	2.4%	2.6%	4.5%
% de persoane ocupate cu vârsta cuprinsă între 15 și 74 de ani	2019	2020	2021	2021
1b2 Femei specializate în TIC	23.5%	26.2%	26%	19.1%
% specialiști TIC	2019	2020	2021	2021
1b3 Întreprinderi care oferă formare în domeniul TIC	6%	6%	6%	20%
% întreprinderi	2019	2020	2020	2020
1b4 Absolvenți TIC	5.8%	6.3%	6.7%	3.9%
% absolvenți	2018	2019	2020	2020

Sursa: DESI2022_Romania_eng_Y0CxsVwhe20hbiAE4OvH8IYJPg_88717pdf, pag.7

Although the country does not yet have a digital competence strategy, there are cross-cutting measures in the NRDP, such as the adoption of the legislative framework for the digitisation of education. The reform aims to provide the necessary legal framework for the

development of pupils' digital competences. This will involve defining the skills profile for teachers and revising the compulsory school curriculum and the framework plan for ICT subjects at all school levels. The reform will align the education system with the European DigComp framework for pupils' digital competences. The implementation of the reform is to be completed by 30 June 2024.

In addition, the NRDP investments under Component 7 - "Reform 4 "Increasing digital competence for public service and lifelong digital education for citizens" supports the digitisation of the economy and the transition to Industry 4.0 and aims to align the labour market with the latest developments in this sector". These investments will help implement this reform in four areas outlined below.

1. Advanced digital skills training programme for civil servants (€20 million): "by mid-2026, 30,000 civil servants will be trained in advanced digital skills and 2,500 senior civil servants will be trained in leadership and talent management".

2. Funding programmes for libraries to become digital competence centres (€37 million).

3. Enterprise employee upskilling/reskilling schemes (€36 million): this scheme supports the digital transformation of SMEs by increasing the digital skills of their employees, with a focus on emerging technologies, e.g. internet of things, big data, machine learning, artificial intelligence, robotic process automation, blockchain. By the end of 2025, the employees of 2 000 SMEs will have benefited from the support.

4. Building new cybersecurity skills for society and economy, aiming at "developing cybersecurity skills for both students and public and private actors (€25 million). Cybersecurity training courses will be organised for 5000 teachers (at pre-university and university level)", who will then be able to pass on their knowledge to students across Romania. These training sessions will be completed by mid-2026.

In addition, under NRRP Component 15 - Education, a continuous training programme will develop digital pedagogical skills for teachers in rural and other disadvantaged areas. The European DigComp framework for digital competences and internationally recognised standards (ECDL) will be used to design the programme, which is expected to involve around 100,000 teachers. A multimedia lesson collection platform will accompany the training to serve as a best practice model for each subject. Around 50 000 teachers will benefit from exchanges via the platform. A framework for evaluating the practical application of acquired skills and taking corrective action will ensure that the effects of the programme are long-lasting. The amount allocated is €80 million and the programme will be completed by the third quarter of 2025.

Upgrading more than 5 200 IT labs and developing 1 100 technology hubs as smart labs will provide digital infrastructure and equipment for more than 3 600 schools not covered by other funding programmes. The amount allocated under the NRRP is €478.50 million and implementation will run from 2021-2025.

The National Agency for Employment (ANOFM) provides vocational training courses for registered unemployed and jobseekers to help them find a job. The courses are funded from the unemployment insurance budget. In 2021, 673 people attended ANOFM's digital skills training courses.

In 2021, Romania participated in the EU Code Week. The country hosted 53407 participants in 1755 events. The participation of women reached 44%. The share of activities held in schools was 88%.

Very low levels of basic digital skills translate into low levels of fixed broadband take-up (66%), despite high availability of fast broadband (93%) and very high capacity network

(VHCN) coverage (87%) (see section on connectivity for more information). To boost broadband take-up, efforts should also focus on improving the skills of the general public.

2.2 Connectivity

In terms of connectivity, "Romania ranks 15th out of 27 EU countries, below the EU average".

Romania's biggest connectivity challenge is to improve its overall fixed broadband take-up, which is stagnating at 66% and significantly below the EU average (78%), despite low broadband costs and high coverage of very high capacity networks (VHCN). This stagnation is mainly due to the country's skewed demographic structure and low level of basic digital skills, leading to a delay in Romania's take-up.

Table 2. Evolution of the Connectivity Index in Romania

	România			UE
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
2a1 Adoptarea globală a benzii largi fixe	66%	67%	66%	78%
% gospodării	2019	2020	2021	2021
2a2 Cel puțin 100 Mbps în bandă largă fixă	49%	51%	57%	41%
% gospodării	2019	2020	2021	2021
2a3 Cel puțin 1 Gbps absorbție	<0.01%	<0.01%	8.98%	7.58%
% gospodării	2019	2020	2021	2021
2b1 Acoperire rapidă în bandă largă (NGA)	82%	87%	93%	90%
% gospodării	2019	2020	2021	2021
2b2 Acoperirea rețelei fixe de foarte mare capacitate (VHCN)	68%	76%	87%	70%
% gospodării	2019	2020	2021	2021
2b3 Acoperirea FTTP (Fibre to the Premises)	68%	76%	87%	50%
% gospodării	2019	2020	2021	2021
2c1 Spectrul 5G	21%	21%	22%	56%
Spectrul alocat ca procent din totalul spectrului 5G armonizat	04/2020	09/2021	04/2022	04/2022
Acoperire 2c2 5G⁵	NA	12%	25%	66%
% zone populate	2020	2020	2021	2021
2c3 Adoptarea benzii largi mobile	65%	65%	82%	87%
% persoane fizice	2018	2018	2021	2021
2d1 Indicele prețurilor în bandă largă	92	97	97	73
Punctaj (0-100)	2019	2020	2021	2021

Source: DESI2022_Romania_eng_Y0CxsVwhe20hbiAE4OvH8IYJPg_88717pdf, pag.8

"However, Romania continues to be a strong player in the field of Next Generation Access (NGA) and VHCN. Fixed broadband coverage increased to 94.1% for all households, slightly below the EU average of 97.9%. In addition, fast broadband coverage increased by 6 percentage points to 93%, above the EU average of 90%. Urban areas boast 90% VHCN coverage, well above the EU average of 76%. The urban-rural digital divide in VHCN coverage continued to narrow after a 20 percentage point increase, reaching 75.7% coverage in rural areas (double the EU average of 37.1%)".

However, operators pointed to difficulties in deploying fibre, particularly in terms of access near roads and buildings. In response, the draft law transposing the European Electronic Communications Code (EECC), in addition to transposing this directive, will reform the granting of authorisations, dividing civil works into three categories: the first does not require authorisation, the second is a simplified procedure, while the third is the normal procedure.

As regards mobile connectivity, 5G deployment is facing obstacles from several sides, due to the delay in the transposition of the EECC and the burden imposed by the 5G Security

Act, adopted following the entry into force of the Memorandum of Understanding between the US and Romania.

Despite high 4G/LTE coverage (97.1%) and an increase in 5G coverage (25% in 2021, 13% more than the previous year), Romania lags behind the EU average in 5G coverage and faces delays in harmonised 5G spectrum allocation, which remains low (22% compared to the EU average of 56%).

Despite good progress in 2021 in increasing fixed broadband coverage, Romania still faces relatively slow take-up and low 5G coverage. However, Romania is on track to reach the gigabit society and Digital Decade 2030 targets, thanks to its relatively high VHCN coverage, while the investments envisaged through the NRRP will push the country to align with EU averages in the coming years.

2.3 Mainstreaming digital technology

Romania performs poorly in terms of digital technology integration, ranking 27th in this dimension. Almost all indicators remain well below the EU average and have either stagnated or even decreased in the last year. The share of SMEs with at least a basic level of digital intensity was 22% (EU average: 55%).

Efforts therefore need to be stepped up to reach the Digital Decade target of 90% of SMEs reaching a basic level of digital intensity by 2030. With 12% of SMEs selling online and 4% selling cross-border online, Romania lags behind most EU Member States.

Table 3. Evolution of the Digital Inclusion Index in Romania

	România			UE
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
3a1 IMM-uri cu cel puțin un nivel de bază de intensitate digitală	NA	NA	22%	55%
% IMM-uri			2021	2021
3b1 Schimbul electronic de informații	23%	23%	17%	38%
% întreprinderi	2019	2019	2021	2021
3b2 Social media	8%	8%	12%	29%
% întreprinderi	2019	2019	2021	2021
3b3 Date mari	11%	5%	5%	14%
% întreprinderi	2018	2020	2020	2020
3b4 Cloud	NA	NA	11%	34%
% întreprinderi			2021	2021
3b5 AI	NA	NA	1%	8%
% întreprinderi			2021	2021
3b6 TIC pentru durabilitatea mediului	NA	68%	68%	66%
% de întreprinderi care au o intensitate medie/înaltă a acțiunilor ecologice prin TIC		2021	2021	2021
3b7 e-Facturi	20%	17%	17%	32%
% întreprinderi	2018	2020	2020	2020
3c1 IMM-urile care vând online	11%	17%	12%	18%
% IMM-uri	2019	2020	2021	2021
Cifra de afaceri 3c2 e-Commerce	5%	8%	7%	12%
% cifra de afaceri a IMM-urilor	2019	2020	2021	2021
3c3 Vânzarea online transfrontalieră	6%	6%	4%	9%
% IMM-uri	2019	2019	2021	2021

Source: DESI2022_Romania_eng_Y0CxVwhe20hbiAE4OvH8IYJPg_88717pdf, pag. 12

Adoption of advanced technologies, such as the cloud, reached only 11%, compared to the EU average of 34%. As for artificial intelligence, only 1% of businesses have adopted such technologies (EU average: 8%). Big data also remains at a comparatively low level, at 5% compared to the EU average of 14%. There is a significant gap to be closed by 2030 to reach the Digital Decade target of 75% for cloud, big data and artificial intelligence. Only the 68% share of businesses with medium/high intensity of green action through ICT is slightly above the EU average of 66%.

The 2021-2027 government strategy to develop the SME sector and improve the Romanian business environment towards the digital and data economy includes cross-cutting measures such as: Developing the network of Digital Innovation Hubs (DIHs); providing opportunities for SMEs to acquire the necessary skills to benefit from new technologies; helping SMEs to easily switch digital service providers and take advantage of data portability as foreseen in the Regulation on the free movement of non-personal data; and increasing SMEs' awareness of security threats and boosting investment in cyber security.

In the area of microelectronics, Romania has signed the Joint Declaration on the European initiative for processors and semiconductors. The investment in the multinational project on low power semiconductor chips and processors will stimulate the development of microelectronics in Romania, thus addressing one of the EU's challenges. Romanian industry has shown strong interest in this topic, responding to the request from the Ministry of Economy and Entrepreneurship to submit project proposals.

Regarding blockchain, the 2 nodes of the European blockchain services infrastructure in Romania have been set up in 2021 by the National Institute for Research and Development in Computer Science (ICI Bucharest) and the higher education and research funding body UEFISCDI, together with the Polytechnic University of Timisoara. They are in a mature phase of development.

The Authority for the Digitisation of Romania is implementing the project "Strategic Framework for the Adoption and Use of Innovative Technologies in Public Administration 2021-2027" together with the Technical University of Cluj-Napoca. The main objectives are the following: to develop a national framework in the field of blockchain technologies for public administration; to develop the national strategy for artificial intelligence; to define the concept of digital innovation hubs; to define the framework and funding for Romania's participation in European initiatives and networks and to set up a Digital Policy Lab for the development of infrastructures, processes, tools and networks.

The main obstacles to the digital transformation of Romania's SME sector and most of its economy are of a structural nature. They require comprehensive measures aimed at increasing the level of digital education and managers' understanding of the role of digital tools in business. The underdevelopment of digital public services hinders SMEs' adoption of digital management of processes such as accounting.

2.4 Public services

Digital public services continue to be a challenge for Romania. The country scores significantly below the EU average on all indicators, including on the availability of digital public services for citizens (a score of 44 compared to the EU average of 75) and for businesses (a score of 42 compared to the EU average of 82). Digital interaction between public authorities and the general public is also low, with only 17% of internet users using e-government services.

Table 4. Evolution of the Public Services Index in Romania

	România			UE
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
4a1 Utilizatori de e-Guvernare	15%	16%	17%	65%
% utilizatori de internet	2019	2020	2021	2021
4a2 Formulare precompletate	NA	NA	19	64
Punctaj (de la 0 la 100)			2021	2021
4a3 Servicii publice digitale pentru cetățeni	NA	NA	44	75
Punctaj (de la 0 la 100)			2021	2021
4a4 Servicii publice digitale pentru întreprinderi	NA	NA	42	82
Punctaj (de la 0 la 100)			2021	2021
4a5 Date deschise	NA	NA	76%	81%
% punctaj maxim			2021	2021

Source: DESI2022_Romania_eng_Y0CxsVwhe20hbiAE40vH8IYJPg_88717pdf, pag.16

The high share of digital investments and reforms dedicated to this dimension in Romania's Recovery and Resilience Plan (NRRP) represents an opportunity to improve these results. Timely implementation of these measures will contribute to achieving the Digital Decade target of 100% online delivery of essential public services for European citizens and businesses by 2030.

Currently, Romania does not have an e-ID system. The implementation of e-ID cards and digital signatures for Romanians is essential to enable interactions between public and private bodies and the public.

In the future, measures are planned to deliver 8.5 million electronic identity cards, with €200 million allocated for this purpose. The eID card will store two digital certificates allowing: authentication for the use of online public services and qualified electronic signatures.

The investments to be made are aimed at modernising public administration through advanced technologies and focusing on the needs of citizens and businesses. This should go hand in hand with ensuring the preconditions for data-driven policy making and increasing the interoperability of existing digital technologies. In addition, the reforms support the development of an integrated digital public service architecture.

In addition, the reforms support the development of an integrated digital public service architecture.

On e-health, investments include a telemedicine system and the new health insurance information platform (PIA), which aims to promote integration of health institutions through digital infrastructure, facilitate access to data for the Ministry of Health and other stakeholders, reduce fragmentation and improve the quality of health data.

Ultimately the aim is to increase access to specialised consultations for rural and small urban areas and vulnerable groups, while reducing waiting times through the use of telemedicine.

In addition, the National Health Insurance House, in partnership with the Special Telecommunications Service (STS) and the Authority for the Digitisation of Romania, is implementing an IT system called eDES. This IT system will connect the DES, the electronic health record, providers of paraclinical, clinical, physical and rehabilitation services, home health care, palliative home care, dentistry, medical devices, assistive devices and technologies, and emergency home consultations and unassisted health transport activities. This will contribute to achieving the objective of access to health records for 100% of EU citizens.

Although it does not measure the user-centricity of digital public services, the draft Action Plan for the National Inclusion and Poverty Reduction Strategy 2021-2027 includes a specific action aimed at facilitating access to public information for all citizens. The information will be published on the websites of municipalities and public institutions in an easy-to-read format, together with a set of supporting information for vulnerable people.

At the end of 2020, in order to monitor progress in the digital transformation of public administration in Romania and to support the Government's strategic decisions, the Authority for the Digitisation of Romania (ADR) launched the Catalogue of Public Services, which will be updated annually. It will be the tool for programming the digitisation of public services, planning interventions and piloting digital public services.

Romania has identified the lack of combined IT and business process expertise within institutions as one of the major structural challenges in its efforts to digitise the public services sector.

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ROMANIA'S BUDGET DEFICIT IN 2022 - FUNDING SOURCES AND PERSPECTIVES

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***Abstract:** Romania's economy experienced several shocks in 2022, such as the outbreak of the Russian-Ukrainian conflict, successive price increases for energy goods and some raw materials, but also the continuation of the alteration of global supply chains. All these events had an unwanted influence on prices, which explains the differences between the estimates and the achievements related to the year 2022. On the other hand, the measures intended to support the economy, together with the gradual relaxation of restrictions, in certain periods, had the effect of improving the sentiment of investors and consumers. But, in order to be able to maintain easy and cheaper access to the external financing market, it is crucial for Romania to engage in reforms that will improve the predictability of the fiscal framework, improve the revenue collection capacity and adjust budget expenditures in correlation with the evolution of budget revenue. Improving the governance of public investments, focusing mainly on strategic areas, as well as the greater use of European funds represent elements that can direct our country's economy to a new growth model, while reducing the pressure on budgetary resources.*

***Keywords:** deficit, budget, public administration, economic crisis, financing, investments.*

***JEL Classification:** H62.*

1. Introduction

In 2022, the level of systemic risks to the financial stability of Romania remained significant, analogous to the dynamics on the international level, given that the prospects for economic activity continued to be marked by uncertainty, fueled by the multitude of effects associated with the post-pandemic period, but also the outbreak of the military conflict in Ukraine, the increase in the prices of electricity and raw materials etc.

These very complicated periods show, more than the previous ones, the need for a change in the structure of economies, with an emphasis on activities to protect the environment, to implement and support technological innovations in the digital field, to increase the degree of inclusion and to reduce inequality. Also, these crises have presupposed and continue to presuppose important efforts to ensure the sustainability of accumulated debts, especially at the level of the public sector, but also of the private sector.

In the current period, the idea that the budget deficit becomes a means of relaunching economic activity, as long as it is not inflationary, is issued more and more often (Cioponea, 2007). It is possible to act on the demand for public goods and services by using conjunctural action funds, thus achieving a flexible budget policy, within which public expenditures can be resized in relation to the size of these funds. In the event that no changes are made in tax regulation, tax revenues can be instruments of cyclical regulation.

In this sense, a process of crucial importance is the efficiency of public spending. The desired objectives can be achieved more efficiently, sometimes faster and with lower costs, without reducing the quantity or quality of services provided (Kolodko, 2015). Moreover, it is considered that the Government is the only economic actor that can maintain the level of demand in the economy, spending more than it earns, that is, registering a budget deficit (Chang, 2014).

2. Romania's budget deficit in 2022

2.1. The economic situation and synthetic budgetary indicators

For 2022, an economic growth of 4.6% was forecast in Romania, which took into account the contribution of the following factors:

- domestic demand seen as the engine of economic growth (+5.2%);
- the growth rate of gross fixed capital formation forecast at 8%;
- the final consumption expenditure of the population forecast as having a real annual growth of 5.5% (MFP, Budget Execution Report 2022).

The National Institute of Statistics calculated, for the year 2022, a real dynamics of the gross domestic product of 4.7%, representing an increase of 6.7 percentage points over the level recorded in 2019, considered a normal reference year, which shows that the economy not only returned to the level before the health crisis, but managed to perform in a rather difficult year, dominated by the influence of several crises (energy, inflationary, supply chains).

In 2022, Romania's economy managed to cope with the shocks, registering a nominal value of the gross domestic product of 1,409.8 billion lei, with an additional difference of 92.5 billion lei compared to the estimate for the budget. This was mostly due to a level of the net deflator higher (by 7.6 percentage points) than the estimated one, resulting from significant increases in the prices of industrial production, the cost of construction and consumer goods.

By elements of use, the advance of the economy in the year 2022 was due to the increase registered by domestic demand (5.2%). The exceptional results in the construction sector in the second half of the year were properly reflected in the dynamics of gross investments (+8.0% compared to 2021), contributing 1.9 percentage points to economic growth. This advance was due to the allocation of both European and public funds for the financing, in particular, of infrastructure works. The effect was materialized in a significant improvement of the investment rate (about 25%), ensuring the prerequisites for the transition from a consumption-based economy to an investment-based one.

As for private consumption, it had a robust dynamic (+5.5%), registering an important contribution to economic growth (+3.4 percentage points). As a result of the internal economic situation (increase in the prices of energy products and consumer goods) which required the taking of measures to support the vulnerable population, but also of the external crisis caused by the conflict on the country's border (granting support to Ukrainian refugee citizens), government consumption increased by 4.3%, contributing with 0.8 percentage points to economic growth (MFP, Budget Execution Report 2022).

In 2022, inflation followed an upward trajectory, in the context of the general increase in the prices of energy products and raw materials and the uncertainties caused by the war that broke out at the national borders. The effects of these superimposed crises materialized in pressure on prices and in the erosion of the purchasing power of the population, so that, in December, an annual inflation rate of 16.4% was recorded, being the highest increase in the last 20 years old.

The cause of the inflationary pressures came mainly from the energy component, including fuels, the price increases that occurred being subsequently taken over in the production costs. The annual rate recorded for energy product prices was 39.7% (December 2022/December 2021). Additional pressures were also manifested on the part of food goods, under the impact of the increase in production costs, especially with energy and agri-food raw materials, to which was added the growing dynamics of imported goods. In the last month of

2022, an annual inflation of 22.1% was recorded, with the food group exceeding the total consumer price index by 5.7 percentage points.

As an annual average, inflation was on a high rate of values, the annual rate being 13.8%. There were above-average increases in food (15.7%) and non-food (14.7%) prices, while service tariffs increased at a slower pace, by just 7.8%.

Compared to 2021, the deficit calculated according to the ESA 2010 methodology in 2022 was reduced by 0.9 percentage points from 7.1% of GDP in 2021 to 6.2% of GDP in 2022.

The structural balance of the general consolidated budget of Romania stood in 2022 at -5.6% of potential GDP, continuing the improvement trend from the maximum of -7.5% of potential GDP as recorded in the context of the COVID-19 pandemic. In 2022, the cyclical component of the consolidated general budget deficit was -0.6% of potential GDP, corresponding to a negative output-gap value of -1.8% of potential GDP. (MFP, Budget Execution Report 2022).

Figure no. 1

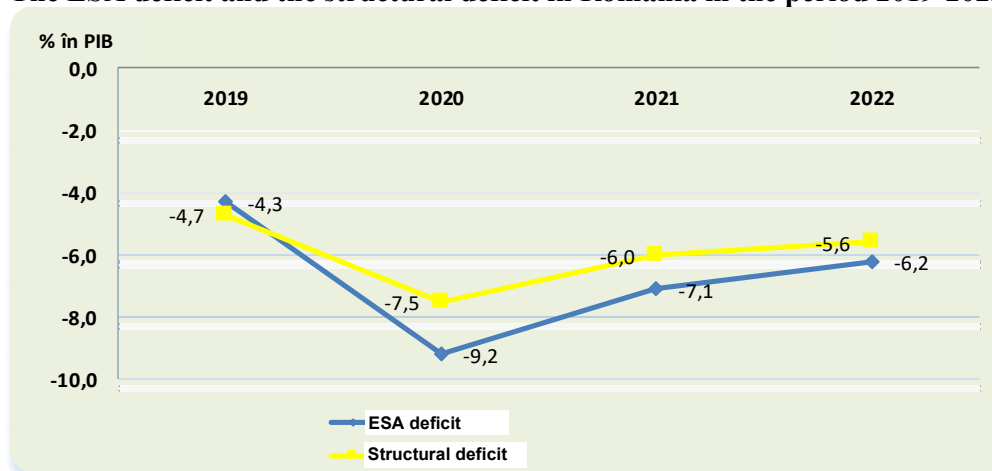
The structural deficit in Romania

	2019	2020	2021	2022
The structural deficit	-4,7	-7,5	-6,0	-5,6

Source: Ministry of Public Finance, *Report on the final budget execution for 2022*, www.mfinante.gov.ro

Figure no. 2

The ESA deficit and the structural deficit in Romania in the period 2019-2022

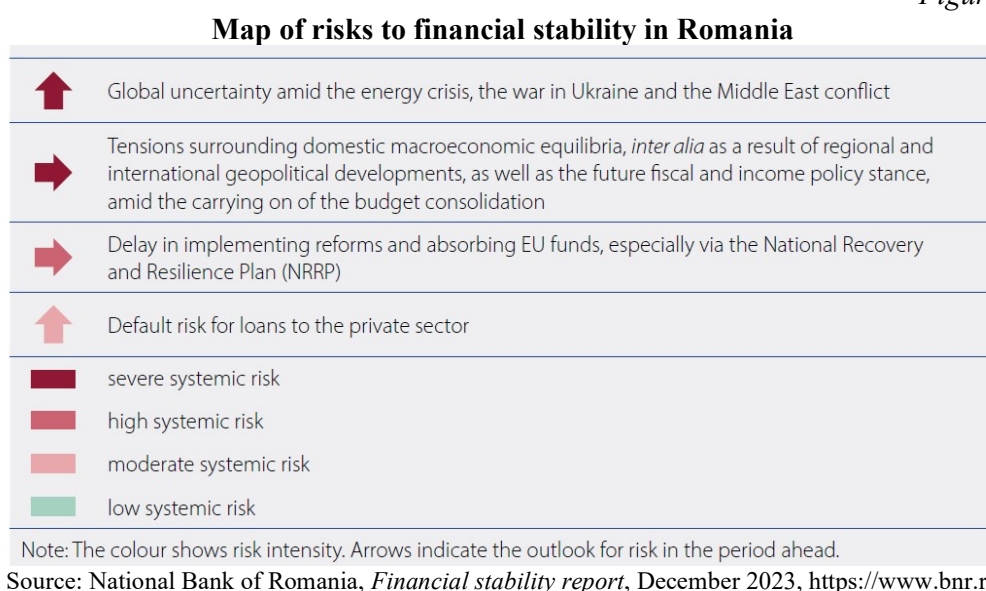


Source: Ministry of Public Finance, *Report on the final budget execution for 2022*, www.mfinante.gov.ro

The National Bank identified in the Financial Stability Report of December 2023 that, compared to the previous half-yearly report, the risks to financial stability recorded mixed developments. On the one hand, there was an improvement in investors perception after the period of turbulence that affected the US and Swiss banking sectors, in a context characterized by expectations of easing inflationary pressures. On the other hand, the economic situation and the geopolitical framework, marked by an increase in uncertainty regarding economic growth, the potential intensification of the war between Russia and Ukraine or the escalation of the conflict between Israel and Hamas are putting the financial system to the test.

Of the four systemic risks, two were assessed at a severe level, and among them the risk generated by external developments was expected to gain increased relevance in the coming period, which is what happened. Domestically, the tension in macroeconomic balances was assessed at a severe but relatively constant level, including as an effect of regional and international geopolitical developments, as well as from the perspective of the future conduct of fiscal and revenue policy. Two other systemic risks were identified, respectively: the delay of the structural reforms undertaken by the authorities and, implicitly, of the absorption of European funds, especially through the National Recovery and Resilience Plan (PNRR), a risk assessed at a high level, without changes in the following period and the risk of non-payment of loans contracted by the non-governmental sector, quantified at a moderate level, but increasing (BNR, Financial stability report, December 2023).

Figure no. 3



2.2. Analysis of state budget revenues and expenditures in 2022

According to the final data, the execution of the general consolidated budget, between January 1 and December 31, 2022, ended with a cash deficit of 80.77 billion lei, respectively 5.73% of GDP. Compared to the previous year, the consolidated general budget deficit in 2022, on a cash basis, was reduced by one percentage point from 6.73% of GDP in 2021 to 5.73% of GDP in 2022.

Figure no. 4

Romania's cash budgetary deficit

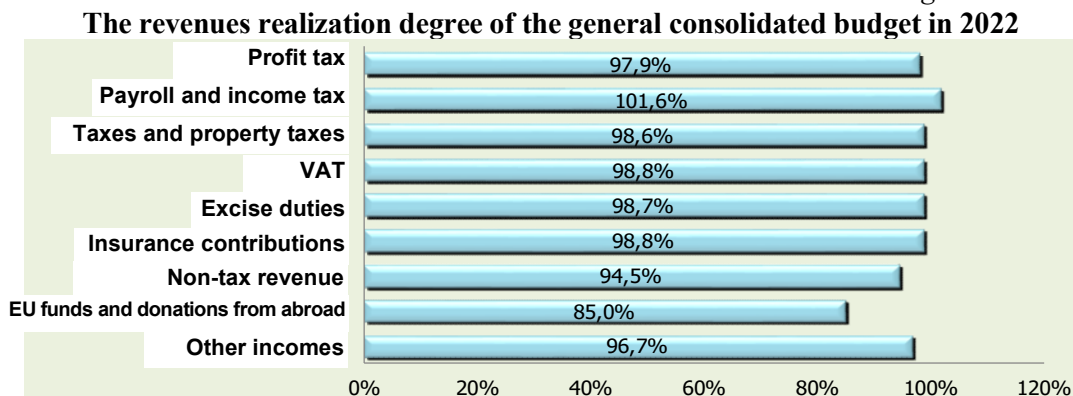
		2021	2022	2022/2021 differences
Budget balance	mil. lei	-79.909,2	-80.765,8	-856,6
	% of PIB	-6,73	-5,73	1,00

Source: Ministry of Public Finance, *Report on the final budget execution for 2022*, www.mfinante.gov.ro

• **Revenues of the general consolidated budget, in 2022**, totaled 460.20 billion lei, representing 32.6% of GDP and a degree of achievement compared to the annual estimates of 96.7%.

Collections from tax revenues were below the level scheduled to be achieved in 2022, the degree of achievement being 98.6%, being influenced by the evolution of taxes and charges on goods and services.

Figure no. 5



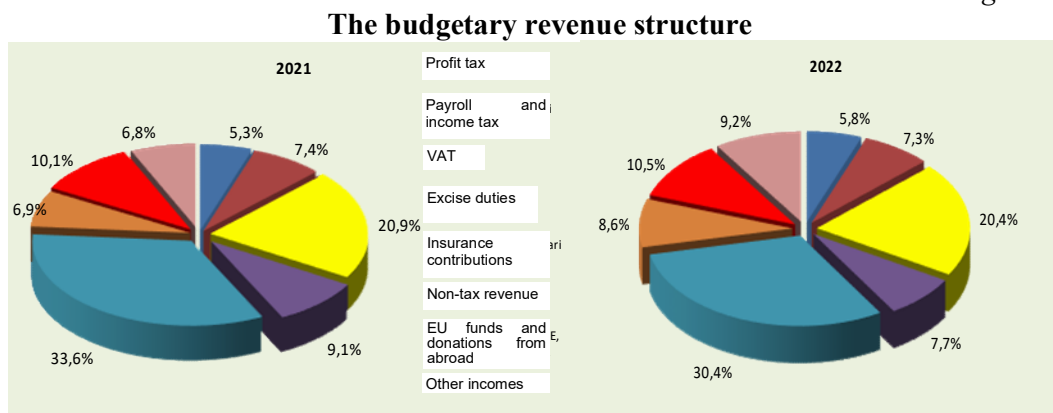
Source: Ministry of Public Finance, *Report on the final budget execution for 2022*, www.mfinante.gov.ro

Collections from insurance contributions were lower than the collection schedule, the degree of achievement being 98.8%. The non-fulfillment of the program was determined by the receipts lower than the annual program in the case of income from insurance contributions collected to the state budget (97.8%), to the state social insurance budget (98.8%), to the unemployment insurance budget (97.5%) as well as those from the budget of the single national health social insurance fund (99%).

Collections from non-tax revenues were lower than the annual program, the degree of achievement being 94.5%.

Receipts from the amounts received from the EU and other donors (including the non-refundable financial assistance related to PNRR) in the account of the payments made were below the annual program, the degree of achievement recorded being 85.0%.

Figure no. 6



Source: Ministry of Public Finance, *Report on the final budget execution for 2022*, www.mfinante.gov.ro

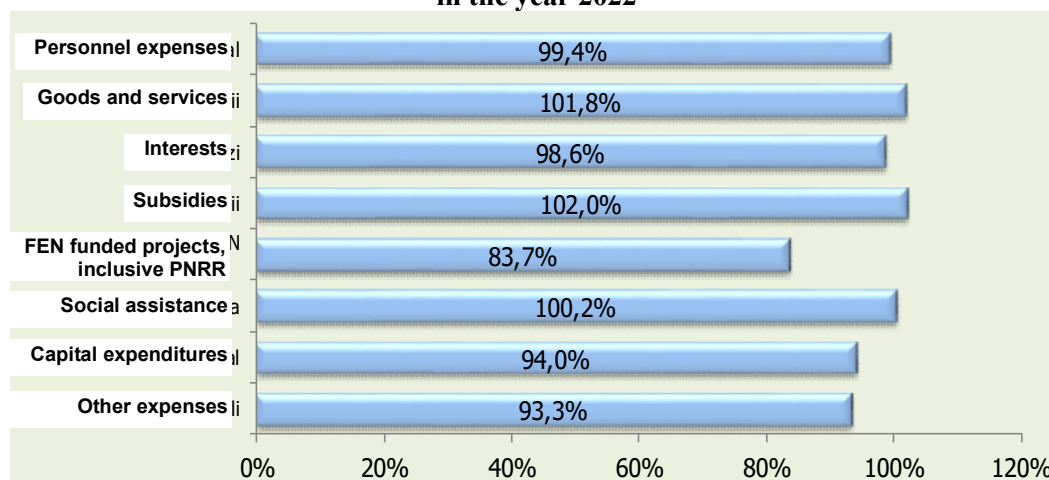
Compared to the previous year, the revenues of the general consolidated budget, in 2022, increased by 21.2% (+80.49 billion lei), and as a percentage of GDP by 0.6 percentage points from 32% in 2021 to 32.6% in 2022.

The amounts received from the European Union on account of the payments made (including donations and amounts related to PNRR), in 2022, were worth 48.44 billion lei, 26.0% above the level recorded in 2021.

- The expenses of the consolidated general budget totaled, in 2022, 540.97 billion lei, which represents 38.4% of GDP and a degree of achievement compared to the planned level of 97.4%. Compared to the previous year, the expenses of the general consolidated budget increased by 17.7%, and as a percentage of GDP they decreased by 0.3 percentage points from 38.7%, as they were in 2021, to 38.4% in 2022.

Figure no. 7

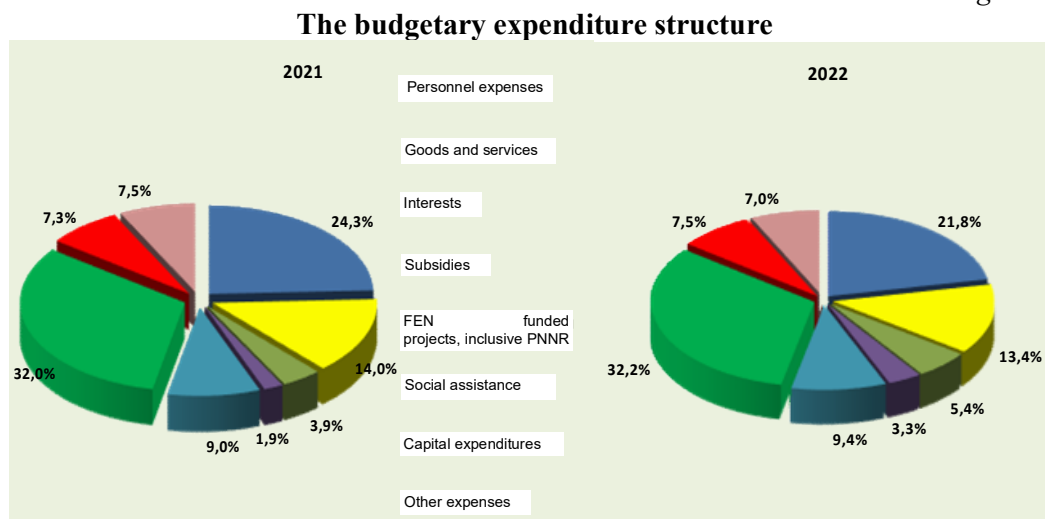
The degree of realization of the general consolidated budget expenditures in the year 2022



Source: Ministry of Public Finance, *Report on the final budget execution for 2022*, www.mfinante.gov.ro

From the point of view of the degree of achievement of the annual program, the main categories of budget expenses registered the following developments: personnel expenses 99.4%, expenses with goods and services 102.1%, expenses with interests 98.6%, expenses with subsidies 102.0%, expenditure on projects financed by non-refundable external funds 83.7%, expenditure on social assistance 100.2%, capital expenditure 94.0%.

Figure no. 8



Source: Ministry of Public Finance, *Report on the final budget execution for 2022*, www.mfinante.gov.ro

Compared to the previous year, the expenses of the general consolidated budget increased by 17.7%, and as a percentage of GDP they decreased by 0.3 percentage points, from 38.7%, as they were in 2021, to 38.4% in 2022.

2.3. Sources of financing the budget deficit in 2022

At the end of 2022, the government debt, according to the EU methodology, represented 47.3% of GDP, down compared to the level of 48.6% of GDP, recorded at the end of 2021, within the annual ceiling of 49.8% from the GDP established by Law no. 312/2021 for the approval of the ceilings of certain indicators specified in the fiscal-budgetary framework for the year 2022.

On December 31, 2022, of the total government public debt, domestic debt represented 23.8% of GDP, and external debt 23.5% of GDP.

According to the data published by EUROSTAT, at the end of 2022 Romania was in 18th place among the EU member states in terms of debt level, the average government debt for the euro area (EA 19) being 91.6% of GDP, and that for the EU27 of 84.0% of GDP (MFP, Budget Execution Report 2022).

The financing of the budget deficit in 2022 was achieved from internal and external sources. The sources needed to refinance the governmental public debt were secured from the markets where these debts were initially issued, as well as from the financial reserve in foreign currency at the disposal of the Ministry of Finance.

To cover the gross financing requirement of approx. 150 billion lei (10.7% of GDP) determined by the level of the general consolidated budget deficit of 5.7% of GDP, but also to consolidate the foreign currency reserve at the disposal of the State Treasury, financing the budget deficit and the refinancing of the government public debt was provided from the following sources:

a) the domestic market - government bonds and loans on the domestic market in a total amount of approx. 90 billion lei equivalent, including state bonds denominated in EUR in the amount of 1 billion EUR and state securities intended for the population in the amount of approximately 18 billion lei. The policy of the Ministry of Finance sought to extend the remaining average maturity of government bonds, with most of the issues being issued in the

medium and long maturities segment. In 2022, broadcasts intended for the population continued through the two programs TEZAUR and FIDELIS.

b) the external market - issues of Eurobonds and withdrawals within the framework of loans from international financial institutions (EIB, IBRD, CE, etc.). Operations on the foreign market also included withdrawals in a total amount of approx. 4 billion EUR related to loans contracted from international financial institutions (EIB, IBRD, etc.) as well as loans from the European Union (EU) within the financing instruments established at EU level starting in 2020.

3. Forecasts regarding the state budget deficit in 2023

The recorded developments of the macroeconomic and budgetary indicators, fiscal, budgetary and monetary policy measures, combined with the regulatory and prudential measures taken by the authorities for the financial sector, mitigated the impact of the health crisis, generated by the COVID-19 pandemic, which imposed the largest lockdown, unprecedented in modern history, with severe and particular implications on almost all economic and social levels. The measures undertaken managed to ensure the recovery of the economy, which recorded, in 2021, a significant growth, as well as maintaining a sustainable growth, with an average annual rate of 4.2% over the entire 2023-2025 horizon, higher compared to estimated to be registered at the level of the EU and the Euro Zone of 3.3% and 3.2% respectively (in 2022), the Romanian economy proving a resilience beyond expectations to shocks on supply, achieving a robust economic growth in the current year.

It is worth noting the paradigm shift in the evolution of the economy for the period 2023-2025, so that gross fixed capital formation will represent the main factor of economic growth, with an annual rate of 7.9%, the scenario taking into account the impact of the absorption of both the funds allocated through the PNRR, as well as those from the multiannual financial framework and maximum efficiency in their use in the priority areas of the economy.

The basic coordinate of the formulation of the fiscal policy is the continuation of the gradual consolidation in the field, which will allow reaching the deficit target provided by the European regulations until the end of the forecast horizon, namely the year 2024, a trend that will continue beyond the year 2024, achieved under the conditions of a balance between the need for fiscal adjustment and the need to support economic recovery, the health system, infrastructure, climate change, digitization, the green transition which remain a priority in the current difficult circumstances.

In this context, of the great challenges facing humanity, of the common effort for a strong and healthy Europe, Romania has established as objectives of the budget construction for the year 2023 and the horizon 2024-2025 (MFP, Fiscal-budgetary Strategy for the period 2023-2025):

- continuing the measures for a robust economic recovery, maintaining and supporting a new sustainable, fair and intrusive development framework that ensures an economically efficient transition, socially bearable and focused on competitiveness, innovation and decarbonisation that leads to the elimination of vulnerabilities in the economy and ensure a decent standard of living;
- the continuation of the gradual realization of fiscal consolidation through measures that allow reaching the deficit target provided by European regulations until the end of 2024 and the following years, contributing, in this way, to the decrease of inflation, interest rates, the trade and current account deficit of the balance of payments, as well as the stability of the exchange rate of the leu;

- the reform, prioritization and multi-year programming of public investments in an efficient, professional and transparent manner with a multiplier effect and direct contribution to gross fixed capital formation, by increasing the contribution of European funds related to the 2021-2027 financial framework and those related to the Recovery Mechanism and Resilience, which finances the reforms and investments established through the National Recovery and Resilience Program, the largest financial package from the European resources allocated to Romania;
- the consolidation of a predictable fiscal policy firmly committed to reducing the budget deficit, to support and adapt the business environment to the challenges raised by the series of crises facing society, the simplification of taxation and the streamlining of internal processes, in order to create the premise of economic growth healthy and sustainable;
- development and diversification of public debt management tools to maintain public debt at a sustainable level;
- consistent measures for the creation and consolidation of healthy public finances, through the qualitative efficiency of public spending, with a focus on:
 - the financing of some active economic measures to support the most vulnerable groups, reforms in the field of work, pensions, supporting SMEs whose supply chain was strongly affected by the Russian aggression against Ukraine;
 - strengthening program budgeting based on result indicators at all levels of the central and local public administration to allow full transparency of public spending, improving the clarity and coherence of the budgeting process, prioritizing sectoral policies and ensuring real competition between the projects proposed for financing and performance support;
 - strengthening corporate governance at state-owned companies in order to improve their performance, by using the best practices at the European level.

4. Conclusions

The main effects of public spending can be assimilated to the crowding out effect, which, in this case, refers to the phenomenon of the diversion of market resources from those sectors that the market shows as profitable to the areas considered of interest by the state. Also, a hidden cost of the budget deficit and public debt is represented by their influence on the country rating, an indicative indicator for investors looking for business opportunities.

Taking into account the current conditions, when Romania tries to define its role and its place in the world, when it is desired to identify and encourage those branches and sub-branches of the national economy that can be developed within the world economy, the use of appropriate fiscal levers is required with the requirements of the European Union and taking into account the other macroeconomic policies that can be adopted to overcome the current economic situation. Thus, the theory is established according to which, during the crisis, it is preferable to ensure an increase in budget expenditures, with the fixed objective of contributing to the relaunch of economic activity, the effects being reflected in the increase in employment and in the reduction of unemployment.

The model of economic growth must be reanalyzed, considering the experience of the past years in which economic growth in our country was based on consumption, a situation that did not allow sustainable economic development. For this reason, is required a different orientation based on investments in sectors with high added value.

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INCLUSION OF SOCIAL VALUES IN THE STRATEGY OF AGRICULTURAL ENTERPRISES

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***Abstract:** The paper discusses the importance of integrating social values into the strategies of agricultural enterprises in the current economic and social context. Social values such as sustainability, social responsibility and community development are crucial to the well-being and success of agricultural organizations. Integrating social values into work-life balance is essential for employee well-being, increasing employee satisfaction and engagement, improving organizational performance, and attracting and retaining talent. Integrating social values into agribusiness strategies brings long-term benefits such as customer loyalty, improved innovation and access to new markets. It is presented as not only an ethical necessity, but also a strategic opportunity for the long-term sustainability of agricultural enterprises, contributing to a better world and creating a more ethical and sustainable business environment.*

***Keywords:** sustainability, social values, strategy, agriculture.*

***JEL classification:** Q18.*

1. Introduction

The inclusion of social values in the strategy of agricultural enterprises represents an increasingly important aspect in the current economic and social context. Social values refer to the principles and norms that govern behavior in society, contributing to the well-being and development of communities. In the agricultural sector, this can involve a range of strategic practices and approaches that reflect a commitment to sustainability, equity, social responsibility and community development.

2. The theoretical approach

Sustainability is a characteristic of an activity that can be carried out over a long period of time. (DEX, 2024). From an ecological point of view, sustainability involves the use and development of natural resources without leading to their depletion or environmental degradation. Sustainability is measured by the total evaluation of the performance of the three main pillars: economic, social, environmental. The ability to recognize and deal with complex business ethics issues has become a significant priority in 21st century organizations. Business ethics exceeds the legality of actions, taking into account not only compliance with all normative acts that regulate the organization's activity, but also with some principles, values, rules acceptable from an ethical or moral point of view by society, such as those related to the inclusion of social values in the strategy of organizations. (Bocean, Varzaru, 2021). Sustainability emphasizes the coercive nature of moral obligation in protecting the ability of future generations to make their lives better, Anand and Sen (2000) believe.

The original focus on economic development and environmental protection has been broadened and deepened to include alternative concepts of human and social development, as well as alternative anthropocentric versus ecocentric views of nature. Thus the concept of

development maintains both a creative tension between essential principles and an openness to reinterpretation and adaptation to different social and ecological contexts (Kates et al., 2005).

The multidimensionality of the phenomenon, the fact that it simultaneously refers to the economic, social and environmental, make it difficult to explain in a single definition, believe Shearman (1990), Gatto (1995) and Goodland (1995).

3. Perspectives and good practices

Insights and best practices at the agricultural enterprise level focus on integrating social values into their strategies to ensure sustainability, social responsibility and community development. They focus on:

Employee Well-Being: Promoting a healthy work-life balance is critical to employee well-being and health. Social values can help create a work environment where employees feel supported in fulfilling their professional roles, but also in managing the personal and social aspects of their lives.

Increased satisfaction and engagement: Employees who feel supported in their work-life balance are more likely to be satisfied and engaged. Integrating social values into promoting a life-career balance can help increase commitment and loyalty to the organization.

Improved performance: Employees who have a healthy work-life balance are more likely to be productive and deliver quality results at work. Integrating social values into promoting balance can lead to improved overall organizational performance.

Talent attraction and retention: Organizations that emphasize social values and promote a healthy work-life balance are more likely to attract and retain talent. Employees are more interested in working for organizations that care about their well-being and support them in managing their professional and personal lives.

Therefore, the inclusion of social values in the management of work-life balance not only supports the well-being of employees, but can also contribute to the success and sustainability of the organization as a whole.

The ways in which social values can be integrated into the strategy of agricultural enterprises consist of:

- Sustainability and Environmental Protection, on the one hand through sustainable agriculture: agricultural practices that minimize the negative impact on the environment, such as crop rotation, conservation agriculture, and the controlled use of natural resources, on the other hand by reducing carbon emissions: Implementation technologies and practices that reduce greenhouse gas emissions, as well as the promotion of bioenergy.
- Corporate Social Responsibility (CSR), on the one hand through fair working conditions: ensuring safe and fair working conditions for all employees, including fair wages and respect for workers' rights, on the other hand through community involvement: programs and initiatives that support local development, education and health of the communities in which the agricultural enterprise operates.
- Agroecology and Biodiversity, on the one hand through biodiversity conservation: adopting practices that protect and promote biological diversity, such as polyculture agriculture and preserving native habitats, on the other hand through local food systems: developing and sustaining short supply chains that

connect local farmers with consumers, reducing dependence on long global supply chains and promoting local food security.

Transparency and Business Ethics, on the one hand through transparency of the supply chain: ensuring that products come from ethical and sustainable sources, giving consumers the opportunity to verify the origin and production practices, on the other hand through business ethics: Adopting internal policies that promotes integrity, honesty and respect towards all stakeholders.

Innovation and Technology on the one hand through green technologies: Integrating technologies that support efficient and sustainable agricultural practices, such as energy-efficient irrigation systems and drones for crop monitoring, on the other hand through nature-based solutions: exploring innovative solutions that mimic or take inspiration from nature to solve environmental and social problems.

4. Conclusions

Integrating social values into the strategy of agricultural enterprises not only contributes to a better world, but can also provide long-term competitive advantages such as customer loyalty, improved innovation, access to new markets and risk reduction. At the same time, it can improve the image and reputation of the enterprise, attracting valuable investments and partnerships. The inclusion of social values in the strategy of agricultural enterprises is not only an ethical necessity, but also an essential strategic opportunity for their long-term sustainability. By adopting a commitment to social responsibility, sustainability, transparency and innovation, agricultural enterprises can build a resilient and adaptable business model that responds to both immediate market needs and long-term global challenges. This approach not only contributes to the creation of a more ethical and sustainable business environment, but also increases added value for all stakeholders involved - from farmers, employees and local communities, to consumers and trading partners. Finally, integrating social values into agribusiness strategies is fundamental to ensuring shared prosperity and promoting a future where businesses thrive respecting people and the planet.

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EVALUATION OF THE CONDUCT OF FISCAL-BUDGETARY POLICY IN ROMANIA, IN THE PERIOD 2008 – 2023

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Abstract: *In the proposed paper, we analyze the conduct of the fiscal-budgetary policy in Romania, in the period 2008-2023, based on the cyclically adjusted budget balance indicator, respectively its variations from one year to the next, in relation to the state of the economic cycle, analyzed on the basis of the output indicator gap. Through this synchronized analysis we can evaluate the conduct of the fiscal-budgetary policy in relation to theoretical benchmarks regarding its action in different phases of the economic cycle. The usefulness of the analysis is relevant from the perspective of the effective actions of the fiscal-budgetary policy on the fluctuations of the economic cycle, either in the sense of tempering them, respectively an anti-cyclical character, or of amplifying them, respectively a pro-cyclical character. The conduct of the fiscal-budgetary policy in relation to the economic state, becomes an increasingly important element, in the context of the increase in the frequency of shocks on the economy, in the adequacy and design of fiscal-budgetary strategies in the short and medium term, but also in the context of the European fiscal framework (discipline and fiscal consolidation), so as to ensure macroeconomic stability.*

Keywords: *fiscal-budgetary policy, cyclically adjusted budget balance, actual balance, fiscal impulse, fiscal position.*

JEL classification: *E61, H20, H62.*

1. Context

The effective budget balance (Sbe) is an imperfect indicator for evaluating public finances and fiscal policies, as it is influenced by government decisions, transitory factors and/or outside the direct control of fiscal authorities. Predominant among these factors are fluctuations in economic activity, respectively their influence on the effective budget balance.

An effective budget balance can be misleading at certain times, through the extraordinary expansion of revenues, and, especially later, through permanent and (perhaps) unnecessary expenditure commitments, generating major imbalances in the following fiscal years.

An important landmark of recent economic history, in this sense, is the financial and economic crisis from 2008 to 2010, generated by such a fluctuating situation (real estate boom).

To facilitate the analysis of fiscal-budgetary policies, Sbe must be corrected by removing these cyclical influences, thus resulting in the cyclically adjusted budget balance (Sbc) or structural balance.

In other words, the SBC seeks to determine what the actual budget balance is if the economy is operating on its "normal" growth trajectory, for example, characterized by roughly constant growth over the medium term.

Sbc has a central role in the Stability and Growth Pact (PSC), respectively in the evaluation and planning of budget policies in the European Union (EU), which have as their objectives fiscal discipline and consolidation. The following can also be identified through Sbc:

- the type of implemented fiscal-budgetary policy, respectively restrictive or expansionist, by measuring the impact of implemented fiscal-budgetary measures (fiscal impulse);

- the type of fiscal policy that works in an economy (procyclical, anticyclical), from the perspective of the function of stabilizing the economic cycle (fiscal position).

2. Mode of determination – derived indicators

According to the previous statements, for the determination of the cyclically adjusted budget balance, one starts from the actual budget balance, from which the cyclical components and the elements that usually happen only once in a budget year, respectively:

$$Sbc = Sbe - \text{cyclic components} - \text{one-off elements}$$

The fiscal-budgetary components subject to cyclical adjustment are most frequently identified in four large categories of income and one category of expenses with high sensitivity to fluctuations of the economic cycle: direct taxes on households, direct taxes on companies, indirect taxes, contributions to social security and expenses related to unemployment. This last category does not only consist of unemployment benefits in the strict sense, but also includes all other social transfers, which are considered to depend on unemployment (eg early retirement).

An appropriate macroeconomic basis is identified for each of the selected budget items. In principle, both direct household taxes and social security contributions are related to private sector employee compensation, indirect taxes to private consumption, direct corporate taxes to gross operating surplus, and unemployment expenditures to the number of unemployed. Elasticities are generally determined relative to these bases.

Based on the cyclically adjusted budget balance, derived indicators such as the fiscal impulse and the fiscal position can be determined.

The fiscal impulse indicator expresses the discretionary character of the fiscal policy and the way in which it contributes to stimulating or inhibiting the national economy. The fiscal impulse can be measured as the difference in the cyclically adjusted budget balance of the consolidated budget, for two consecutive years or at two different times. A positive fiscal impulse reflects an expansionary fiscal policy, while a negative fiscal impulse suggests the promotion of a restrictive fiscal policy.

$$\text{Fiscal impulse} = Sbc_1 - Sbc_0$$

The fiscal position indicator shows the budget balance gap, calculated by the difference between the actual budget balance and the cyclically adjusted budget balance, i.e. the current position of the conventional accounting budget balance of the general consolidated budget, compared to the potential benchmark. In the economic analysis, the indicator represents useful information for evaluating the structural sustainability of the consolidated general budget balance.

The fiscal position indicates the type of fiscal policy that works in an economy, from the perspective of the stabilization function of the economic cycle. A positive value of the fiscal position indicator indicates a procyclical fiscal policy, while a negative value indicates an anticyclical fiscal policy.

$$\text{Tax position} = Sbe_1 - Sbc_1$$

3. The evolution and analysis of the budget balance indicators and derivatives

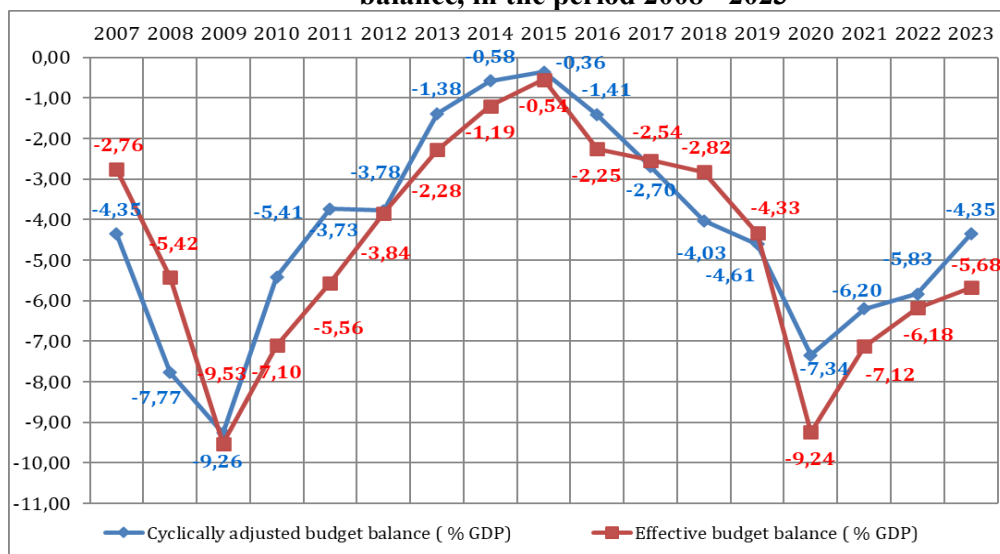
The assumption by Romania of the Treaty on Stability, Coordination and Governance (TSCG), in 2012, meant a commitment to comply with a fiscal-budgetary framework based on a series of rules, having as its main objective a level of the cyclically adjusted budget balance of -1% of GDP. The TSCG provisions were taken over in the national legislation in 2013, so the medium-term fiscal-budgetary projections were conditioned by the new rule, starting in 2015. This constraint mechanism did not work in practice, and after the 2013-2015 period, in which the cyclically adjusted budget balance has been below the mentioned limit since 2016 and until now there has been a wide deviation from the rule regarding the maximum level of -1%.

The fiscal-budgetary consolidation process, initiated in 2009-2010, had a fast and efficient course, leading to the achievement of the medium-term budgetary objective in the period 2014-2015, and in the following period measures were required to maintain and continue it. After this period of positive adjustment, starting in 2016, the cyclically adjusted budget balance went out of the target of the medium-term budget objective, due to the implementation of fiscal relaxation measures and an increase in administrative budget expenses, measures that negatively affected the two balances budgeting (cyclically and effectively adjusted, as seen in figure 1).

In the years 2017, 2018 and 2019, the fiscal-budgetary policies assumed the implementation of some measures to increase budget expenditures (salary in the public sector and the public pension system), as well as those of fiscal relaxation (reduction of the tax rate on the income of natural persons, starting from 1 January 2018, the reduction of the VAT rate from 1 January 2017), which led to the deterioration of the cyclically adjusted balance, reaching in 2019 approx. 5% of GDP.

In 2020, the impact of the outbreak and manifestation of the COVID-19 pandemic on the normal flows of the economy, at national, European and global level, and the implementation of discretionary measures to mitigate the economic and social effects of the pandemic, both at national and community level, have structurally imbalanced the economy and, implicitly, the nature and flows of budget revenues and expenditures.

Figure 1. Evolution of the effective budget balance and the cyclically adjusted budget balance, in the period 2008 - 2023



Source: data Fiscal Council Report 2022 (page 47) and MFP, budget execution 2023 <https://mfinante.gov.ro/static/10/Mfp/buletin/executii/bgc31122023.pdf>

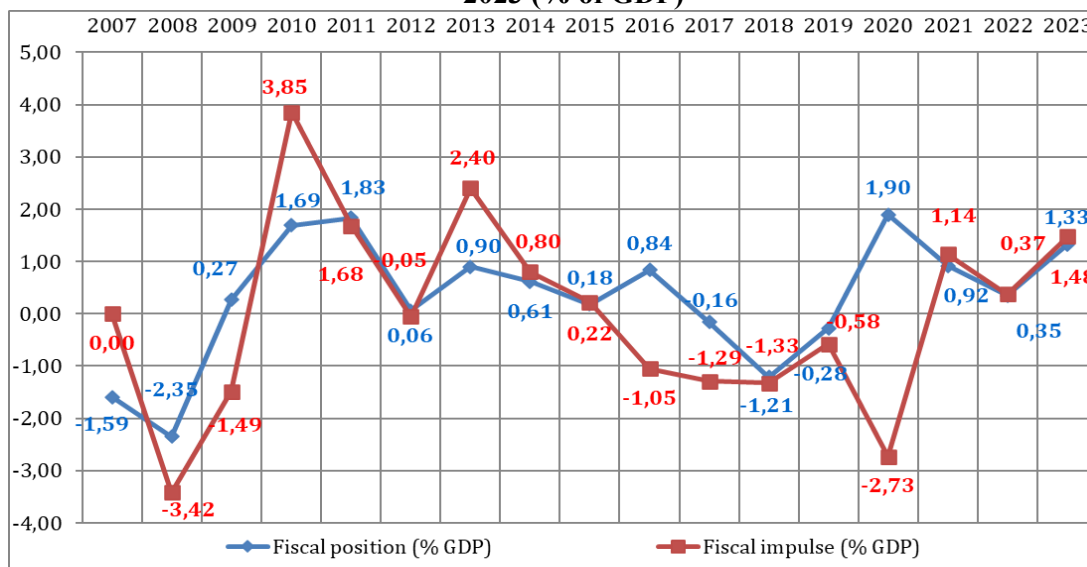
In the years 2021 and 2022, the cyclically adjusted budget balance registers a favorable evolution in relation to the situation in 2020, adjusting gradually, like the actual budget balance, even against the background of some increases in expenditure that occurred in addition to the initial budget projection, manifested in the sphere of defense expenses as a result of the outbreak of the war in Eastern Europe (by 0.5 pp of GDP), respectively the increase in expenses with compensation measures and capping of energy tariffs (electricity and natural gas), as well as fuel (gasoline, diesel), estimated at 2 pp of GDP.

And in 2023, a series of measures that required budget expenditures, implemented in the previous year, were maintained, namely the measures to compensate and cap energy tariffs (electricity and natural gas), as well as in the sphere of defense expenditures, in which there is also a slowdown in trade flows determined by a slowdown in the global economic evolution, with unfavorable effects mainly located at the level of the industrial sector. In these conditions, analyzed in relation to the negative values of the output-gap, which indicate a state of economic recession, the influence on the cyclically adjusted budget balance continues to be negative, and the outlook is not favorable in terms of commitments regarding the increase of pensions and of a year in which several election cycles will take place, situations that will require additional expenses for their organization.

The evolution of the fiscal position, presented in figure 2, in the reference period, in relation to the mentioned indices, it can be seen that in the years and periods 2009-2016 and 2020-2023, a pro-cyclical fiscal policy operated in the Romanian economy, and in the years and periods 2007, 2008 and 2017-2019. an anti-cyclical fiscal policy was promoted and implemented.

The evolution of the fiscal position in the periods 2007-2008 and 2017-2019, reflects the fact that in the pre-crisis periods the fiscal policy acted anti-cyclically, and with the manifestation of the crises the action of the fiscal policy manifested itself pro-cyclically, the situation that signifies the fact that a fiscal policy was needed more active, more appropriate to the respective conjunctures through the implementation of fiscal-budgetary measures, especially the employment of budgetary expenses to support the economy.

Figure 2. Evolution of the fiscal position and the fiscal impulse, in the period 2007 – 2023 (% of GDP)



Source: processed data from figure 1

Analyzed in relation to the state of the economic cycle, fiscal policy (through the lens of the evolution of the fiscal position indicator), had a predominantly procyclical behavior, sometimes inappropriate to the state of the economic cycle.

The evolution of the fiscal impulse, represented in figure 2, during the reference period, indicates that the fiscal policy showed oscillating tendencies of expansion and restrictiveness, respectively a significant reduction during the manifestation of crises and a significant abrupt increase post-crisis, reflecting the necessary fiscal policy actions implemented in those economic moments. Referring to the two moments of crisis and the evolution of the fiscal impulse, as an element of evaluating the character of the fiscal-budgetary policy, it is observed that in the crisis years (2008 and 2020) it recorded the highest negative values of the analyzed period, signaling a severe restrictiveness of the fiscal policy, and in the following years the fiscal policy relaxed, gradually becoming expansionist.

In order to highlight and more accurately capture the character of the fiscal-budgetary policy promoted in the period 2007-2023, based on the values of the fiscal position and fiscal impulse indicators, a tabular presentation of them was made, highlighting the characteristics of the fiscal policy and the state of the economic cycle (notations: R = restrictive fiscal policy; E = expansionary fiscal policy; A = countercyclical fiscal policy).

Table no. 1. The characteristics of the fiscal policy in the period 2007 – 2023

An	Fiscal position	Fiscal impulse	Output gap ul ¹	Characteristics	Action on the economic cycle ²
2007	-1,59	-	Expansion	-	-
2008	-2,35	-3,42		A + R	Procyclic
2009	0,27	-1,49	Recession	P + R	Anti cyclical
2010	1,69	3,85		P + E	Procyclic
2011	1,83	1,68		P + E	Procyclic
2012	0,06	-0,05		P + R	Anti cyclical
2013	0,90	2,40		P + E	Procyclic
2014	0,61	0,80		P + E	Procyclic
2015	0,18	0,22		P + E	Procyclic
2016	0,84	-1,05		P + R	Anti cyclical
2017	-0,16	-1,29	Expansion	A + R	Procyclic
2018	-1,21	-1,33		A + R	Procyclic
2019	-0,28	-0,58		A + R	Procyclic
2020	1,90	-2,73	Recession	P + R	Anti cyclical
2021	0,92	1,14		P + E	Procyclic
2022	0,35	0,37		P + E	Procyclic
2023	1,33	1,48		P + E	Procyclic

Source: Data from Figures 1 and 2

From the evolution of the cyclically adjusted budget balance, the fiscal impulse and the fiscal position, in relation to the state of the economic cycle, it follows that in the period 2007-2023, Romania mainly practiced a pro-cyclical fiscal-budgetary policy (with the exception of the years 2009, 2012, 2016 and 2020).

¹ It refers to the state of the economic cycle determined by actual GDP – potential GDP / potential GDP, * 100, resulting in the Output gap, which is interpreted according to the resulting value, thus a negative value signifies a state of recession, and a positive one a state of expansion (see figure no. 1.1.14).

² Expansionary fiscal policy vs economic expansion / restrictive fiscal policy vs economic recession = procyclical. Expansionary fiscal policy vs economic recession / restrictive fiscal policy vs economic expansion = anti cyclical.

The discretionary fiscal policy of intense but counterproductive stimulation of the economy during periods of pre-crisis expansion (2007-2008 and 2017-2019), respectively of braking during the period when the economy operated below potential (2009 - 2016 and 2020-2023), contributed to amplifying the fluctuations of the economic cycle through its pronounced procyclical character, the automatic, beneficial and stabilizing action of the automatic stabilizers, thus being cancelled.

4. Results

The analysis of the two budget balances reveals the fact that the fiscal-budgetary policy, after a period of instability (2007-2012), characterized by their excessive negative values, entered a consolidation process, starting from 2013, and recorded significant progress in terms of their reduction, but also in line with its function of macroeconomic adjustment, until 2016. Starting from 2017, the budget balances have permanently deteriorated, the situation becoming more pronounced in 2020, both due to the inertia of the measures increase of the mentioned expenses, as well as of fiscal relaxation measures.

During 2021, uncertainty prevailed regarding the evolution of the pandemic, so that the measures were adapted to the specific situation of the country and, by extending the states of alert, some temporary actions acquired the character of continuity. At the same time, it again entered a path of fiscal consolidation, the cyclically adjusted budget balance, registering a favorable evolution in relation to the situation in 2020, adjusting by approx. 0.5pp, as well as the effective balance which registered a positive adjustment of approx. 2pp, against the background of the gradual resumption of economic and commercial flows, but also of accommodating the conduct of some economic activities to the conditions imposed by the restrictions of the COVID-19 pandemic.

Fiscal consolidation is difficult, but positive signals are maintained in 2022 and 2023 as well, with budget balances continuing on the path of reduction compared to 2020 and 2021, respectively the cyclically adjusted budget balance was -4.3% of GDP and the effective balance was -5.7 % of GDP in 2023, decreasing, but still above the institutional limits (-1% for the cyclically adjusted budget balance and -3% for the actual balance).

The evaluation of the conduct of the fiscal-budgetary policy, evaluated on the basis of the presented budget balance indicators and those derived from them, indicates that certain particular characteristics are recorded, respectively:

- the evolution of the fiscal position from the periods 2007-2008 and 2017-2019, reflects the fact that in the pre-crisis periods it acted anti-cyclically, and with the manifestation of the crises the action of the fiscal policy manifested itself pro-cyclically, the situation that signifies the fact that a more fiscal policy was needed active, more appropriate to the respective contexts through the implementation of fiscal-budgetary measures. Analyzed in relation to the state of the economic cycle, the fiscal policy had a predominantly procyclical behavior, sometimes inappropriate to the state of the economic cycle;
- referring to the two moments of crisis and the evolution of the fiscal impulse, as an element of evaluating the character of the fiscal-budgetary policy, it is observed that in the crisis years (2008 and 2020) it recorded the highest negative values in the period analyzed, signaling a severe restrictiveness of the fiscal policy, and in the following years, the fiscal policy relaxed, gradually becoming expansionist;
- starting from 2021 and continuing with 2022, the fiscal consolidation process has resumed, but the task is much heavier, i.e. if the deficit can be adjusted in the next two/three years, the debt burden is greatly increased, this being, in fact, "the cost real" of the effects of the two major crises that humanity and, implicitly, Romania went through,

but also the effect of a fiscal-budgetary policy unable, in the current state, to generate and collect revenues at the level of some countries in the region with a similar fiscal regime (Bulgaria).

From the evolution of the cyclically adjusted budget balance, the fiscal impulse and the fiscal position, in relation to the state of the economic cycle, it follows that in the period 2007-2023, Romania mainly practiced a pro-cyclical fiscal-budgetary policy (with the exception of the years 2009, 2012, 2016 and 2020).

The discretionary fiscal policy of intense but counterproductive stimulation of the economy during periods of precrisis expansion (2007-2008 and 2017-2019), respectively of braking during the period when the economy operated below potential (2009 - 2016 and 2020-2023), contributed to amplifying the fluctuations of the economic cycle through its pronounced procyclical character, the automatic, beneficial and stabilizing action of the automatic stabilizers, thus being cancelled.

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ENSURING SUSTAINABILITY THROUGH THE RECOVERY OF WASTE RESULTING FROM THE OBTAINING OF FRUIT JUICE

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Abstract: *Most people buy more food than they need either because it's on sale or cheaper in larger quantities. Recovering and otherwise reusing surplus food that would otherwise be wasted helps with food security, biodiversity, the bioeconomy, waste management and renewable energy. After processing the fruits to obtain the juice, we have waste that can be used in order to obtain a good profit. Food waste occurs due to crops left in the field during productive years due to the higher price for harvesting and processing compared to the selling price, this due to the lack of appropriate machinery. Losses during transportation, storage, processing, food wasted due to buying too large quantities, a faulty use of stocks, too much unsold food approaching the expiration date (a production controlled according to market demand). We will look for methods how to reduce losses and how to make the most of the waste produced during fruit juice extraction. We will discuss safe packaging without additional waste generation, re-use of processing waste (borhot – jams/sweets/pet food/alcoholic drinks, rotten fruit – compost) and efficient supply of food along the chain food and to the consumer.*

Keywords: *apple juice, waste, reuse, sustainability.*

JEL Classification: *L66, I15.*

1. Introduction

Fruits and the products obtained from them represent a valuable part of the human diet, providing nutrition and dietary diversity. Apples are rich in organic acids, sugars, mineral elements and other nutrients, which play an important role in human health. Fruits can be processed in canneries to obtain jams, compotes, juices, nectars, alone or mixed with other fruits. When obtaining these products, healthy, mature fruits are used that can offer a good taste, a characteristic appearance and provide the specific need for nutrients. In a crop we not only have such fruits but also fruits that have not reached maturity or have visible defects. For example: in order to capitalize on all apple production, it is necessary to find a destination for all apples. Immature apples can be exploited by using them as natural acidifiers in the food industry (Cruceanu, 2021). Rotten apples make excellent fertilizer for flowers and vegetables, so they can be composted. But the rules for collecting and obtaining organic raw material must be respected, that is, fruits that have been treated with pesticides or other chemical substances, for 90 days after processing, are not recommended to be used to obtain fertilizer. Fruits affected by moniliosis or other fungal diseases cannot be used to obtain compost. Since apples contain a lot of acid, they can be neutralized by treatment with soda so as not to change the pH of the soil (Pure Decorexpo - 2020).

Following the transformation of apples into juice, waste is obtained which is a rich source of dietary fibers (cellulose, hemicellulose, pectins, lignin), minerals, phenolic compounds and simple sugars. Apple waste can be used for the recovery of bioactive compounds and their use.

The tescovin resulting from obtaining apple juice can be used for animal feed, for obtaining pectin, for the preparation of pectolytic enzymes (it is part of the development medium for *Aspergillus niger*) and, mainly, for obtaining marmalade and vinegar. The simplest way to use apple pomace is for animal feed both fresh and dry, plain or mixed with

other fodder. It can also be used to obtain chemical products and the production of biofuels, animal feed or compost production (Bhushan et al., 2008).

In the manufacture of vinegar, you can use pomace but also other manufacturing waste, such as: apples rejected during sorting and the water resulting from washing the machines used to obtain apple juice (Dabița & Hatnean, 2014).

The obtained apple cider vinegar is used in the food and pharmaceutical industry as well as cosmetics. It has antimicrobial, antioxidant, anti-inflammatory, antidiabetic and antihypertensive properties. It contributes to improving the taste of food and aids in digestion (Kalaba et al., 2019).

2. Methods and materials

When obtaining the apple juice I will use the following apple varieties: Starkrimson, Golden, Ionatan, ReD Topaz, Rozela, and Sirius. The apples were harvested from our own orchard (orchard located in the Dâmboviței Valley), the autumn harvest of 2022. 50 tons of apples were obtained, of which 35 tons were sold for consumption, 13 tons were redirected to obtain the juice of apple and 2 tons had visible defects: broken points or impact marks. From the 2 tons, one ton was crushed and put to obtain compost (apples with damage points) and one ton was sold to obtain traditional Romanian alcoholic drinks "țuica" (struck apples).

After obtaining the juice (figure 1), the apple tescovina resulted (figure 2).



Figure 1. Apple juice



Figure 2. Tescovina from apples

In figure 1. we can see how the juice was packed, in the Bag in box system which is appreciated by consumers because it is cheap and from the point of view of sustainability: it allows a high liquid content and little packaging, the material is light and thus the system it is easier to use and transport, it provides a sterile environment and thus the juice is preserved for a long period of time (over 1 year), they can be stored on the shelf without refrigeration.

The amount of pomace was calculated by determining the pulp content remaining after juice extraction. In order to obtain the juice, the apples were chopped, then the juice was separated from the 3-chestnut with the help of the hydropress (Figure 3).



Figure 3. Hydropress

This press is used for fruit but can also be used for vegetables. It presses through the mains water pressure which must be max. 3 bars. It is made of food grade stainless steel and the legs are made of steel. I chose the version with painted steel legs.

Operation: the water helps to inflate the bellows inside the press and thus will press the mince evenly towards the walls (Figure 4):

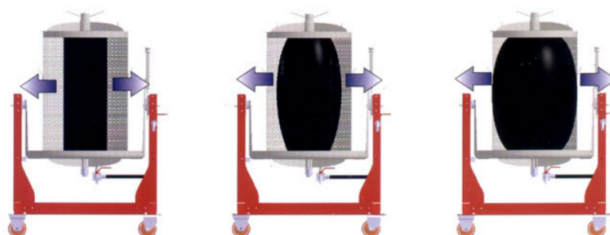


Figure 4. Action of water in Hydropress

The yield of apple pressing is up to 70%, which means that approximately 70 kg of juice is obtained from 100 kg of apples.

The press can be turned over so we can easily remove the cake after pressing.

It is equipped with a manometer that helps to observe the water pressure in the bellows, and an overpressure safety valve.

Length: 800 mm

Width: 870 mm

Height: 1300 mm

Weight: 64 kg (Presa mobile, 2023).

Tescovina represents up to 38.7% of the amount of processed apples. In table 1. we have the amount of pomace resulting from the processing of apples (by variety) in order to obtain apple juice. It is observed that the largest amount of pomace remains after processing Rozela apples.

No. current	Variety	Volume obtained ml/kg	The amount of tescovina mg/kg
1	Golden	623	377
2	Sirius	650	350
3	Starkrimson	617	383
4	Jonathan	650	350
5	ReD Topaz	627	373
6	Rozela	613	387

Table 1. The amount of pomace resulting from the processing of various types of apples

Determination of the pomace content resulting from the processing of 100 kg of apples belonging to the Sirius variety. To determine the amount of pomace resulting from obtaining apple juice, we also calculate the amount of losses until obtaining it:

- in the sorting operation

$$M1 \text{ apple} = M2 \text{ apple} + P$$

M1 apple - the amount of apples used in processing

M2 apple - the amount of apple after sorting

P- the losses

$$100 \text{ kg} = 98 \text{ kg} + P$$

$$P = 100 - 98 = 2 \text{ kg}$$

- at the shredding operation

$$M2 \text{ apple} = M3 \text{ apple} + P$$

M2 apple - the amount of apples after sorting

M3 apple - the amount of apple shredding

$$97,98 \text{ kg} = 98 \text{ apple} + P$$

$$P = 0,02$$

- at the pressing operation

$$M3 \text{ apple} = (\text{Gross apple} + \text{Mtescovina}) + P$$

Gross juice - the amount of juice resulting from pressing

Pomegranate - the amount of pomace

$$P = 97,98 - (64,3 + 33,68)$$

$$P = 0 \text{ (we have no losses)}$$

By processing 100 kg of Sirius apples, we obtain 33.68 kg of tescovina.

In Figure 1. We observe possibilities for capitalizing the pomace resulting from the apples taken in the analysis. This resulting pomace can be used as follows:

- in the manufacture of vinegar (Kalaba et al. 2019) (figure 7.) – variant 1 ;

- for fodder purposes (Bhushan et al., 2008) (figure 8.) – variant 4

- in the form of compost (Bhushan et al., 2008) (figure 9.) - variant; 6

- obtaining pectin (Canteri-Schemin et al, 2005) - variant; 5

- as a substrate for obtaining organic acids, enzymes, pigments, unicellular proteins, ethanol, beverages (Bhushan et al., 2008);

- when obtaining the marmalade (when the spine of the apple has been removed) (figure 10.)

- variant 2

- by drying, as food, mixed with cereals (Ceško et al., 2022) (figure 8.) – variant 3



Figure 7. Vinegar



Figure 8. Pomegranate dried

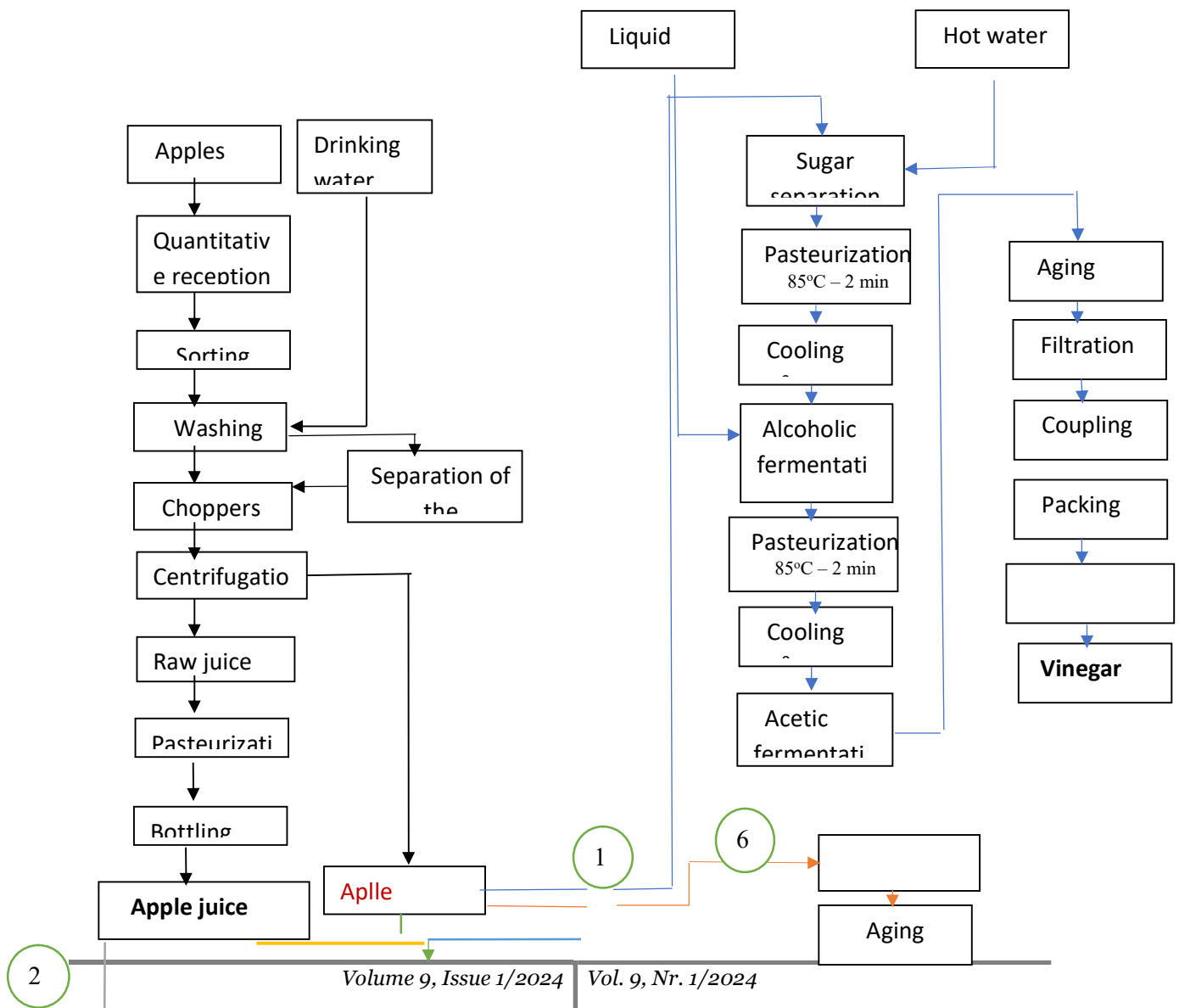


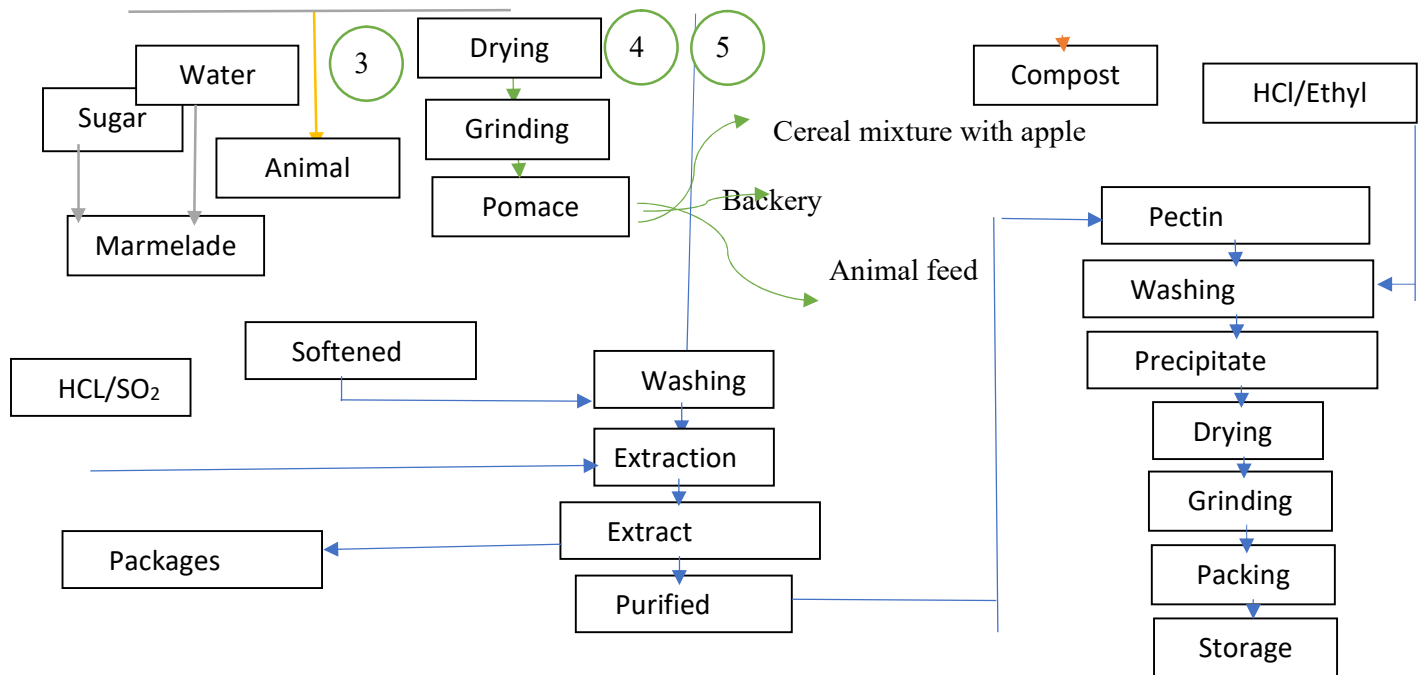
Figure 9. Pomegranate from pomace for compost



Figure 10. Pomegranate marmalade

Figure 8. Technological scheme for processing the pomace resulting from the processing of apples in order to obtain apple juice





After obtaining the pomace, if we don't have time to process it immediately, it is pressed in tubs/basins to release the air and to be able to store as much as possible, yeasts are added in the form of mayo and left to ferment (it can be kept like this and 6-8 weeks). If the pressing is done well, the losses in alcohol will be small and thus a superior alcoholic drink is obtained.

3. Results and discussions

It is noted that we can use the gooseberries for various purposes, depending on the harvest and the price of apples that year. A variant of the use of the gooseberry is to subject it to the drying process. We dried it in the oven with the door slightly open at 120 0 C. The obtained product was ground and used in food mixed with cereals and an improvement in the taste of the cereals and an acceleration of the intestinal transit due to the high fiber content were found. The obtained powder can also be used to obtain bakery products, improving their fiber content and the taste is pleasant. That is why it is recommended to consume this product for people who suffer from a slow transit. Tescovina can be dried by the convective drying process. The temperature of the heating agent influences the drying time of the pomace obtained from obtaining apple juice. Research shows that if the temperature of the thermal agent is increased by 20 degrees Celsius, the drying time is reduced by more than 14% in the first period and later by more than 45% (Ceşko et al., 2022).

When we don't have the necessary resources to capitalize on the quince. The pulp resulting from obtaining apple juice can be used for animal feed or in the production of compost. An improvement of the soil was observed by the application of compost obtained from apple pomace. According to the soil analysis (the analysis was carried out by Hibrid SRL), the potassium content has increased, which is very necessary for the plant because it helps to improve the quality of crops. Potassium increases the resistance of the apple to diseases and increases the shelf life of the fruit. Composting is carried out either in the open air or in protected environments and has a great potential for transformation and management of the obtained remains. Over time, the compost turns into humus.

This means that it can be done either on the surface, placed directly on the ground in autumn, or composted in piles, with the addition of lime and limestone to stimulate fermentation and to neutralize the acidity of the pomace. It helps to revitalize poor soils and plant growth. Compost does not require money and is beneficial for the environment. The properties of properly obtained, stable and mature compost:

- helps maintain soil moisture, reduces the amount of water used for irrigation by up to 34%;
- represents a source of macro and micronutrients;
- helps to recycle plant residues;
- helps to grow microorganisms and aerate the soil;
- reduces pollution from landfills;
- helps to neutralize the pH in the soil

Obtaining pectin from apple pomace: pectin is used in the food industry as a functional ingredient due to its properties to form aqueous gels and can be used in the preparation of jams and jellies, in fruit preparations, various fruit drinks, fruit juices and products dairy products. In order to have a higher yield, it is recommended to use apple flour instead of gooseberries as such. Researchers recommend for a better yield the transformation of the pomace into apple flour and then the extraction of the pectin (Canteri-Schemin et al, 2005).

Tescovina can be boiled with an addition of water (2%) and sugar, bottled hot in jars and we get marmalade. This well-preserved must have a color close to that of apples and a pleasant smell of alcohol. Tescovina with signs of deterioration must be subjected to chemical analysis (alcohol), in order to establish the usefulness of the processing.

4. Conclusions

Tescovin resulting from the processing of apples in the form of juice is valuable due to its content in substances effective for the human organism. It can be processed in various forms, but it must be taken into account to process it in time to be efficient for each variant chosen. When different varieties with different tastes and aromas are used, they are also transmitted to the pomace, influencing its quality. Losses during transport, storage, processing and losses due to improper use of apple stocks must be avoided. Apples must be sorted as best as possible for sale, immediate transformation into juice and storage for a certain period of time.

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HYBRID WAR – A REALITY OF THE CONTEMPORARY WORLD; CONCEPT, MODEL, IMPLICATIONS

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***Abstract:** The current global security environment is characterized by high complexity, with hybrid threats and hybrid warfare being its defining features. Understanding the true dimension of modern warfare means outlining the typology of hybrid threats, clarifying the concept of hybrid warfare and, last but not least, highlighting the role of various state and non-state actors in the dynamics of global power relations. In recent decades, the North Atlantic Treaty Organization (NATO) has delivered innovative strategic concepts in efforts to combat hybrid threats. The purpose of this article is to establish a conceptual basis for describing hybrid threats and to analyze the role of NATO and the US in shaping the global security environment, pointing out the evolution of NATO's strategic concept of security and presenting US strategic options for the future of the security environment in the perspective of 2035.*

***Keywords:** hybrid threats, hybrid warfare, global security environment, NATO, strategic concept.*

***JEL Classification:** F51, F53.*

1. Introduction

In Today, at mid-century, great powers and rising challengers alike have converted hybrid combinations of economic power, technological prowess and virulent, cyber-enabled ideologies into effective strategic strength. They apply this strength to disrupt or defend the economic, financial, social, and cultural foundations of the old liberal order. They assert or dispute regional alternatives to established global norms. State and non-state actors compete for power and control, often below the level of traditional armed conflict – or shield and protect their activities with escalatory nuclear options and doctrines. Strife, conflict, and war remain endemic in mid-century and the ways in which wars are fought have undergone a significant evolution – nowhere more so than in the land domain. (TRADOC,2015)

“Future conflicts will increasingly emphasize the disruption of critical infrastructure, societal cohesion, and basic government functions in order to secure psychological and geopolitical advantages, rather than the defeat of enemy forces on the battlefield through traditional military means.” (National Intelligence Council, 2017)

If war as a human activity is hybrid by nature, the combination of regular and irregular modes of fighting in a single maneuver can prove a formidable weapon against a “single-mode” opponent. In its regular component, hybrid maneuver requires the opponent to concentrate forces in order to maximize firepower — a basic principle of regular warfare. At the same time, the maneuver’s irregular component compels him to disperse these same forces, so they can protect the rear and supply lines. Of course, this dilemma of concentration vs. dispersion can only play to the advantage of the hybrid fighter if he is able to leverage greater operational mobility, either by splitting his forces in two well-coordinated components or by acting in a swarm-like fashion, i.e. to converge rapidly on a target, attack and then re-disperse. Military history offers three main types of operations where such patterns provided added value at the operational level of war: compound warfare, techno-guerrilla warfare and protracted warfare.(Tenenbaum 2015,102)

In 2005, British General Rupert Smith wrote: "War no longer exists. Confrontation, conflict and struggle undoubtedly exist all over the world ... and the state still has armed forces that it uses as a symbol of power. The phrase "new war" brings a number of asymmetries:

- in objectives (which are less clear because they are less connected to the paradigm of interstate warfare);
- in time (because these wars tend to be timeless);
- between the protagonists (because they tend to involve a variety of state actors as well as non-state actors);
- in combat modes (a mixture of traditional and new weapons and tactics is used; it erodes the distinction between combatants and non-combatants).
- in space (there is no longer a distinction between "front" and "back" or "war on the front" and "front at home", the battle is everywhere, often simultaneously).

This type of war can be called "asymmetric warfare", "compound warfare" or "irregular wars", "small or guerrilla warfare", depending on the definitions of different authors from different eras and the distinct characteristics highlighted. (Marcuzzi, 2018).

The literature analyzes the concept of hybrid threats as well as that of hybrid warfare. Reference works for this study area are (Tenenbaum, 2015), (Marcuzzi, 2018), (European Commission, 2021), (European Commission, 2016), (Cullen, P. et al., 2021), (Gressel, 2019), (Weissmann, 2019), (Balaban & Mielniczek, 2018), (Cullen, P. Et al. 2016), (Rühle & Roberts, 2021), (Kamp, 2016), these also presenting various analysis models. The present study presents, as a novelty, essential conceptual delimitations regarding the notion of hybrid war, also highlighting the position of NATO and the USA in relation to these developments in the international economic environment.

In the current international environment, hybrid war and hybrid threats occupy a special place and are part of the broad area of global analyzes of developments in the world economy and trends in the redefinition of power centers. The main research objective of this study is to highlight a model of analysis regarding the hybrid war and, at the same time, to emphasize the attitude adopted by NATO and the US towards the events taking place in the world economy in order to increase the level of economic security, reducing the risks geopolitical and geoeconomic.

The research methodology uses various methods: the logical analysis method, the systemic method, the comparative method, the historical method and the situation analysis. The study period covers the time interval from the Second World War to the present. Historical analysis and situational analysis used in geopolitical theory are used to observe and research the geopolitical area to highlight the nature and intensity of interests that actors have at a given time in a geographic space and their place in a power equation.

2. Hybrid threats: concept and typology

The European Centre of Excellence for Countering Hybrid Threats outlines hybrid threats with the next focus: "The term hybrid threat refers to an action conducted by state or non-state actors, whose goal is to undermine or harm a target by influencing its decision-making at the local, regional, state or institutional level. Such actions are coordinated and synchronized and deliberately target democratic states' and institutions' vulnerabilities. Activities can take place, for example, in the political, economic, military, civil or information domains. They are conducted using a wide range of means and designed to remain below the threshold of detection and attribution.

Hybrid action is characterized by ambiguity as hybrid actors blur the usual borders of international politics and operate in the interfaces between external and internal, legal and illegal, and peace and war. The ambiguity is created by combining conventional and unconventional means – disinformation and interference in political debate or elections, critical infrastructure disturbances or attacks, cyber operations, different forms of criminal

activities and, finally, an asymmetric use of military means and warfare. " (European Commission, 2021)

Hybrid CoE characterizes hybrid threats as:

- Coordinated and synchronized action that deliberately targets democratic states' and institutions' systemic vulnerabilities through a wide range of means.
- Activities that exploit the thresholds of detection and attribution, as well as the different interfaces (war-peace, internal-external security, local-state, and national-international).
- Activities aimed at influencing different forms of decision-making at the local (regional), state, or institutional level, and designed to further and/or fulfil the agent's strategic goals while undermining and/or hurting the target. (European Commission, 2021)

Hybrid threats can be characterized as a mixture of coercive and subversive activity, conventional and unconventional methods (eg diplomatic, military, economic, technological, informational), which can be used in a coordinated manner by the state or state actors to achieve objectives. remaining at the same time below the threshold of open organized hostilities. Emphasis is usually placed on exploiting the vulnerabilities of the target and on generating ambiguity with the intention of impeding decision-making processes. Massive disinformation campaigns, using social networks to control the political narrative or to radicalize, recruit and direct different actors can be vehicles for hybrid threats. (European Commission, 2016).

„The conceptualization of the hybrid threat-hybrid war relationship is based on the conceptualization of the war/hybrid war from the previous academic literature. The terms hybrid threats and hybrid warfare are sometimes used interchangeably, which is one of the reasons why concepts may seem confusing. In addition, the concepts were examined through various disciplinary objectives: international relations, strategic studies, security studies, military studies, history and political science. This multidisciplinary analytical mosaic also blurs the image of what the concept of hybrid threats actually entails. In a certain approach, the concept of hybrid threats is used as an umbrella concept, while hybrid warfare / war is part of the activity that takes place under the umbrella of hybrid threats (cause-effect ratio). According to Frank Hoffman, who focused on non-state actors such as Hezbollah and al-Qaeda, their tactical and operational military activities are directed and coordinated in the main battlefield to achieve synergistic effects and to include tactics used by transnational networks. When Frank Hoffman began using the label "hybrid warfare", it was just one of many labels, which included "new warfare", fourth-generation warfare, and asymmetric warfare; they were used by analysts to conceptualize the changes in contemporary warfare, in line with the idea that warfare has become "substantially distinct" from older patterns of conflict. There are a lot of other concepts that describe new forms of conflict/war: "surrogate war", "gray area activity", "raid", "unrestricted war" (Chinese origins), "reflexive control" (Russian origins), "New generation war" (Russian origin), "conflict-free competition", "active measures" (Russian origin), "non-linear war", "asymmetric war", "composite war", "ambiguous war", "political war", "Information warfare", "cyber warfare" - all trying to describe actions very similar to the concept of hybrid threats - interventions and operations against states and institutions. "(Cullen, P. et al., 2021).

The term "hybrid threat" is presented in different ways, both in official documents of countries / international organizations and in the literature. For example, NATO considers that hybrid threats combine military and non-military means, as well as hidden and obvious means, including misinformation, cyber attacks, economic pressure, the deployment of

irregular armed groups and the use of regular forces; NATO sees hybrid threats as those posed by adversaries, with the ability to simultaneously use conventional and unconventional means in an adaptive way to achieve its goals. "(Gressel, 2019).

There are four main pillars that need to be examined in order to build a full understanding of the concept of hybrid threats:

- Stakeholders (and their strategic objectives);
- Tools used;
- Areas targeted;
- Phases (including the types of activity observed in each phase);

The analytical framework of the conceptual model, which captures the pillars mentioned above and demonstrates their connections in a dynamic way, can be used in different perspectives. An actor (state or non-state), who has objectives but limited abilities or limited possibilities to achieve them, can apply a variety of tools to a series of domains to perform a certain type of activity, to achieve a series of tasks. objectives and affects the target. This model, combined with quantitative information from information, media monitoring tools, as well as other sources of information, can be transformed into a comprehensive risk assessment and resilience tool, which can provide a holistic picture of the security position. of a country against hybrid threats. A more detailed typology of hybrid threats can be found in Table 1. The typology of hybrid threats, reiterating that "the hybrid is always a combination of tools, but not all combinations are hybrid" (Cullen, P. et al.,2021).

Table no. 1 Typology of hybrid threats

Tools	Affected domains
Physical operations against infrastructure	Infrastructure, Economy, Cyber, Space, Military/Defence, Information, Social/Societal, Public Administration
Creating and exploiting infrastructure dependency (including civil-military dependency)	Infrastructure, Economy, Cyber, Space, Military/Defence, Public Administration
Creating or exploiting economic dependencies	Economy, Diplomacy, Political, Public Administration
Foreign direct investment	Economy, Infrastructure, Cyber, Space, Military/Defence, Public Administration, Intelligence, Information, Political, Legal
Industrial espionage	Economy, Infrastructure, Cyber, Space, Intelligence, Information
Undermining the opponent's national economy	Economy, Public Administration, Political, Diplomacy
Leveraging economic difficulties	Economy, Public Administration, Political, Diplomacy
Cyber espionage	Infrastructure, Space, Cyber, Military/Defence, Public Administration
Cyber operations	Infrastructure, Space, Cyber, Social/Societal, Public Administration, Military/Defence
Airspace violation	Military/Defence, Social/Societal, Political, Diplomacy
Territorial water violation	Military/Defence, Social/Societal, Political, Diplomacy

Weapons proliferation	Military/Defence
Armed forces conventional/sub-conventional operations	Military/Defence
Paramilitary organizations (proxies)	Military/Defence
Military exercises	Military/Defence, Diplomacy, Political, Societal
Engaging diasporas for influencing	Political, Diplomacy, Social/Societal, Culture, Intelligence, Information
Financing cultural groups and think tanks	Societal, Culture, Political, Diplomacy
Exploitation of sociocultural cleavages (ethnic, religion and culture)	Social/Societal, Culture
Promoting social unrest	Infrastructure, Social/Societal, Economy, Political
Manipulating discourses on migration to polarize societies and undermine liberal democracies	Social/societal, Culture, Political, Legal
Exploiting vulnerabilities in public administration (including emergency management)	Public Administration, Political, Social/Societal
Promoting and exploiting corruption	Public Administration, Economy, Legal, Social/Societal
Exploiting thresholds, non-attribution, gaps and uncertainty in the law	Infrastructure, Cyber, Space, Economy, Military/Defence, Culture, Social/Societal, Public Administration, Legal, Intelligence, Diplomacy, Political, Information
Leveraging legal rules, processes, institutions and arguments	Infrastructure, Cyber, Space, Economy, Military/Defence, Culture, Social/Societal, Public Administration, Legal, Intelligence, Diplomacy, Political, Information
Intelligence preparation	Intelligence, Military/Defence
Clandestine operations	Intelligence, Military/Defence
Infiltration	Intelligence, Military/Defence
Diplomatic sanctions	Diplomacy, Political, Economy
Boycotts	Diplomacy, Political, Economy
Embassies	Diplomacy, Political, Intelligence, Social/Societal
Creating confusion or a contradictory narrative	Social/Societal, Information, Diplomacy
Migration as a bargaining chip in international relations	Social/Societal, Diplomacy, Political
Discrediting leadership and/or candidates	Political, Public Administration, Social/Societal
Support of political actors	Political, Public Administration, Social/Societal
Coercion of politicians and/or government	Political, Public Administration, Legal
Exploiting immigration for political	Political, Social/Societal

influencing	
Media control and interference	Information, (Media) Infrastructure, Social/Societal, Culture
Disinformation campaigns and propaganda	Social/Societal, Information, Political, Cyber, Culture, Public Administration
Influencing curricula and academia	Social/Societal, Culture
Electronic operations (GNSS jamming and spoofing)	Space, Cyber, Infrastructure, Economy, Military/Defence

Source: Cullen, P. et al.,2021, p.7

3. Hybrid warfare: concept and model of analysis

Hybrid warfare is not new; the means of waging it have evolved and simply expanded into all dimensions of state and society. Schmid Johann in *Der Archetypus hybrider Hybride Kriegsführung vs. militärisch zentrierte Kriegsführung* see: There is no universally-accepted definition of hybrid warfare that leads to some debate whether the term is useful at all. Some argue that the term is too abstract and only the latest term to refer to irregular methods to counter a conventionally superior force. The abstractness of the term means that it is often used as a catch all term for all non-linear threats. Hybrid warfare is warfare with the following aspects:

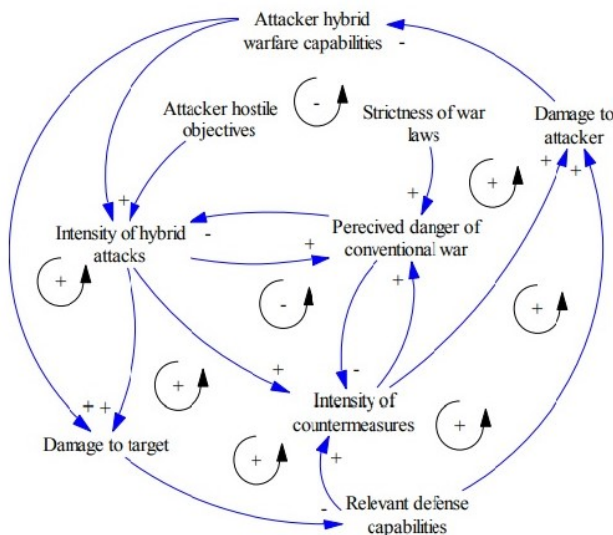
- ✓ A non-standard, complex, and fluid adversary. A hybrid adversary can be state or non-state. The main adversaries are non-state entities within the state system. The non-state actors can act as proxies for countries but have independent agendas as well.
- ✓ A hybrid adversary uses a combination of conventional and irregular methods. Methods and tactics include conventional capabilities, irregular tactics, irregular formations, diplomacy, politics, terrorist acts, indiscriminate violence, and criminal activity. A hybrid adversary also uses clandestine actions to avoid attribution or retribution. The methods are used simultaneously across the spectrum of conflict with a unified strategy.
- ✓ A hybrid adversary is flexible and adapts quickly. For example, the Islamic State's response to the US aerial bombing campaign was a quick reduction of the use of checkpoints, large convoys, and cellphones. Militants also dispersed among the civilian population. Civilian collateral damage from airstrikes can be used as an effective recruiting tool.
- ✓ A hybrid adversary uses advanced weapons systems and other disruptive technologies. Such weapons can be now bought at bargain prices. Moreover, other novel technologies are being adapted to the battlefield such as cellular networks.
- ✓ Use of mass communication for propaganda. The growth of mass communication networks offers powerful propaganda and recruiting tools. The use of fake news websites to spread false stories is an element of hybrid warfare.
- ✓ A hybrid war takes place on three distinct battlefields. They are the conventional battlefield, the indigenous population of the conflict zone, and the international community. (Schmid, 2020)

Hybrid warfare is a concept very close to irregular warfare and asymmetric warfare. Hybrid warfare and asymmetric warfare can be seen as two sides of the same coin. They may look different, but in reality they are very similar. Asymmetric warfare refers to compensating for one's own military and organizational weakness compared to one's adversary. This feature is shared by hybrid warfare, although it is a generally broader concept and less related to one's own organization. Irregular warfare is also similar, with the main difference between asymmetric warfare and hybrid warfare being related to who is waging

the war. Unlike the other two concepts, it is built on the presence of a non-state actor - normally a form of insurgent or terrorist actor; with some, the goal is to gain political power to bring about political, social, economic and / or religious change; this concept is often used in a broad and careless manner, referring to a wide range of indefinite warfare that is not a conventional warfare. In conclusion, hybrid warfare refers to an asymmetric warfare under a new label. Hybrid warfare itself is just one of a variety of terms used to describe this phenomenon, in which "sixth generation war", "contactless war", "new war", "next generation war", "ambiguous war", "Asymmetric warfare", "nonlinear warfare" and "full spectrum conflict" are examples of more or less synonymous terms. Although there is not much new in the concept itself, it is a useful tool to think about the wars of the past, the wars of today and the wars of the future. (Weissmann, 2019).

A possible representation of hybrid conflicts is proposed by : (Balaban & Mielniczek, 2019)

Figure no. 1. Concept of hybrid conflicts



Source: adapted from Balaban & Mielniczek, 2018, p. 373-374

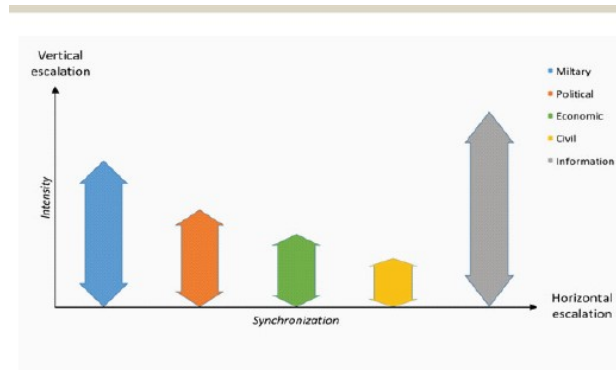
The perceived danger of conventional warfare increases with the increasing intensity of hybrid attacks and the increasing intensity of countermeasures, but it also generates feedback links that reduce both causal factors. Deterioration of the target has a negative effect on its relevant defense capabilities, which has a positive relationship with the intensity of countermeasures. Both the intensity of countermeasures and the relevant defense capabilities have a positive relationship with the attacker's damage. Finally, the greater the attacker's damage, the lower the attacker's hybrid warfare capabilities, which have a positive relationship to the target's damage. With only nine factors at a very high level, this conceptual model has eight dynamic loops: six reinforcements and two balances. Not surprisingly, this indicates a high dynamic complexity of the system. (Balaban & Mielniczek, 2018)

The Russian military has developed a strategy it calls the "New Generation War," which combines "asymmetrical, nonlinear, unconventional tactics with modern forms of traditional warfare." Although each of the individual tactics is not new in itself, "their combination - stimulated by modern technology - makes it different."

A model of hybrid warfare is made by: (Cullen, P., 2016). The model depicts how a HW actor uses its instruments of power (MPECI: military, political, economic, civilian and informational) across the PMESII (political, military, economic, societal, informational and

infrastructure) vulnerabilities of a target system, to escalate – vertically and horizontally – to achieve the desired goals.

Figure no. 2. The hybrid warfare model



Source: adapted from Cullen, P. et.al., 2016, p.2-4

“Hybrid” refers not only to the means (or combination of means), but also to how these are employed in a highly coordinated and synchronized fashion to create synergistic effects beyond the immediate element of power. This synchronization has the effect of acting as a force multiplier. This, in turn, assumes that HW requires or at least can leverage a high degree of centralized operational command and control and strategic coordination of the elements of power, and not only a unity of effort among the elements. As the figure shows, the means (the elements of power) may be vertically escalated or de-escalated (increased/decreased intensity), or horizontally escalated or de-escalated (synchronization of elements of power creating effects that can have the same impact as vertical escalation of one mean, without necessarily overstepping the opponent’s response thresholds) – or a combination of the two, to achieve a goal. (Reichborn-Kjennerud & Cullen, 2016)

Hybrid warfare reflects a wide range of activities that state and non-state actors undertake to gain political, military, economic, social, intelligence, infrastructure, physical environment and time benefits (PMESII-PT). Not surprisingly, both now and throughout history, political and military leaders have sought the best ways to achieve their goals and considered the advantages and disadvantages of each action, including those perceived as disgraceful.

4. The role of NATO and the USA in shaping the global security environment

Addressing hybrid threats is a long-term strategic challenge for NATO and allies. To meet this challenge, the rigorous planning and decision-making processes that have characterized post-Cold War crisis response operations need to be moved away from a more dynamic approach, in which debate, political reflection, decision-making and control are based. on a constantly updated picture of the situation. For reasons of efficiency, NATO considers each actor using hybrid practices as a separate entity, driven by its own strategic motivations. By taking a more targeted approach, NATO is better able to discourage potential aggressors from engaging in hybrid campaigns, making them understand that they have more to lose than to gain, and is also better equipped to act on the new ground. confrontation that constitutes the “Gray Zone” (Rühle & Roberts, 2021)

International cooperation and solidarity are important tools for strengthening, discouraging, understanding the threat and building resistance. It is no coincidence that the EU and NATO have developed new sets of tools to address hybrid threats.

One of the core reasons that have made NATO the most successful security alliance in recent history is its ability to adapt to a changed political environment, updating the Atlantic Alliance's strategic foundations in doing so. In the Alliance's 70-year history only seven such documents, traditionally entitled "Strategic Concepts," have been issued: in 1950, 1952, 1957, 1967, 1991, 1999 and, most recently, in 2010. (Kamp, 2016)

The Strategic Concept is an official document that outlines NATO's enduring purpose and nature, and its fundamental security tasks. It also identifies the central features of the new security environment, specifies the elements of the Alliance's approach to security and provides guidelines for the adaptation of its military forces. Strategic Concepts equip the Alliance for security challenges and guide its future political and military development. They reiterate NATO's enduring purpose and nature, and its fundamental security tasks and are reviewed to take account of changes to the global security environment to ensure the Alliance is properly prepared to execute its core tasks, making transformation in the broad sense of the term, a permanent feature of the Organization.

The current Strategic Concept "Active Engagement, Modern Defence" (2010) outlines three essential core tasks – collective defence, crisis management and cooperative security.

At the Brussels Summit, in June 2021, NATO Leaders agreed to develop the next Strategic Concept in time for the next summit in 2022. Over time, the Alliance and the wider world have developed in ways that NATO's founders could not have envisaged, and these changes have been reflected in each and every strategic document that NATO has ever produced.

The 2010 Strategic Concept "Active Engagement, Modern Defence" is a very clear and resolute statement on NATO's core tasks and principles, its values, the evolving security environment and the Alliance's strategic objectives. After having described NATO as "*a unique community of values committed to the principles of individual liberty, democracy, human rights and the rule of law*", it presents NATO's three essential core tasks - collective defence, crisis management and cooperative security. It also emphasises Alliance solidarity, the importance of transatlantic consultation and the need to engage in a continuous process of reform. The document then describes the current security environment and identifies the capabilities and policies it will put into place to ensure that NATO's defence and deterrence, as well as crisis management abilities, are sufficiently well equipped to face today's threats. These threats include, for instance, the proliferation of ballistic missiles and nuclear weapons, terrorism, cyber attacks and fundamental environmental problems. The Strategic Concept also affirms how NATO aims to promote international security through cooperation. It will do this by reinforcing arms control, disarmament and non-proliferation efforts, emphasising NATO's open door policy for all European countries, and significantly enhancing its partnerships in the broad sense of the term. Additionally, it affirms that NATO will continue its reform and transformation process.

At the NATO Summit in Brussels (14 June 2021), leaders took important decisions to chart the Alliance's course over the next decade. Allied leaders agreed on an ambitious NATO 2030 agenda to ensure the Alliance can face the challenges of today and tomorrow. They made decisions to strengthen political consultations, reinforce collective defense, enhance resilience, sharpen NATO's technological edge, uphold the rules-based international order, step up training and capacity building for partners, and address the security impact of climate change. They further agreed to develop NATO's next Strategic Concept for the summit in

2022. NATO leaders also agreed to a new cyber defense policy for NATO, and made it clear that the Alliance is determined to defend itself in space as effectively as in other military domains.

Why a new Strategic Concept? Because it is about the crafting of a new vision for the Alliance focusing on conceptual and policy issues that require clarification in the interest of re-establishing the strategic consensus.(Wittmann, 2009)

NATO's next Strategic Concept will help prepare the Alliance for a world of growing global competition and security threats. It will also recommit to the Alliance's founding values and enduring purpose, to safeguard the freedom and security of all Allies by political and military means.

The report *NATO 2030: united for a new era* (2020) states that "Allies must adopt a genuinely strategic mindset that goes beyond crisis-management."(NATO, 2020)

Regarding the US strategic options for the future of the security environment for 2035, the Joint Operating Environment 2035 (JOE 2035) is a document that describes the future security environment and projects the implications of change for the Common Force so that it can anticipate and prepare for potential conflicts. JOE 2035 illustrates some ideas on how changes in conflict and war could impact the capabilities and operational approaches required by the future Joint Force. Implications for the Joint Force are presented in section 3 of JOE 2035. (JOE 2035, 45). The United States will face a wide range of emerging – and often unforeseen – challenges in the future security environment featuring both *contested norms* and *persistent disorder*. Specific U.S. strategic and military objectives to address these challenges will be many, multi-faceted, and tailored to a specific time, place, and set of circumstances. However, the JOE relies on a range of strategic goals to describe the overall terms of national commitment and articulate an acceptable end state for any particular U.S. strategic endeavor. These are:

1. ***Adapt to changing conditions*** – ensure the United States can adequately cope with emerging changes in the security environment.
2. ***Manage antagonism and impose costs*** – discourage changes to the security environment that are unfavorable to the United States.
3. ***Punish aggression and rollback gains*** – block and undo changes to the security environment that are dangerous or disruptive to the United States.
4. ***Impose change and enforce outcomes*** – introduce desired changes to the security environment that are favorable to the United States.

This range of strategic goals suggests differing levels of engagement, commitment, or overall posture by the United States. Moreover, this range of goals represents a continuum and may change over time as a particular situation evolves. At the low end of this continuum, the United States might reactively manage security threats or otherwise respond to the consequences of natural and humanitarian disasters. At the high end, the United States might proactively solve a security problem by imposing a U.S. preferred solution that forces an adversary to accede to its will.

The role of the Joint Force to apply military power to support the achievement of strategic goals in concert with other elements of national power. To effectively pursue this range of goals, the Joint Force conducts four types of enduring military tasks against an array of competitors and in response to a range of phenomena. These are:

1. ***Shape*** or ***contain*** to assist the United States with coping and adapting to changed international security conditions.
2. ***Deter*** or ***deny*** to manage the antagonistic behavior of competitors or to impose costs on competitors or adversaries taking aggressive action.

3. *Disrupt* or *degrade* to punish aggressive action by an adversary or to force an adversary to retreat from previous gains.

4. *Compel* or *destroy* to impose desired changes to the international security environment and subsequently enforce those outcomes. (National Intelligence Council,2017)

The latest edition – Joint Operating Environment 2040 – was published in January 2020 and is the U.S. Joint Forces' most recent perspective on the future operating environment and the implications of that environment for Joint warfighting over the next two decades. The 2040 edition of the JOE differs from earlier versions in that it was written in a close and sustained partnership led by the Joint Staff J7, Defense Intelligence Agency (DIA), and the Joint Staff J2. It was strongly supported by Service futures organizations, including the Army's Mad Scientist Program, TRADOC G-2, and Army Futures Command. The new JOE is anchored in an "intelligence-driven, threat informed" view of the deep future. This approach reflects a new urgency to understand and address the growing threat of adapting great and regional power adversaries, as described in the most recent unclassified Summary of the National Defense Strategy (NDS), and to arrest – as then-Chairman Joseph Dunford put it – the erosion of our qualitative and quantitative military advantages. The first step in correcting our trajectory was to fully understand the problem from a Joint Force perspective. JOE 2040 – the first classified edition of the document – dives deeply into how the character of warfare is changing, how adversaries are addressing this change through novel ways of war, and the implications of both for the Joint Force.(Becker,2020)

5. Conclusions

Hybrid threats and hybrid warfare are real; they exist and define the current security environment. Combating hybrid threats is a challenging part of rethinking and redesigning security policy. Hybrid warfare can be defined as a complex combination of the following elements: parties involved, situations/events/conflict states, means, tactics and technologies used. There are views that hybrid threats influence decision-making at the local, regional, state or institutional level and deliberately target the vulnerabilities of states and democratic institutions. The classic/conventional war, known to most non-combatants, the war as a battle in a field between people and cars, the war as a massive decisive event in a dispute in international affairs, such a war no longer exists. The phrase "new war" introduces a new paradigm, namely that of "war between people", where all people, everywhere, are on the battlefield.

The challenges of hybrid warfare and hybrid threats are among the priorities of most governments around the world today. Hybrid warfare is a style of warfare in which victory allows and demands whatever means will be successful: the ethics of total warfare applies to even the smallest fight.

The concepts of "hybrid threats" and "hybrid warfare" have gained increasing prevalence in the analysis of the contemporary security environment. The revisionist powers, facing a rising NATO and a hyper-powerful United States in the post-war era, have discovered how to confront the West on the verge of "use of force" or "armed attack," as stated in the Charter of the United Nations. In view of the major changes that have taken place in the last two or three decades in the global security environment, NATO and the USA make major efforts to adapt but also apply a proactive strategy to prevent and deter possible hybrid threats.

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THE IMPACT OF DIGITALIZATION ON THE QUALITY OF ACCOUNTING INFORMATION

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Abstract: *The challenges accountants face in implementing digitization are numerous and complex. This new system requires a rapid adaptation to technological changes and a redefinition of professional responsibilities. Accountants now have the opportunity to process and manage tax documents more efficiently, eliminating the risk of human errors and reducing the time required to prepare financial reports. However, there are also risks associated with the use of various programs and technologies, such as vulnerability to cyber attacks. The use of accounting software and information systems reduces human errors and increases accuracy in financial records. These systems can automatically perform complex calculations and data coherence checks. Manual accounting processes can often be slow and susceptible to delays. Digitization allows the automation of many repetitive tasks, reducing the time required to complete accounting tasks and increasing the overall efficiency of the accounting department. With digitization, there is a greater emphasis on data security. Modern accounting systems include strong security measures to protect sensitive financial information against unauthorized access and cyber risks.*

Keywords: *digitization, software, technology, security, responsibility.*

JEL Classification: *M41.*

1. Introduction

In the age of e-invoices, accountants face various important challenges that require adaptability and advanced skills to remain competitive and efficient in today's business environment. Accountants today face one of the main challenges in implementing and managing electronic invoicing systems. The transition to the use of e-invoices instead of traditional paper invoices involved significant changes in accounting procedures and required a substantial expansion of the digital technologies used.

Still a major issue for accountants in the age of e-invoices is maintaining compliance with tax rules and regulations. Tax laws are constantly changing, so accountants need to stay up-to-date on all changes to avoid potential legal penalties or misunderstandings.

Implementing tax compliance monitoring and reporting systems is crucial to addressing this challenge in an effective manner, ensuring the protection of sensitive data from cyber threats. Thus, this is a significant challenge for accountants in the age of e-facts. Accountants must be aware of these dangers and apply appropriate security schemes to ensure the protection of sensitive financial information of companies.

Accountants face a great challenge in the digital age due to the large amount of data generated by electronic facts. E-invoices require efficient processing, analysis and interpretation of data to obtain valuable information for the company. Developing analytical skills and generating and developing information in digital format is one of the major challenges for accountants in the era of e-invoices. With the expansion of the use of digital technologies in accounting, it is necessary for them to improve their data analysis skills and understand how to interpret digital information to provide correct business decisions.

Attending specialization courses in digital accounting and modern technologies can assist and support accountants in optimizing their activities and maintaining competitiveness in a changing business environment. Finally, accountants face multiple challenges in the digital age, requiring advanced technological skills, adaptability and extensive development

of the digital business environment. By engaging in continuing education and adopting modern technologies, accountants can solve these challenges and support the prosperity and success of organizations in the digital age.

2. Accounting, at the top of the digital transformation list

The financial and accounting departments are the first on the list of priorities for digitization of a business developed within economic entities. It is an area where you work with numbers and the processes are well defined, which creates a huge potential for easy and impactful automation. Digitization also helps small business owners make better decisions because they have access to much more detailed and relevant accounting information in the process.

Digitized accounting information refers to the process of transforming financial and accounting information from traditional formats (such as physical documents or manual ledgers) into electronic or digital formats that can be stored, processed and accessed using computer systems or specialized accounting software.

2.1. The benefits of digitization in accounting

This transformation brings several benefits and advantages:

1. Efficiency and automation: The digitization of accounting information allows the automation of many repetitive tasks, such as recording transactions, calculating taxes or generating financial reports. This leads to increased efficiency and reduced human error.

2. Accessibility and Portability: Digital accounting data is easily accessible and can be accessed from anywhere, provided there is an internet connection or secure access to the database. This facilitates collaboration between different departments or between remote offices/branches.

3. Advanced Analysis and Reporting: Digital accounting systems provide advanced tools for analyzing financial data and generating customized reports. Thus, managers can get a clear and precise picture of the company's financial situation and make informed decisions.

4. Security and integrity: Digital ledger data can benefit from strong security measures such as data encryption, secure password access or two-factor authentication. These measures ensure protection against unauthorized access and data loss.

5. Saving space and resources: Digitized accounting information eliminates the need for physical storage of documents, which leads to saving storage space and reducing the consumption of paper and other resources.

In conclusion, the digitization of accounting information brings a number of important benefits, such as increasing efficiency, facilitating access to data, improving financial analysis and reporting, increasing data security and saving resources. These advantages contribute to the optimization of accounting processes and the adoption of better decisions regarding the financial management of a company.^{1.2.} Adaptarea profesiei contabile la era digitalizării

In correlation with the benefits brought, the accounting profession has significantly adapted to the digital age, leading to important transformations in the way accounting activities are carried out. These adaptations include:

1. Automation and use of software: Accountants are increasingly using specialized accounting and finance software that automates processes. This frees up accountants' time for more complex activities and financial analysis.

2. Cloud computing and mobility: The use of the cloud allows access to data and accounting applications from anywhere and from any device connected to the Internet for flexible management of information in real time.

3. Big data and advanced analytics: The large volume of data available in the digital age offers significant opportunities for advanced analytics. Accountants use techniques such as big data analysis and artificial intelligence to extract the most valuable solutions from financial data.

4. Data Protection: Accountants must be aware of cyber risks and implement appropriate safeguards for financial information to prevent unauthorized access and data loss.

5. Education and professional development: Accounting professionals must be constantly connected with new technologies and trends in the field. Thus, continuing education and professional development become crucial to remain competitive and effective in an ever-changing digital environment.

Overall, adapting the accounting profession to the digital age brings significant benefits, such as increased operational efficiency, improved quality of financial information, and the ability to provide clients with valuable consulting and analysis services.

3. Resource allocation and service management

The management of an entity must be based on long-term strategies in the context of the rational allocation of material, human and informational resources. Recently, more and more entities have resorted to the outsourcing of some services, this phenomenon being encountered under the name of BPO (Business Process Outsourcing). Thus, external resources are used to carry out activities of the entity.

In addition to these things, there is the vision of Ene V., who believes that the current generations of accounting professionals are not at all strangers to the BPO (Business Process Outsourcing) industry, nor to new technologies, i.e. everything that digitization represents, so including cloud services, robotization, intelligent systems and Big data, and last but not least the opportunities that can determine a real improvement of business management, so that information is accessible at any time. At the same time, it is noted that the segment of accounting services will be increasingly focused on solutions offered by SaaS services.

3.1. Accounting as a source of quality information

The development of information technologies must be treated from the perspective of the advantages offered to the accounting professional and at the same time the contribution to the efficiency of his specific activity and specific to managers in adopting decisions must be measured.

Accounting was, is and will be a generous source of information for managers and investors, and their complexity requires the adoption of software that allows analysis in a reduced working time, which also leads to reduced costs.

The accounting information system is a support of information users for:

- adopting decisions for new investments;
- managing risks and reducing them;
- the study and interpretation of the entity's results;
- preparation of statements and reports.

The accounting profession, like most of those that will survive, has a future significantly influenced by the reaction to the threats and opportunities generated by the digital revolution. The changes imposed by the digital age require at the same time an adaptation that requires increased attention to cultural changes, something generated by the fact that these transformations concern the people the most. At the level of any entity there is an organizational culture that from an economic point of view must be focused on the customer, and from a human point of view on the human resource, all in a leadership that can face numerous challenges.

If leaders think they can digitize an entire business or just processes for a digital transformation, it is probably a misunderstanding of the terms, missing the chance of developments and making it difficult to react to the expectations and demands of consumers and employees.

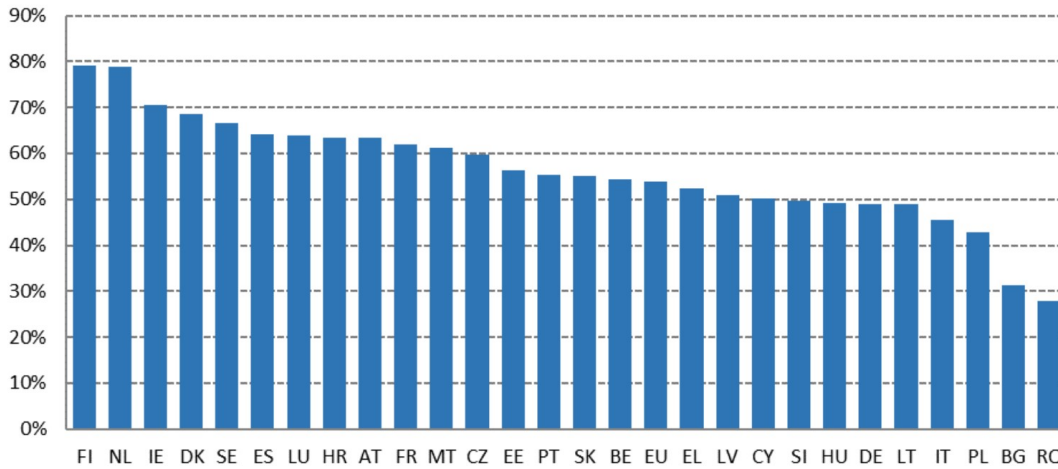
3.2. Monitoring progress on digitization

Since 2014, the European Commission has monitored Member States' digital progress and published annual reports on the Digital Economy and Society Index (DESI).

The DESI reports track the progress made in the EU Member States in the digital field. During the COVID-19 pandemic, Member States have made progress in their digitization efforts, but are still struggling to close digital skills gaps, the digital transformation of SMEs and the rollout of advanced 5G networks. That is why the European Union has made available important resources to support the digital transformation.

In Figure no. 1 can be seen a graphic representation of the level of ICT use for each EU member country with a gap that faithfully follows the graphs regarding the purchasing power and the level of wages in the respective countries.

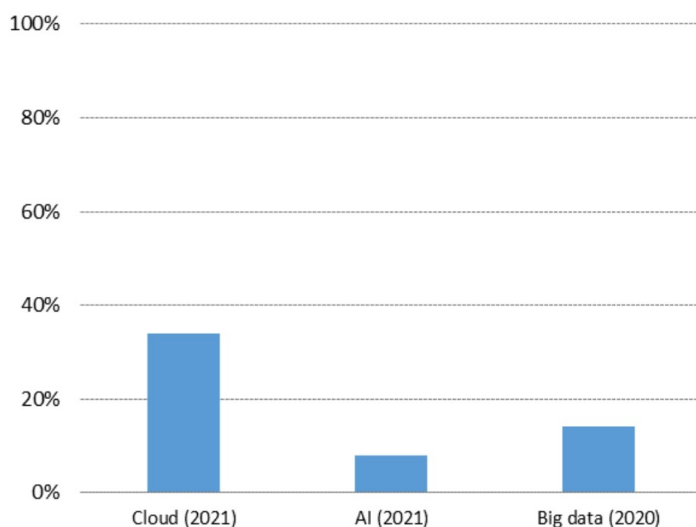
Figure no. 1 Basic digital skills



Source: Eurostat, European Union ICT Use Survey

In Figure no. 2 presents a situation regarding the adoption of advanced technologies at the level of economic entities in EU member countries from the perspectives of Cloud, Artificial Intelligence and Big Data. A substantial share of Cloud services is observed, currently there is an acceleration of the integration of the other systems.

Figure no. 2 Adoption of advanced technologies (% of entities) in the EU

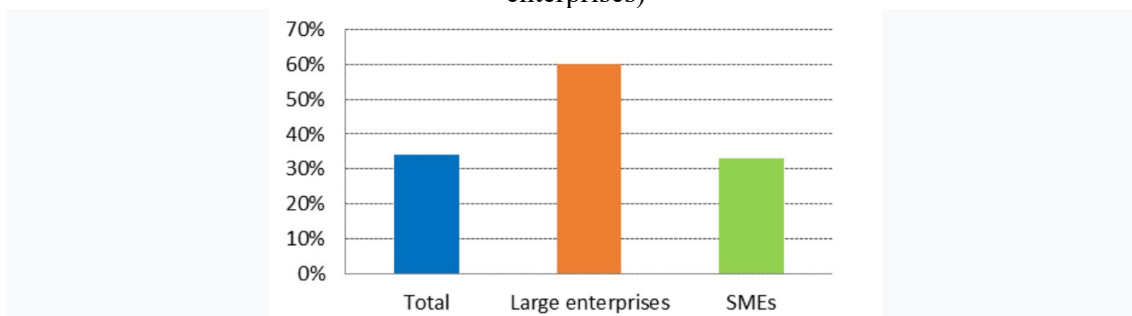


Source: Eurostat, European Union Usage Survey

One of the activities that stands out in the topic addressed is the Path to the Digital Decade proposal that requires over 75% of EU companies to adopt digital business transformation, including Cloud Accounting, by 2030. In the last two years, a significant number by EU entities that have purchased this service for a sophisticated or intermediate level. This transformation also involves applications such as: computing services (finance or accounting software), enterprise resource planning (ERP) software, customer relationship management (CRM), security software, entity database hosting .

In this sense, Figure no. 3 highlights the implementation of Cloud in large entities in a proportion of almost 60%, a double share percentage with SMEs with only 33%, in the last three years.

Figure no. 3 Sophisticated or intermediate level Cloud Computing services (% of enterprises)



Source: Eurostat, European Union Survey

The gap regarding the recognition of digital as an imperative or as a strategy for economic evolution can cause insecurity to many leaders who do not have the conviction to capitalize on the opportunities of digitalization. Those who do not prioritize this do so at the risk of being overtaken by the competition. In turn, professional accountants must continuously acquire skills during their work and step out of their professional comfort zone. That is why the Life Long Learning principle is the solution for ensuring high professional accounting services.

The qualitative characteristics of accounting information are accompanied by the limits of their presentation aimed at a timely manner that does not generate the loss of relevance of the information nor the loss of credibility.

The entire suite of qualitative characteristics of accounting information in the digital sphere provides a framework for development and action for accounting rules and principles. The structuring of digital information constitutes a new way of innovation that responds to the need for closeness between those who generate the accounting information and those who use it.

In a highly digitized economy, qualitative accounting information means power and the entities that manage to obtain it will be increasingly successful. Beyond all these elements, the organization of the activity using the new digital technologies is necessary not to omit the very important aspect of internal control.

4. Conclusions

Digitization in the accounting field is one of the most visible phenomena of the last decade, and the evolution has registered a rapid pace. The adoption of digital technologies and their increasing use for information storage and processing and online transfers between users is a process with strong implications for the quality assurance of accounting information.

One of the consequences of digitization also lies in the level of employment, thus the digitization process can have a negative impact, similar to the situation of employees in the manufacturing industry when automation was adopted. The changes imposed by digitization should not be avoided by entities of any level or by individuals, it is only necessary that the implementation is carried out optimally so that all concerns remain unfounded and it is modeled so that it is fully compatible, including in the accounting field.

Digitization has permeated virtually all activities known today and absorbed basic tasks in all sectors. In this context, the accounting profession is also found under the influence of the digital revolution from the perspective of many activities carried out by accounting professionals integrated by information systems that are also in an accentuated dynamic.

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TRENDS IN THE DEVELOPMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES: CASE OF MOLDOVA

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Abstract: *The effective activity of small and medium-sized businesses is one of the conditions for ensuring a high level of competitiveness in the national economy and creating new jobs, which, as a result, increases the level of employment in the country. Small and medium-sized businesses quickly respond to changes in market conditions and external factors, such as economic, financial, and geopolitical crises, protectionist policies, and tax policies of trading partners. In this scientific work, our primary objective is to delve into the trends and prospects for developing small and medium-sized businesses in Moldova, aiming to provide a comprehensive understanding of the current situation and future possibilities. The methodological basis of the study was made up of general scientific methods: analysis and synthesis, comparison and generalization, statistical analysis, and correlation and regression analysis. The energy crisis in the fall of 2021 has significantly impacted the entrepreneurial sector, particularly in the central region, namely in the district of Ialoveni, near Chisinau. This study's focus on the impact of energy resource prices on the evolution of SMEs is of significant importance in Moldova's current economic landscape.*

Keywords: *entrepreneurial sector, competitiveness, energy crisis, competition.*

JEL Classification: *M20, M21.*

1. Introduction

SMEs (Small and Medium-sized Enterprises) in Moldova are the most essential element of the economy, making up 99.2% of total enterprises. This sector ensures the formation of a competitive environment and the creation of jobs and conditions for implementing entrepreneurial initiatives. The work's relevance lies in the fact that the development of SMEs is one of the determining factors of economic growth. The study's theoretical basis includes an analytical review of scientific works on developing small businesses and the energy crisis. The methodological basis of the study was made up of general scientific research methods, such as analysis and synthesis, comparison and generalization, correlation and regression analysis.

This study aims to identify trends and factors influencing the dynamics of the SME sector in Moldova. The emphasis is on the energy crisis, which caused high levels of inflation, and since household incomes did not increase by the same percentage as the price index, the solvency of the population decreased. Declining demand and inflation led to the bankruptcy of some enterprises. The most significant decrease in small and medium-sized enterprises was observed in areas close to Chisinau. Due to the energy crisis, costs increased, and not all enterprises could cope without going bankrupt. Studying the impact of energy prices on the development of small businesses is one of the objectives of this work. The novelty of this study is that the effect of the energy crisis on the SME sector in Moldova has not been analyzed and evaluated before.

2. Literature review

Without exception, specialists in the field of SMEs write about the role of SMEs in the economy and increasing competition (Petkovska, 2015, p. 55). The competition encourages enterprises to increase their competitiveness (Gutium, 2017). Most researchers agree that for the sustainable development of small businesses, it is necessary to improve entrepreneurial skills and increase investments. The state should facilitate the influx of foreign direct

investment and reduce bureaucratic obstacles to entrepreneurship (Voronkova et al., 2018). In addition to the measures listed, some experts propose increasing access to bank loans (Gutium & Speian, 2022). Roshan Rassool and Ravindra Dissanayake believe that SMEs have limited financial resources and are also limited in qualified employees (Rassool & Dissanayake, 2019, p. 59).

Since the beginning of the era of economic digitalization (Goldfarb & Tucker, 2017), more and more works have appeared devoted to the digitalization of small and medium-sized businesses. Digital transformation as a strategic initiative benefits SMEs (Rassool & Dissanayake, 2019, p. 59). D.V. Polyatsky explored modern “trends in the development of SMEs in the context of digital financial products developed as part of fintech innovations” (Polyatsky, 2023, p. 31). To build an information society, it is necessary to implement electronic commerce (Gapar & Awallidin, 2011).

There are relatively few scientific works on constructing a model for forecasting the development of SMEs, and only a few are for Moldova. V. Ganciuov developed the first model for forecasting the evolution of SMEs in Moldova; it contains 39 variables, of which 30 are exogenous, and nine are endogenous (Ganciuov & Gutium, 2021). The forecasting model developed by Erik Avanesian shows that increased spending on research and development, information technology, and urbanization policies makes it possible to achieve stable growth in the small business sector (Avanesian, 2022, p. 238). S.V. Doroshenko and A.G. Shelomentsev used econometric methods to estimate the number of youth as a factor in small business development (Doroshenko & Shelomentsev, 2019).

The first works on studying the impact of the energy crisis on the economy and the population's well-being appeared immediately in the year of the crisis (Gutium, 2021). However, the first results of studying the impact of the energy crisis on the small business sector were published last year (Yue, 2023). However, the effect of the energy crisis on SMEs in Moldova has not yet been studied, so one of the objectives of this study is to assess this impact.

3. Evolution of SMEs in Moldova and the influence of the energy crisis on SME activity

Starting on December 2, 2022, the new division criteria for the small and medium enterprises sector came into force (Table no. 1). Therefore, the series of statistical data was interrupted. The National Bureau of Statistics in Moldova (NBS) has recalculated according to the new criterion, only the data for 2021.

Table no. 1. Curent clasification of SMEs, Moldova

Classification criteria	Size of enterprise		
	Micro-enterprise	Small enterprise	Medium-sized enterprise
<i>The old division criteria</i>			
The average annual number of employees, person	1 – 9	10 – 49	50 – 249
Annual turnover, mil. lei	up to 9	up to 25	up to 50
Total assets, mil. lei	up to 9	up to 25	up to 50
<i>The new division criteria</i>			
The average annual number of employees, person	1 – 9	10 – 49	50 – 249
Annual turnover, mil. lei	up to 18	up to 50	up to 100
Total assets, mil. lei	up to 18	up to 50	up to 100

Source: Systematized by the author based on the Law no. 179/2016.

The number of medium-sized enterprises decreased by 7.81% in 2022 compared to 2021, and the number of small enterprises decreased by 9.33% (Fig. no. 1). Simultaneously, the number of micro-enterprises increased by 5.92%. This is because small enterprises have moved into the category of micro-enterprises. One of the reasons is the energy crisis, which caused not only an increase in tariffs for energy resources but also prices for other goods and services, which provoked an increase in production costs and a decrease in demand due to a decrease in the solvency of the population. In such cases, the market dictates a decrease in supply and cost reduction, and the most “painless way” for an entrepreneur is to reduce the number of employees. Small enterprises become micro-enterprises when the number of employees decreases to less than 10.

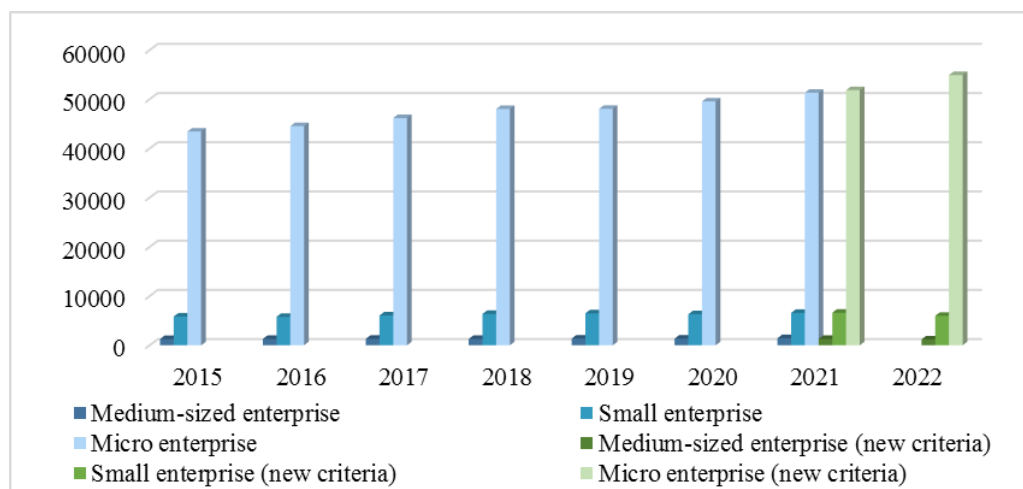


Figure no. 1. Number of SMEs in Moldova, 2015-2022

Source: NBS, 2023.

The situation is similar regarding the number of employees in SMEs; in medium-sized enterprises, the number of employees decreased by 3.56% in 2022 compared to the previous year. The number of employees in small enterprises fell by 2.94%, while in micro-enterprises, it increased by 11.87% (Fig. no. 2).

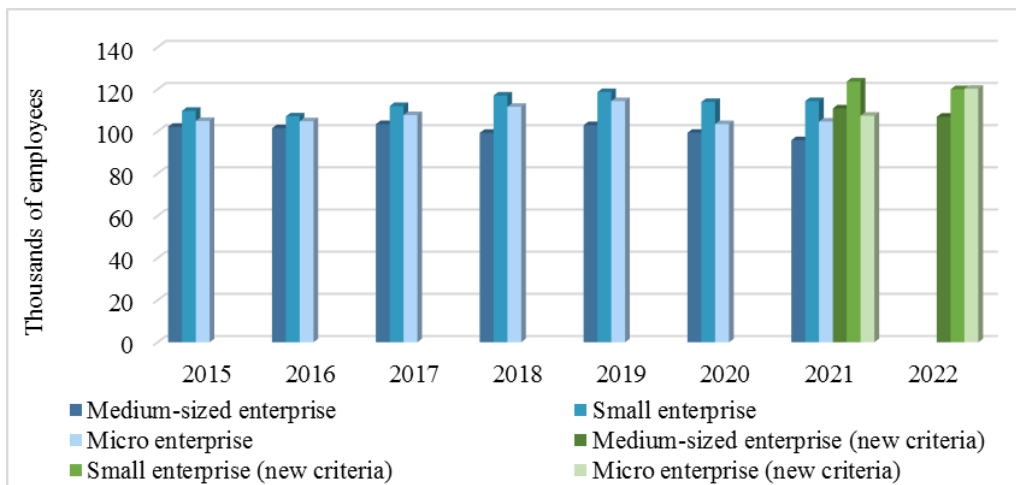


Figure no. 2. Number of employees of SMEs in Moldova, 2015-2022

Source: NBS, 2023.

The share of jobs created by SMEs in the total number of jobs in the country varies between 37% and 41% in the analyzed period. In 2022, the SME sector provided 40.27% of jobs in the country. The share of jobs created by medium and small enterprises decreased by 5.68 and 5.07 percentage points, respectively. The opposite trend is observed in the share of jobs created by micro-enterprises in the total number of jobs in the country; it increased by 9.42 p.p. (Fig. no. 3).

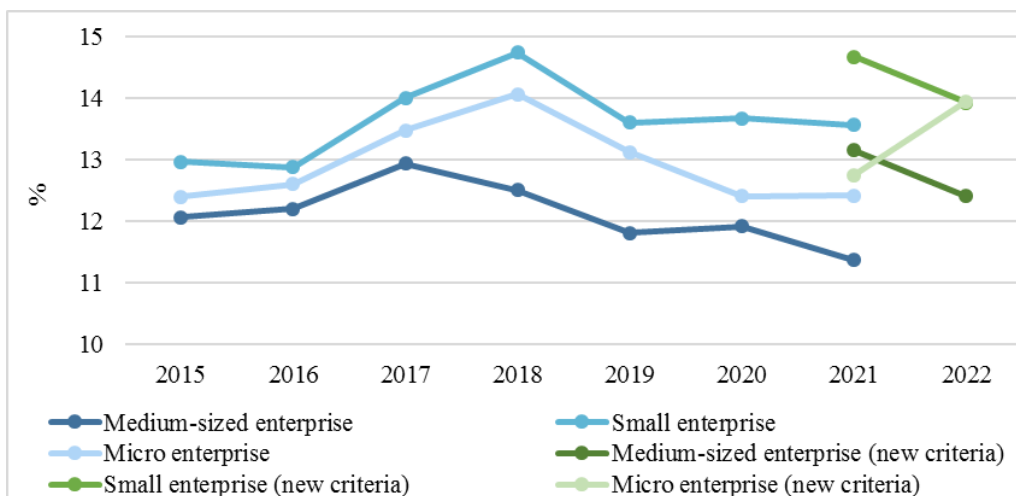


Figure no. 3. The share of jobs created by SMEs (by the size of enterprises) in the total number of jobs in the country, 2015-2022

Source: Author's calculations based on NBS data.

We should analyze SME turnover dynamics to characterize SMEs' activity and economic efficiency. Since the NBS provides data on turnover in current prices, an increase in turnover of all types of enterprises was recorded in 2022 (Fig. no. 4). It should be noted that the turnover of medium-sized businesses is unstable; in 2018, a decrease in turnover of

498.2 million lei was recorded (NBS, 2023). In 2020, a decrease in turnover was recorded for all types of enterprises. The main reason is quarantine measures during the COVID period.

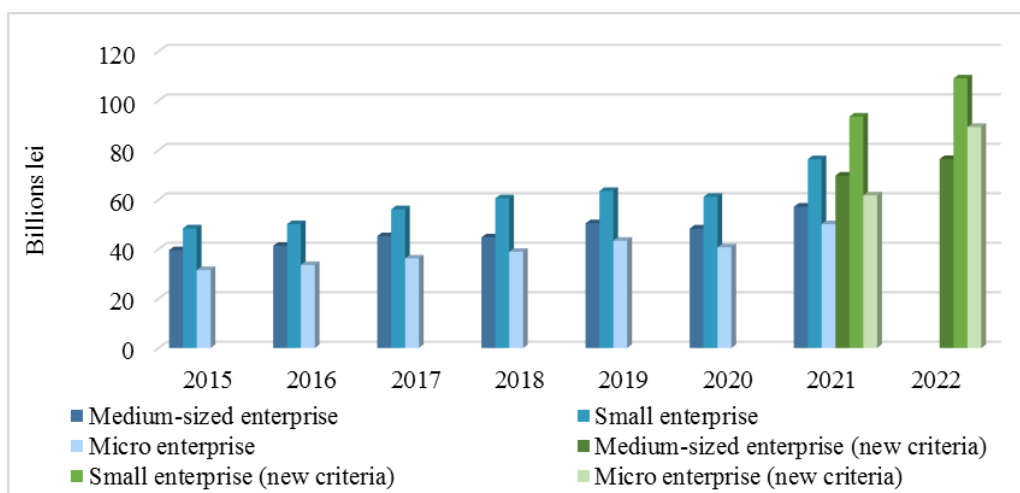


Figure no. 4 Turnover of SMEs in Moldova, 2015-2022

Source: NBS, 2023.

An analysis of the main economic indicators of SMEs showed that their changes are unstable. There are both positive and negative results. The period of the COVID-19 pandemic, although it brought considerable losses to the accommodation, food, and beverage service activities, led to the development of courier services and the acceleration of digitalization of the economy. The analysis of SME dynamics by region showed that the energy crisis had the most significant impact on SMEs in the center region, in the district near Chisinau (Ialoveni, Hincesti).

4. The forecast model of the medium-term entrepreneurship activity in Moldova

Applying the theoretical and empirical studies and based on the availability of statistical data, nine endogenous variables and 25 exogenous variables with different degrees of impact on the endogenous variables were selected. The final forecast model already contains 14 exogenous variables and three blocks (Table no. 2).

Table no. 2.

The variables of the forecasting model of entrepreneurial activity, by blocks

Endogenous variables	Exogenous variables
Block "Main economic indicators of entrepreneurial activity"	
<i>tne</i> – The total number of enterprises in Moldova, thousands of units;	<i>gdpi</i> – Gross Domestic Product per inhabitant, current prices, thousands lei;
<i>nsme</i> – Number of SMEs, thousands of units;	<i>ex</i> – Export volume, billion US dollars;
<i>te</i> – Average number of employees (total by all sizes of enterprises), million people, mil. per.;	<i>linv</i> – Long-term financial investments (all sizes of enterprises), billion US dollars;
<i>smee</i> – Average number of SME staff, mil. per.;	<i>young</i> – Annual average number of young people (18-35 years old) with usual residence, mil. per.;
<i>ft</i> – Financial result before taxation.	<i>gs</i> – Average monthly gross salary,

Profit (+) losses (-), total by all sizes of enterprises, billion lei; <i>fsme</i> – Financial result before taxation. Profit (+) losses (-), SME, billion lei.	thousands lei; <i>exch</i> – Average annual exchange rate, lei/US \$; <i>newloan</i> – Volumes of new loans granted (total by banking sector), billion lei; <i>rnl</i> – Weighted average nominal interest rate of new loans granted (total), %. <i>d20</i> – Dummy variable for 2020.
Block “Turnover”	
<i>tt</i> – Turnover (total by all sizes of enterprises), billion lei; <i>tsme</i> – Turnover, SME, billion lei.	<i>nsmei</i> – The number of SMEs per 1000 inhabitants of Moldova, enterprises per 1000 inhabitants; <i>gs</i> – Average monthly gross salary, thousands lei; <i>imp</i> – Import volume, billion US dollars; <i>exch</i> – Average annual exchange rate, lei/US \$; <i>newloan</i> – Volumes of new loans granted (total by banking sector), billion lei.
Block “SME Loans”	
<i>loansme</i> – Total loans granted to SMEs, billion lei.	<i>cpi</i> – Consumer Price Index, %; <i>rr</i> – Minimum reserve requirements, %; <i>irl</i> – Interest rate on loans, %.

Source: Elaborated by author.

The model compilation was performed using EViews 9.5 software. Statistical tests were applied to check the quality of the developed model's regression equations: R-squared, Adjusted R Square, F-statistic, Akaike Information Criterion, Schwarz Criterion, and Durbin-Watson statistic. The study of the residuals makes it possible to assess the correctness of the model and the degree of reliability of the forecasts. Therefore, the presence of autocorrelation in the model was tested. Heteroscedasticity is when the errors in a regression model do not have a constant dispersion. The Goldfeld–Breusch–Pagan test was applied to check whether or not heteroscedasticity of the residuals occurs. The final version of the forecast model is presented in Table no. 3.

Table no. 3. The forecast model of the medium-term entrepreneurship activity in Moldova

Block “Main economic indicators of entrepreneurial activity”
$\ln(tne) = 3.26 + 0.177 \ln(gdpi) - 0.123(exch) + 0.102 \ln(gs)$ $\ln(nsme) = 3.53 + 0.24 \ln(gdpi) - 0.19 \ln(exch)$ $\ln(te) = 0.037 \ln(ex) - 0.234 \ln(exch)$ $\ln(smee) = -3.59 + 3.94 \ln(gs) - 0.43 \ln(rnl) + 10.51 \ln(young)$ $\ln(ft) = 9.329 \ln(linv) - 3.474 \ln(newloan) - 6.588 \ln(exch) - 0.91d20$ $\ln(fsme) = -58.95 + 16.03 \ln(nsme) - 1.00 \ln(newloan) - 0.61d20$
Block “Turnover”
$\ln(tt) = 2.032 + 0.27 \ln(gs) + 0.739 \ln(exch) + 0.573 \ln(imp) + 0.09 \ln(newloan)$ $\ln(tsme) = -5.05 + 2.18 \ln(nsmei) + 1.20 \ln(exch)$

Block “SME Loans”
$loansme = 23.02 + 0.21 \times cpi - 0.68 \times irl - 0.16 \times rr$

Source: Elaborated by author.

The elaborated forecasting model was used to forecast Moldova's entrepreneurship activity in the medium term 2024-2026. The results of the forecasting number of employees and turnover are presented in Fig. no. 5.

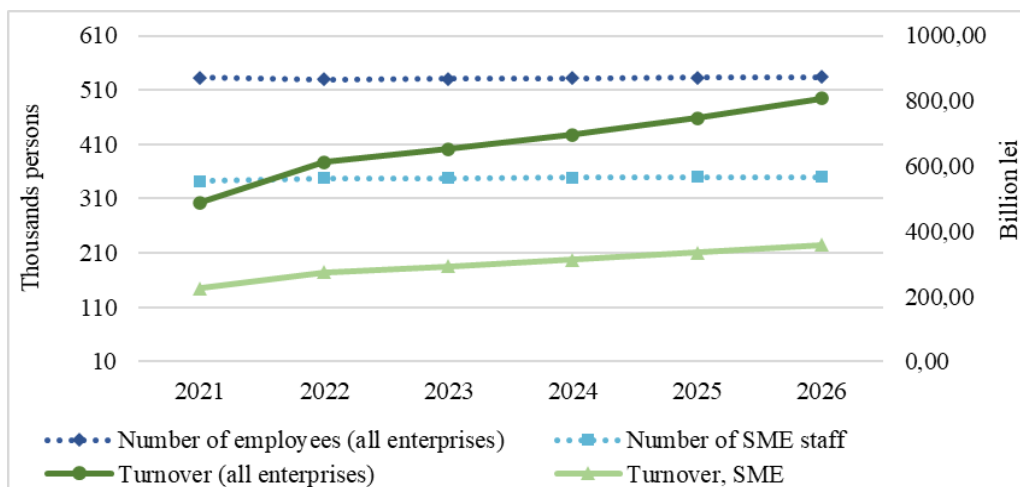


Figure no. 5. The number of employees and turnover, 2021-2026 (forecast 2024-2026)
Source: Elaborated by author.

SMEs in Moldova currently operate in conditions of insufficient capital. These businesses are offered bank loans at a high-interest rate that exceeds the rate of return. The SME requires capital investments for its technical retooling, the implementation of high-performance technologies, and, as a result, an increase in sales volume. The model demonstrates that SMEs' access to credit significantly depends on the monetary policy decisions of the National Bank and the anticipated inflation rate.

5. Conclusions

Analysis of the current trend in the development of SMEs and the results of forecasts showed that the main economic indicators of their development (number of enterprises, average annual number of employees) will grow slowly. Value indicators (turnover, financial result before taxation) will increase mainly due to rising prices and lower labor costs, which have limitations. Achieving significant results for SMEs is only possible in the long term by promoting support for the SME sector by the state.

It should be noted that not only the implementation of a national project but also the active introduction of digital technologies can contribute to the growth of SMEs. During the pandemic period, an increase in demand for the purchase of online products, demand for courier services, and the use of digital services was registered. The energy crisis hit the development of SMEs; small enterprises reduced the number of employees and turnover at constant prices, which led to the transition of these enterprises from small to micro-enterprises.

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