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IGNATOV AUGUSTIN

**INCREASING THE ECONOMIC COMPETITIVENESS AND
RESILIENCE OF THE REPUBLIC OF MOLDOVA AS
FACTORS FOR CONSOLIDATING THE SECURITY OF THE
NATIONAL ECONOMY**

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Scientific coordinator:

LOBANOV Natalia, PhD in economics, university professor, Academy of Economic Studies of Moldova

The commission for public defence of the doctoral thesis:

BELOSTECINIC Grigore, dr. hab. of economics, university professor, academician, Academy of Economic Studies of Moldova, president;

LOBANOV Natalia, dr. hab. of economics, university professor, Academy of Economic Studies of Moldova, PhD supervisor;

CHISTRUGA Boris, dr. hab. of economics, university professor, Academy of Economic Studies of Moldova, member of the guidance committee, official referent;

CROTENCO Iuri, dr. hab. of economics, university professor, International Free University of Moldova, official referent;

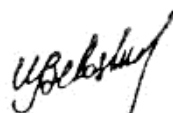
COREȚCHI Boris, dr. of economics, associate university professor, State University of Moldova, official referent.

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President of the Commission for the defence of the doctoral thesis:

dr. hab., university professor, academician



BELOSTECINIC Grigore

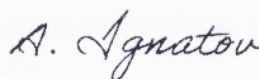
Scientific coordinator:

dr. hab., university professor,



LOBANOV Natalia

Author:



IGNATOV Augustin

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CONCEPTUAL FRAMEWORK OF THE RESEARCH

Actuality and importance of the researched topic. The Republic of Moldova faces multiple political and economic challenges that undermine the development capacity of its society. Although many of the challenges are related to external decision-making factors, i.e. they cannot be addressed without intensive international cooperation, the vast majority are directly related to us – the citizens of the country and the competitiveness and resilience of everything we do and build either physically – infrastructure, or conceptually – institutions, for example. This thesis evaluates the role of competitiveness and resilience of economic activities, including the national business environment, as factors that determine the capacity for growth and the security of citizens and businesses.

Currently, the relevance of the researched topic is becoming more and more accentuated considering the difficult regional situation determined by the war between Ukraine and Russia. In this regard, the Republic of Moldova is a vulnerable state that has limited material resources and has to deal with the massive flow of refugees. The situation becomes even more difficult if one takes into account the frozen conflict in the Transnistrian region, which represents an imminent risk to the national economy. The context of the regional problem is very serious, and the authorities of the Republic of Moldova are in such a complicated situation that it can only be compared with the first years of independence and the formation of the country as we know it today.

The competitiveness and resilience of Moldova's economy are being put to an extremely difficult test, and that is why research on this issue is becoming increasingly necessary in order to overcome the regional crisis. The events that are ongoing and constantly changing could put even the strongest European economies on the brink, a fact that emphasizes the role of the citizens, the private sector and the reformed institutions of the Republic of Moldova for development of the country. Although the situation is currently serious, this fact must not stop the society from its path of qualitative transformation by implementing reforms, improving competitiveness and resilience capacities.

The regional situation and context will impose an extremely complicated development climate for the Republic of Moldova. The consequences of the war will be felt for a longer period of time. It is of strategic importance for society to adapt to the new realities, but not to give up the paradigm changes necessary to provide a development impulse in the right direction, for example, the implementation of judicial reforms and improving the quality of institutions in order to provide a rigid foundation for the functionality of market economy mechanisms.

The partnership with the European Union is the primary advantage of the Republic of Moldova that must be deepened in order to overcome the regional crisis, but also more persistent problems such as poverty and corruption. Moldova has made significant progress in its relations

with the European Union recently, which opens up huge opportunities for the population and the business environment. In this context, competitiveness and economic resilience should become imminent priorities, the role of which should increase in defining the national security. As our cooperation with the EU becomes more complex, the level of competition from the European business environment will gradually increase, and we must keep up with this.

In this context, **the scientific problem** that this study addresses refers to the conceptualization of competitiveness and economic resilience and the determination of their roles for the security of the national economy, considering the economic conditions that the Republic of Moldova has, the challenges post COVID-19, the extreme geopolitical situation and other persistent problems in the country. The main goal is to identify priorities that can be recommended to the competent authorities to include in future development policies.

The scientific literature used as a methodological and theoretical foundation. This thesis draws on previous contributions by various researchers such as Michael Porter, Daron Acemoglu, Alberto Ades, Toke Aidt, Olivier Armantier, Nicholas Bloom, David McKenzie, R. Boschma. Among the researchers from the Republic of Moldova, this thesis uses the contributions of Grigore Belostecinic, Dumitru Moldovan, Boris Chistruga, Natalia Lobanov, Corneliu Guțu, Larisa Dodu-Gugea, Valeriu Prohnițchi, Adrian Lupusor. In particular, on the direction of economic competitiveness, this paper is based on the analyzes of the academician Grigore Belostecinic and the associate researcher Corneliu Guțu who analyzed the economic competitiveness profile of the Republic of Moldova for more than a decade, the research results being published in several editions of the famous Global Competitiveness Report developed by the World Economic Forum.

The purpose and objectives of the research. This study has as its fundamental purpose the definition of a national strategic framework of the economic security of the Republic of Moldova and of the relevant instruments that can be used through government policies to favor the development and living standards of the population. Moreover, the research develops an in-depth analysis of the relationship between the competitiveness and economic resilience of the Republic of Moldova as determining factors of economic security in the context of regional and global changes by applying a rigorous economic research based on relevant and comprehensive theoretical, methodological and practical considerations.

The specific objectives are: 1. establishing the theoretical-conceptual framework with reference to economic security; 2. identifying the main regional and global changes, but also estimating their potential impact on the economic security of the country; 3. evaluation of the economic competitiveness of the Republic of Moldova by means of several factors, special attention being paid to the business environment, entrepreneurial and innovative capacities as the foundation of competitiveness; 4. providing a statistical, mathematical and econometric foundation that would facilitate the understanding of the dependence between competitiveness and resilience,

on the one hand, and economic security, on the other; 5. analysis of the main measures that can be taken to increase the competitiveness and economic resilience of the country in the context of the identified changes.

Research hypothesis. Competitiveness and economic resilience are fundamental factors that determine the strengthening of the security of the national economy. Namely, a competitive and well-developed business environment can help the Republic of Moldova to register a sharp and sustainable economic growth. Resilience, on the other hand, is a factor that can favor the entrepreneurial environment to withstand economic fluctuations, crises and other events that affect the economic growth of the country.

Scientific research methodology. The present research is an applied one based on empirical data. It builds an applied econometric model for the Republic of Moldova in terms of competitiveness and economic resilience. The character of this research is an evaluative one based on a correlation analysis. As the first stage of the analysis, the comparative performance of the Republic of Moldova in terms of sectoral economic competitiveness is evaluated. This is based on an analysis of specific indicators of business, economy, trade. These pillars are decisive, noting the capacity of the country's institutions to ensure a favorable activity environment that strengthens the possibilities and strength of business from the Republic of Moldova to compete effectively for foreign and local markets.

The second approach involves the analysis of economic resilience by sector, in particular it is expected to highlight the ability of entrepreneurs to grow, enhancing the sustainability of the national economy as a result of engaging in local or international competition for consumers. The context of regional and global changes is considered because there is a whole series of phenomena and processes, as well as events that define the strategic and operational economic security context of the Republic of Moldova. The third approach defines the establishment of the correlation relationship between economic competitiveness and resilience, on the one hand, and national economic security, on the other, as essential factors of state prosperity.

The inductive approach was applied to create a new model for ensuring the economic security of the Republic of Moldova that could be generalized for other states with similar conditions. The priority economic sectors and the key institutions with which they interact to favor economic development are identified. The main goal is to provide an effective theoretical foundation for the promotion of economic policies by the authorities of the Republic of Moldova. The systemic analysis, equally important, is based on, on the one hand, the relationships in time and space between the objects of the system (the components of competitiveness, resilience and economic security), and on the other hand, the analysis of the system's objects. Both approaches will allow the identification of a theoretical model for ensuring and improving national economic

security to ensure the prosperity of the country. As a result, suggestions for economic policies for relevant institutions are provided.

The novelty and scientific originality of the work consists in the fact that the research approaches the correlation between competitiveness, resilience and economic security through the lens of the business environment and its capacities to develop productive activities to meet the needs of citizens and partner entrepreneurs, whether local or foreign. Likewise, the study develops a systemic framework that analyzes the interaction mechanisms between various decision-making factors and their influence on the entrepreneurial environment and its performance. The originality of the work is reflected by the comprehensive or system analysis of the interdependence between the multitude of socio-economic, political and geopolitical factors and their impact on the growth potential of the national economy in general and the business environment in particular.

The theoretical significance boils down to defining the dependence of the country's economic security on the competitiveness and resilience of the national economy. The systemic role of the business environment as the foundation of economic development is emphasized. Moreover, the ways in which competitiveness and resilience affect economic security are analyzed and the economic policy measures that could improve the production capacities of the Moldovan business are defined. Thus, the systemic links that must be taken into account in order to develop effective policies to strengthen the economic security of the Republic of Moldova are characterized.

The applicative value of the work boils down to the fact that the main factors that affect the economic performance of the business environment in the Republic of Moldova are identified, expressed by its level of competitiveness and economic resilience. Moreover, a framework for systemic analysis of the country's economic security is being developed that addresses entrepreneurial efficiency as a primary factor. Based on this system analysis, economic policies can be developed to encourage the sustainable development of the national economy. In this context, the main attention is given to the ability of domestic business to compete effectively for local and international markets, but at the same time to withstand cyclical or unpredictable economic shocks.

The main scientific results proposed for support are: 1. Econometric models were developed that analyze the impact of various indicators that reflect competitiveness and economic resilience on the gross domestic product per capita as a general indicator of economic security. 2. Correlations between competitiveness, resilience and economic security were calculated. 3. The economic gains that the Republic of Moldova would achieve if it improved its competitiveness and economic resilience were identified. 4. Recommendations were formulated to improve the performance and economic security of the Republic of Moldova.

Publications regarding the thesis topic: some of the research results were published in 30 publications. Of these, 11 articles in peer-reviewed international journals indexed in the Web of Science and SCOPUS databases, 5 articles published in journals from other databases accepted by ANACEC and 7 articles in a collection of papers from a scientific conference. The results were discussed in three international conferences, namely the annual international scientific conference "Competitiveness and Innovation in the Knowledge Economy", September 23-24, 2022. ASEM, Chisinau; The international scientific conference "Development through research and innovation - 2022", 3rd edition, online conference for researchers, doctoral students and postdoctoral students, August 26, 2022, Chisinau, Republic of Moldova; and the international scientific conference "Economic growth under globalization", National Institute of Economic Research, October 12-13, 2022, Chisinau.

The implementation of the scientific results is certified by two implementation certificates obtained from the Chamber of Commerce and Industry of the Republic of Moldova and from "Export Partners" SRL (Gateway&Partners Moldova).

The volume and structure of the thesis is as follows: annotation, introduction, three chapters, general conclusions and recommendations, bibliography (196 titles), 141 pages of base text (without bibliography and appendices), 54 tables, 8 figures, 63 econometric equations and 6 annexes.

The keywords that are associated with this thesis are: competitiveness, resilience, security, entrepreneurship, institutional efficiency, investments, physical capital, human capital.

THESIS CONTENT

Chapter 1 "Theoretical-Methodological Aspects of Competitiveness and Economic Resilience as Determinants of Economic Security" discusses competitiveness and economic resilience as well as economic security. This chapter describes each of these three key concepts in detail. In addition to this, it determines the main factors that affect the interdependence between them. In the same way, the chapter discusses the approach of these concepts in the specialized economic literature, noting the key and most relevant aspects for the situation in the Republic of Moldova. Finally, this chapter discusses a theoretical model of the interdependence between competitiveness, resilience and economic security.

1.1 Economic competitiveness

The level of fundamental competitiveness of a nation depends directly on the level of average productivity of workers within that economy. There are three basic pillars that determine the level of fundamental competitiveness: social infrastructure and political institutions, monetary and fiscal policy, and the microeconomic environment. These pillars define the economy's ability to attract and retain investments by engaging effectively in the economic circuit. Macroeconomic factors

establish the general conditions that determine the economic functionality, but do not contribute directly to the increase of the own productivity level of the enterprises, as well as to the increase of the employment rate within the economic system.

However, an economy cannot develop if these factors are not efficient. In this regard, a special role is played by social infrastructure (for example, the health and education system), political institutions and the rule of law. Microeconomic factors have a direct influence that differs from macroeconomic ones. They directly depend on the quality of the business environment, for example whether economic policies stimulate or reduce investment and economic growth, as well as on the organization and structure of economic activity and the use of advanced management practices (Delgado et al , 2012).

The prosperity of nations is created and not inherited. The competitiveness of a country depends on the ability of its industry to innovate and move to a new technological level. Competitive advantages are created and maintained through a complex process of interaction between national values, culture, economic structures, institutions and history. These conditions can be summarized within 4 types of factors that determine the level of competitiveness of an economy (Porter, 1990). The first aspect is defined by the endowment of the economy with production factors, which includes the availability of qualified labor resources or infrastructure that defines the ability of the business to compete within an industry.

The second aspect, namely the demand conditions, determines the type of products or services that are sought in the local market. The third aspect denotes the presence within the economy of complex industries that can generate products that are competitive on the international market. The fourth aspect includes the nation's ability to create favorable conditions for entrepreneurship, such as the ease with which new companies are formed, how they are managed, and how favorable the nature of economic rivalry between firms is (Porter, 1990).

The concept of economic competitiveness presupposes the ability of nations to create wealth. This fact is directly related to process and outcome efficiency, which must be addressed simultaneously. Competitiveness is related to social well-being as well as the ability to innovate and make technological progress. These must be viewed as a whole, economic competitiveness also being linked to prices, market shares and trade balance (Aiginger, 2006).

Regarding the assessment of the economic competitiveness of the Republic of Moldova, comprehensive and very detailed research was carried out by Grigore Belostecinic and Corneliu Guțu. Belostecinic et al (2014) emphasize the fact that the Republic of Moldova is characterized by a high level of commercial dependence on certain markets, a fact that does not favor the economic security of the state. Belostecinic et al (2020) mention that the Republic of Moldova risks being left behind in terms of economic competitiveness, which imposes considerable social and economic risks. Fotea & Guțu (2016) note that in the context of a global and contemporary

"knowledge economy", higher education institutions contribute to the economic competitiveness of regions and nations by carrying out quality higher education activities and innovation.

Belostecinic & Guțu (2008) emphasize that economic competitiveness depends on export performance, and the latter must be based on competitive advantages, on the development of capacities and skills and on the creation of an economy capable of development. Belostecinic (2006) mentions that the competitiveness of the country depends on the competitiveness of the companies operating on the national market, and the evaluation of the competitiveness of a company on the market or on a certain market segment is based on a detailed analysis of the company's potential, technological possibilities, production and the financial ones etc. Belostecinic (2016) mentions that the Republic of Moldova records annual capital inflows in the form of modest foreign direct investments, which reduces the country's growth potential, and the country needs more liberal and proactive economic policies in attracting foreign direct investments.

1.2 Economic resilience

Economic resilience is reflected by the aggregate ability of all firms to withstand economic shocks of any nature and to overcome the consequences of these shocks in a timely manner. According to a study conducted by Hallegatte (2014), it was concluded that economic costs (for example those related to natural disasters) do not represent a measure that can comprehensively characterize the economic impact of shocks. It is crucial to consider the impact on production, income and consumption within the system.

Economic resilience directly refers to the ability of a system to recover from an economic shock. Moreover, the concept also includes shock resistance and the ability to avoid economic shocks in the future. Economic vulnerability is defined by the level of exposure to internal and external shocks. These in turn are defined by the level of economic security that is prevalent within the economy.

A relevant resilience case for the Republic of Moldova is related to the frozen military conflict in the Transnistrian region, as well as the ongoing war between Ukraine and Russia. These factors have a colossal negative impact on economic security that strongly raises the degree of economic uncertainty, thus increasing the associated risks. Other equally relevant factors refer to the dependence on international trade (exports and imports) that link the national economy to the incidence of international economic crises.

Last but not least, an important role is played by natural calamities or man-made incidents. They have the capacity to cause considerable economic damage and are particularly dangerous for small economies. In these contexts, economic resilience defines the ability to manage shocks and counteract their consequences. These capacities are directly related to the economic policies that the state promotes, the quality of governance and public management, the existence of effective public-private partnerships. The level of cohesion, inclusion and social solidarity also have special

roles. These factors have a direct impact on the effectiveness of the application of economic policies.

Thus, the population can manage economic shocks much more effectively. Finally, economic resilience is defined by institutional efficiency, especially regarding the health system. As the recent COVID-19 pandemic demonstrated, countries with effective health systems manage to record far fewer pandemic-related deaths. In the same vein, the importance of the environment can also be emphasized. It defines the ability of the economy to generate sustainable well-being without reducing the ability of future generations to benefit from high living conditions.

It is important to emphasize that not all shocks can be predicted. Thus, within economic policies, risk margins must be included. Moreover, the existence of food reserves, essential resources for economic processes, but also of other essential elements, can provide useful time reserves for decision-making factors to develop well-calculated responses to socio-economic shocks, be they internal or external (military, economic, pandemic and financial crises, global environmental problems). It must be taken into account that economic policy measures have the need for permanent evaluation and adjustment depending on the eminent and potential factors.

Economic resilience can be approached from three perspectives, the first as the ability to bounce back from shocks, the second as the ability to absorb shocks, and the third as the ability to anticipate shocks. The first perspective emphasizes the importance of the speed of recovery and its magnitude, the second emphasizes the stability of the system, its function and identity, while the third emphasizes the ability of the system to maintain the basic function, emphasizing the adaptability of the system to new economic realities (Martin and Sunley, 2015).

Resilience is the ability of the economic system to respond to the socio-economic changes that take place within the state. It is characterized by elasticity or the ability to return to the initial state as a result of the influence of the shock. It is characterized by flexibility, persistence and the ability to transform (Modica and Reggiani, 2015).

Spatial differences in economic resilience can be explained by a comprehensive set of factors that includes economic diversification, participation in international trade, human and social capital, as well as the negative impact of financial constraints (Di Caro, 2017).

1.3. Economic security

The economic security of a state is a complex economic concept that reflects the ability of this state to develop its economic policies in a way that best corresponds to the country's economic interests. Moreover, it involves effective levers in managing economic risks and reducing their negative impact. In addition, economic security defines an effective level of interaction between the government, the business environment and citizens, and the regulation of all processes to be done to protect the economic interest of the majority of citizens in a fair and democratic spirit that does not discriminate against minority members.

Maiseyenka (2012) determines the regional context of ensuring economic security. According to Munteanu (2016), the system of economic security approaches includes several dimensions. At the microeconomic level, i.e. that of the individual, economic security reflects the level of personal well-being. At the macroeconomic level, economic security reflects the growing strength of the national economy.

This thesis reflects economic security through three dimensions, namely energy efficiency and security, which is an essential condition of the economic security of an economy. If there is no reliable source of energy, then the state as well as citizens and entrepreneurs cannot promote their economic interests in an effective way. The first may give way to national interests that are fundamental to obtain energy, and entrepreneurs encounter higher costs that make them less productive, thus less competitive on the markets.

The second dimension is institutional efficiency, which reflects the efficiency of interaction processes between various members of society. Without transparent, efficient and functioning institutions and regulations in the spirit of goodwill, the national economy cannot function effectively. Precedents are created such as corruption which diminishes the potential for economic growth, and respectively economic security.

The third dimension is democracy, peace and the absence of regional conflicts as a factor that is an essential condition for sustainable economic development. If the neighboring external environment is unstable, then the economic processes of different degrees become more expensive and respectively more risky, which diminishes economic security by the size of the risks. A more in-depth discussion of these 3 dimensions is presented below.

1.3.1. Energy efficiency and security - essential condition of the economic security of an economy

It is very important for authorities to develop comprehensive information programs to motivate households to adopt government initiatives to improve energy efficiency (Fowlie *et al* , 2015). The lack of attention and appropriate attitude on the part of the population regarding energy efficiency can cause the considerable decrease in energy yield.

For example, the energy efficiency of a household can be negatively affected by the lack of attention to thermal insulation (doors, windows, etc.), the efficiency of the heating equipment, e.g. of stoves. In this regard, it is recommended that energy audits be carried out by experts in the field and the government should stimulate these initiatives (Palmer and Walls, 2015).

Improving energy efficiency is one of the main options to reduce the demand for conventional energy and the emission of greenhouse gases. However, there are a multitude of factors that prevent the introduction of modern technologies to improve energy efficiency.

These factors among others include: lack of information, financial resources and awareness of the benefits of modern technologies. It is recommended to provide targeted information and

energy audits to save energy consumption, improve productivity and reduce carbon emissions from productive sectors (Hochman and Timilsina, 2017).

1.3.2. Institutional efficiency - essential condition of the economic security of an economy

Corruption is a vice that accompanies humanity throughout its entire history. There are several types of corruption: effective corruption that intends to remove barriers, for example, barriers to trade such as tariffs. The second type of corruption is corruption with a benevolent prince that occurs when this prince delegates his powers to a non-benevolent agent. For example, this type of corruption accompanies the political environment.

The third type of corruption is that which has a benevolent prince who establishes institutions and procedures designed to extract rents from society. The last type is self-reinforcing corruption defined by complementary processes. Regardless of the type of corruption, it negatively affects economic processes within states (Aidt, 2003). Research related to the impact of corruption is very popular, although difficult to do for several reasons including the difficulty of measuring corruption (Saastamoinen and Kuosmanen, 2014).

The electoral exercise is very important to combat institutional corruption. Namely, the competition that arises from the participation of several representatives generates positive effects that stimulate long-term institutional transparency. Ensuring the independence of electoral bodies is important to minimize the risk of election fraud (Callen and Long, 2015).

Geographical isolation can greatly reduce the level of public accountability that fosters increased levels of corruption. The more interaction there is between various political, economic and social factors, the greater the risk that corruption networks will be uncovered, and subsequently destroyed.

Moreover, the less the voters are interested in politics and its associated aspects, such as budgetary aspects, the more the risk of increasing the level of corruption increases, and the level of quality of public services decreases. Therefore, the active involvement of citizens in the electoral and post-electoral process is recommended (Campante and Do, 2014).

The electoral exercise is very important for fighting corruption. It is found that if the mayors can be re-elected several times, they will be more transparent and less corrupt. If the mayors cannot be re-elected, the probability that they will be more corrupt increases considerably. This fact can be accentuated by the lack of an effective judicial system and where people have little access to information. In general, electoral rules emphasizing political accountability play a crucial role in constraining the corruption of politicians (Ferraz and Finan, 2011).

The control of corruption depends in the vast majority of cases on the efficiency of institutions. States that have effective electoral systems have less corruption than states where these mechanisms do not work so effectively (Persson, 2002).

Countries with more effective democratic systems have the capacity and mechanisms to reduce or ameliorate corruption. The higher economic level of prosperity also reduces the level of corruption and stimulates the efficiency of political institutions. Contrary to expectations, a greater level of economic freedom, or in other words, the reduction of economic restrictions, does not have the ability to reduce the level of corruption.

Economic success largely depends on innovations and the efficiency of the use of resources in the economy (Belostecinic & Duca, 2016), a special role being played by the regulatory and institutional environment, which must especially support healthy competition (Belostecinic et al, 2014). The role of digitization in this context should not be neglected either, its role becoming increasingly important within the economy (Belostecinic & Jomir, 2023). Also, education and the development of human capital are basic elements of a state's security, as they ensure the functionality of society and define the potential for growth (Jomir & Belostecinic, 2022), and universities must be the main centers of generating human capital and knowledge in society to facilitate the development of a country in the context of globalization and growing technological pressure (Belostecinic et al, 2021).

1.3.3. Democracy, peace and the absence of regional conflicts - an essential condition of the economic security of an economy

Military conflicts, insurgents and guerrilla warfare hamper economic development and impose very high socio-economic costs. Regional stability and local economic development goals are two of the most important conditions for economic progress. The same recommendations are relevant when considering the decriminalization and reduction of organized crime within local societies (Trebbi and Weese, 2019).

Economic development is strongly affected by military conflicts and associated political tensions, resulting in loss of people, infrastructure and economic stability. At the same time, there is also a very strong reverse causality.

Thus, economic growth shocks can generate military conflicts in turn. During economic crises, the probability of conflict outbreaks increases considerably. For example, in Africa, economic conditions are some of the most significant causes of military conflicts between warring parties (Miguel *et al* , 2004). Regional military conflicts are associated with considerable human toll and economic destruction (Goldberg, 2018).

Power transitions between conflicting parties can temporarily reduce the belligerent force of conflicts. However, this fact is recorded only in the first phase, in the following stages, this force rather increases (Fetzer *et al* , 2021). Civil conflicts tend to spill over outside the combatant countries. Conflicts generate economic and social phenomena that reduce the ability of countries to control borders (Silve and Verdier, 2018). There is a tendency that after military conflicts, the

population becomes aware of the important role of education, thus, access to education becomes easier, democratized and feasible for members of society (Bound and Turner, 2002).

Economic shocks tend to affect economies through various channels. For example, supporting industries that rely on the production of manual labor-intensive goods can reduce the likelihood that workers will leave their jobs and join militant groups.

Chapter 2 "Evaluation of the Competitiveness and Economic Resilience of the Republic of Moldova" carries out an in-depth evaluation of the economic competitiveness of the Republic of Moldova through the prism of the business environment, entrepreneurial and innovative capabilities. In the same way, he makes an in-depth assessment of the economic resilience of the Republic of Moldova through the prism of the business environment, entrepreneurial and innovative capacities. Therefore, the chapter derives the implications of competitiveness and resilience for the economic security of the Republic of Moldova in the context of regional and global changes. Thus, a systemic framework of interaction between competitiveness, resilience and economic security is defined, highlighting the relevant aspects for the economy of the Republic of Moldova.

Economic competitiveness is an essential element of the security of the national economy of the Republic of Moldova. This is directly related to the level of well-being that an economy or another registers, which is an essential factor for economic security. In other words, a competitive economy also has a higher degree of prosperity, and a richer economy, *ceteris paribus*, is also an economy with a higher level of economic security. It will have a greater economic base that will allow it to overcome the difficulties encountered more easily.

Table 1. shows how he assessed the dynamics of the well-being of several states, including the Republic of Moldova, during the years 2000-2020, with forecasts until 2022. Thus, in 2000, the Republic of Moldova recorded a level of GDP adjusted to power parity of purchase similar to that of Georgia, Albania or Armenia.

The country's economic position was much better than that of Central Asian countries such as Tajikistan, which had a much lower GDP level. At the same time, the country's welfare level was much lower compared to other Eastern European countries, such as Ukraine, Serbia, Bulgaria, Romania, Turkey, Croatia or Hungary. Currently (year 2020 for example), the welfare level of the Republic of Moldova is approximately 12 thousand dollars adjusted to purchasing power parity.

This level is similar to that of Georgia, Ukraine, Armenia, Albania and much higher compared to Tajikistan. The geographical position in this sense plays a very important role for the development of the country. Moldova is on the border of the European Union. However, the country lags far behind non-EU countries such as Turkey, as well as EU countries such as Romania, Croatia and Bulgaria.

Table 1. Gross domestic product per capita, constant prices, purchasing power parity; international dollar 2017

	Albania	Armenia	Bulgaria	Croatia	Georgia	Hungary	Moldavia	Romania	bondage	Tajikistan	Turkey	Ukraine
2000	6039	3969	10259	18531	4874	19627	5057	12183	8625	1274	15199	7296
2002	6922	5037	11722	20519	5557	21494	5810	13948	9721	1477	14864	8505
2004	7768	6388	13263	21894	6618	23585	6685	15963	11123	1729	16853	10572
2006	8781	8335	15340	23972	8037	25679	7572	18274	12968	1893	19160	11888
2008	10158	10207	17507	25699	9364	26096	8440	22065	14705	2109	19783	13290
2010	11017	8997	17241	23588	9702	24697	8514	20371	14524	2232	19805	11840
2012	11507	10079	18246	23786	11263	25033	8958	21392	14903	2463	22497	12576
2014	11875	10744	18863	23766	12262	26725	10269	23165	15238	2699	24929	12468
2016	12597	11088	20653	25581	12960	28475	10856	25214	16193	2928	26599	11613
2018	13577	12644	22358	27777	14242	31475	12263	28599	17464	3227	28661	12428
2020	13436	12637	22489	26574	14078	31329	12263	28933	18173	3484	28868	12447
2022	14844	14063	24842	30363	16036	35451	13971	32459	20395	3683	31726	13469

Source: adapted by the author based on the International Monetary Fund (IMF) (2021).

Note: Economic forecasts start with 2020 for all economies except the Republic of Moldova and Tajikistan, for these countries the forecasts start with 2019.

Until the start of the war between Ukraine and Russia on February 24, forecasts regarding the increase in the level of well-being in the Republic of Moldova were quite optimistic, the country having the possibility to reach a GDP of 18 thousand dollars per capita, similar to that of Georgia, Armenia or Ukraine. In this chapter, the economic resilience of the business environment is of particular importance.

Table 2. Population, millions of people

	Albania	Armenia	Bulgaria	Croatia	Georgia	Hungary	Moldavia	Romania	bondage	Tajikistan	Turkey	Ukraine
2000	3.1	3.1	8.2	4.4	4.1	10.2	2.9	22.4	7.5	6.2	64.7	48.7
2002	3.1	3.1	7.8	4.3	4.0	10.2	2.9	21.8	7.5	6.4	66.4	47.8
2004	3.0	3.0	7.8	4.4	3.9	10.1	2.9	21.5	7.5	6.7	68.0	47.1
2006	3.0	3.0	7.7	4.4	3.9	10.1	2.9	21.3	7.4	7.0	69.7	46.5
2008	2.9	3.0	7.6	4.4	3.8	10.0	2.9	20.6	7.4	7.3	71.5	46.0
2010	2.9	3.0	7.5	4.4	3.8	10.0	2.9	20.3	7.3	7.6	73.7	45.6
2012	2.9	3.0	7.3	4.3	3.7	9.9	2.9	20.1	7.2	8.0	75.6	45.4
2014	2.9	3.0	7.2	4.2	3.7	9.9	2.9	20.0	7.1	8.4	77.7	42.8
2016	2.9	3.0	7.1	4.2	3.7	9.8	2.8	19.8	7.1	8.7	79.8	42.4
2018	2.9	3.0	7.0	4.1	3.7	9.8	2.7	19.5	7.0	9.1	82.0	42.0
2020	2.9	3.0	6.9	4.0	3.7	9.8	2.6	19.3	6.9	9.5	83.6	41.5
2022	2.9	3.0	6.8	4.0	3.7	9.8	2.5	19.3	6.9	9.8	85.6	41.1

Source: adapted by the author based on the International Monetary Fund (2021).

This economic characteristic is very important and indicates the ability of the business to return to the levels before the shock, which in this case is the Russian-Ukrainian war. Even so, the forecasted GDP level is much lower than countries like Romania or Hungary. The difference reaches almost 20 thousand dollars. Thus, in the context of the Eastern European region, the Republic of Moldova is a country with a limited level of well-being that plays a rather limited role for the competitiveness and economic resilience of the country, and thus for its economic security.

Table 2 provides data on the population evolution of several states in Eastern Europe and Central Asia. Thus, some states practically do not register population loss, for example Armenia, and Turkey and Tajikistan have population growth. For example, Turkey has a population increase of more than 20 million, and Tajikistan of more than 4 million. We must remember that the population directly affects economic competitiveness, as well as its resilience. An economy with more human resources is more attractive. Countries like China have been able to attract investments that have underpinned the economic rise due to the availability of human resources.

This is the economic basis. From this perspective, the Republic of Moldova along with other states in Eastern Europe encounter difficulties because they record colossal losses of human resources that do not suggest possibilities and opportunities for impressive economic growth. Thus, the state is caught in a difficult economic situation where the economic growth is under the pressure of the migration exodus.

The economic security of the state of the Republic of Moldova is directly dependent on the economic conditions provided to the population. In the absence of natural resources, citizens remain the most important economic resource, and demographic decline can greatly complicate future prospects.

The problem is present in most Eastern European states. European integration has demonstrated that it can accelerate economic growth, for example Romania and Hungary. For the Republic of Moldova, European integration can ensure the economic conditions that will accelerate the growth of the income level of the population, thus reducing the emigration of Moldovans.

The level of economic competitiveness of the Republic of Moldova is relatively low compared to other states of Eastern Europe. The level of competitiveness is conditioned by a poorly developed business environment. This fact leads to a reduced economic productivity and respectively to a limited economic income for the country's population. The competitiveness of the country is becoming increasingly limited, the main cause being the massive emigration of the labor force, which conditions an increasingly limited availability of human resources and human capital.

The business environment suffers from several impediments that limit its capacity for economic growth. For example, the institutions and regulatory environment is relatively

ineffective compared to other states such as Romania or Poland, and the deficient infrastructure further discourages individual initiative. Thus, the direct involvement through substantial regulation, as well as the existence of legislative loopholes that generate levers of obscure influence of the state apparatus on the business environment, further reduces the ability of entrepreneurs to activate.

The economic resilience of the state is limited. First, the state has limited economic resources to finance faster economic recovery following cyclical and unpredictable shocks. Thus, the capacity for intervention is reduced, which brings substantial economic losses. Moreover, the economic regulation is quite inefficient compared to other states in Eastern Europe, for example, which reduces the ability to accumulate economic resources by small and medium-sized businesses.

Their activities become limited and thus the potential for accumulation of reserves becomes equally small. Excessive bureaucracy, the historical and traditional context do not stimulate the activity of entrepreneurs, and state policies are not aimed at stimulation, but instead stimulate individual initiative. This fact leads directly to the reduction of economic opportunities, and the population, in the absence of them, emigrates.

The economic security of our state is affected by several factors. First of all, a negative impact is played by the current war between Ukraine and Russia, which at the time of writing this thesis is in full swing. Secondly, economic security is affected by economic policies that discourage individual initiative, therefore the level of entrepreneurship is limited and thus the income of the population is low.

Moreover, the involvement of the bureaucracy in the activity, especially of small and medium-sized businesses, through controls and tendencies to extort illegal rents, leads to the refusal of potential entrepreneurs to engage in productive activities.

In general, the government has a rather large involvement in the economy, both directly through state companies, legislation, and indirectly through the private interest interaction of officials with businessmen. This fact directly leads to the hesitation of people to develop economic projects and therefore, the population does not engage in productive activities. This needs to be changed.

Chapter 3 "Measures to Strengthen Competitiveness, Resilience and Economic Security" empirically calculates the correlation between various indicators related to competitiveness, resilience and economic security. Likewise, it derives measures to strengthen the competitive potential and economic resilience, as well as the economic security of the Republic of Moldova. Moreover, it defines the strategic framework for strengthening the relations of the Republic of Moldova with the European Union as the country's main economic partner. Thus, a

system approach applied to the political-economic realities of the Republic of Moldova is carried out.

Within equation (1), the correlation between the rank of the educational system and the gross domestic product per capita is analyzed. The educational system plays a particularly important role for the economic development of states. It provides the economy with professional personnel - labor force and more importantly human capital, very important factors for economic growth. In other words, human capital and labor resources constitute the economy because they represent both producers of goods and services and consumers of goods and services.

Within equation (2), the correlation between the rank of intellectual property protection and the gross domestic product per capita is investigated. The rank of intellectual property protection denotes the effectiveness of institutions in stimulating innovation. Without the generation of innovation the economy cannot develop in an efficient manner. Innovation whether technological or artistic and its protection plays a crucial role in stimulating the production of new goods and services. Moreover, the protection of intellectual property plays a special role in stimulating the individual initiative of people to create and produce new goods or services.

In equation (3), the role of the level of technological preparation for the development of the gross domestic product per capita is analyzed. Technological readiness denotes the economy's ability to absorb new technologies and implement them in economic processes. The more technologically prepared and equipped a country is, the better its prospects for growth through innovation. The adaptation of new technologies is essential to be able to increase economic productivity. Innovation is the opposite of stagnation, and technological readiness is an essential condition in this regard.

Within equation (4), the correlation between general innovative capabilities and gross domestic product per capita is analysed. General innovative capabilities have a special role that reflects the readiness not only of the economy as a whole to implement new technologies, but also of society as such to use new technologies.

Economic growth is not only limited to the economic use of new technologies, but also to their use in society. Thus, the role of general innovation is determinative that reflects the potential of society to generate future innovations.

$$\ln GDP/cap_{it} = \beta_{27} \text{Rank of education system}_i + G_i + \varepsilon_i, \quad (1)$$

$$\ln GDP/cap_{it} = \beta_{28} \text{Intellectual property protection rank}_i + G_i + \varepsilon_i, \quad (2)$$

$$\ln GDP/cap_{it} = \beta_{29} \text{Technological readiness rank}_i + G_i + \varepsilon_i, \quad (3)$$

$$\ln GDP/cap_{it} = \beta_{30} \text{Rank of general innovation capacity}_i + G_i + \varepsilon_i, \quad (4)$$

Table 3 shows the correlation between gross domestic product per capita, competitiveness expressed by the efficiency of the educational system, intellectual property protection, technological training and general innovation. As can be seen in column (1), there is a positive correlation between per capita income and the efficiency of the educational system.

Table 3. Correlation between gross domestic product per capita, competitiveness expressed by the efficiency of the educational system, intellectual property protection, technological training, general innovation.

Estimation method	Fixed effects method	Fixed effects method	Fixed effects method	Fixed effects method
	(1)	(2)	(3)	(4)
The dependent variable	Ln GDP/Cap	Ln GDP/Cap	Ln GDP/Cap	Ln GDP/Cap
The rank of the educational system	-.001** (.0004)			
The rank of intellectual property protection		-.0014*** (.0005)		
Technological training rank			-.0014** (.001)	
Overall innovation rank				-.0014*** (.0004)
Country-level fixed effects	✓	✓	✓	✓
R squared (within)	0.01	0.03	0.01	0.03
R squared (between groups)	0.27	0.44	0.78	0.47
Statistical index F	4.14	9.04	5.00	11.26
N groups (countries)	143	142	143	143
N observations	548	415	548	548

Source : own calculations. Note: level of statistical relevance: ***99%, **95%, *90%, */ 80%.

Thus, if reforms were implemented that would improve the rank by 10 positions, for example from the 80th place to the 70th, then the gross domestic product per capita for a country with a level of \$20,000 would increase with \$2. For a country like the Republic of Moldova with a population of 2.6 million people, this improvement in positions would bring about 5.2 million additional dollars to the gross domestic product.

Column (2) examines the correlation between the rank of intellectual property protection and GDP per capita. Thus, it is concluded that for the same economic conditions as were mentioned in the presentation of the result in column (1), improving the rank by 10 positions would bring an additional \$2.8 to the gross domestic product per capita. This increase seems insignificant, but for a country like Moldova considering the number of the population, the GDP would increase by almost 7.3 million dollars.

In column (3), the correlation between the level of technological training and the gross domestic product per capita is examined. A positive relationship is identified, such that a 10-position increase in the rank of technological readiness would also bring \$7.3 million into the

economy given similar economic conditions. In column (4), the correlation between the general innovation rank and per capita income is presented. Also, improving the rank by 10 positions would bring 7.3 million within the economy.

In equation (5), the correlation between research institutions and the level of gross domestic product per capita is presented. A country that has an advanced research system can develop more efficient economic projects that boost development. In other words, a more advanced level of research can provide more appropriate solutions to current and future economic challenges based on a more comprehensive analysis.

In equation (6), it is presented to the correlation between the rank of collaboration universities industry that another factor that conditions the economic development of the states. Universities are centers that produce new knowledge and ways of applying it within the economy.

A country that has a more effective collaboration between universities and industry can implement faster and more efficiently in economic processes new technologies that increase economic efficiency by decreasing costs relative to the final product available for sale. As with the previous equations, I use country fixed effects for equation (5) and (6) to provide less biased results.

$$\ln GDP/cap_{it} = \beta_{23}Rangul\ instituțiilor\ de\ cercetare_i + G_i + \varepsilon_i, \quad (5)$$

$$\ln GDP/cap_{it} = \beta_{24}Rangul\ colaborarea\ universităȃi - industrie_i + G_i + \varepsilon_i, \quad (6)$$

Table 4 shows the correlation between gross domestic product per capita and competitiveness expressed through the efficiency of research institutions and university-industry collaboration with was presented in equations (5) and (6). Within the column (5), it can be observed the existence of a very strong correlation between the rank of research institutions and the gross domestic product per capita.

Thus, a 10-position increase in rank, for example from 80th to 70th place, brings an increase in the gross domestic product per capita for an economy whose level reaches \$20,000 by \$2. This fact would seem small, but for an economy of 2.6 million inhabitants such as that of the Republic of Moldova, it would be 5.2 million US dollars, which is already considerable.

Column (6) of Table 4 shows the correlation that expresses the link between the university-industry collaboration rank and the gross domestic product per capita. Thus, a positive correlation is identified between the level of collaboration between universities and industry and GDP per capita. Thus, if the university-industry collaboration rank were to increase by 10 positions from 80 to 70, the GDP per capita for an economy whose level is \$20,000 would increase by \$2 compared to an economy with a number of inhabitants similar to Moldova of 2.6 million would

constitute about 5.2 million dollars. Both indicators show a positive influence on the level of income per capita.

Table 4. Correlation between gross domestic product per capita, competitiveness expressed through the efficiency of research institutions, university-industry collaboration.

Estimation method	Fixed effects method	Fixed effects method
	(5)	(6)
The dependent variable	Ln GDP/Cap	Ln GDP/Cap
Ranking of research institutions	-.001** (.001)	
Rank university-industry collaboration		-.001*** (.0004)
Country-level fixed effects	✓	✓
R squared (grouped)	0.01	0.02
R squared (between groups)	0.46	0.42
Statistical index F	4.30	7.67
N groups (countries)	143	143
N observations	548	548

Source : own calculations. Note: level of statistical relevance: ***99%, **95%, *90%, */ 80%.

Regression (7) estimates the impact of the importance of the stability of the macroeconomic environment on the level of income per capita. Macroeconomic stability is a decisive factor that conditions economic security. Without a predictable economic environment, internal and external economic relations between efficient economic agents cannot be built, and this leads to increased costs and reduced economic opportunities.

$$\ln GDP/cap_{it} = \beta_{11} \text{Macroeconomic stability rank}_i + G_i + \varepsilon_i, \quad (7)$$

Regression (8) calculates the impact of the general quality of institutions on economic security. An economy cannot develop without economic institutions that regulate all economic and social processes within countries. Weak institutions bring very high economic growth that discourages initiative and reduces the productivity of economic factors. Institutions are a determining factor of economic growth that form the foundation of the economy.

$$\ln GDP/cap_{it} = \beta_{12} \text{Institutional rank}_i + G_i + \varepsilon_i, \quad (8)$$

Regression (9) calculates the impact of the lack of undeclared and unofficial payments such as bribes on economic development. This indicator denotes the efficiency of the official processes of operating a business, unofficial payments reducing the economic yield of companies.

$$\ln GDP/cap_{it} = \beta_{13} \text{Bribe absence rank}_i + G_i + \varepsilon_i, \quad (9)$$

Table 5 shows the results for regressions (7)-(9). As can be seen, only the efficiency of the macroeconomic environment has a favorable influence on the gross domestic product per capita.

If a state that produces a GDP per capita of \$20,000 would climb 10 positions in the top according to the macroeconomic environment ranking, an economy that would have a population like the Republic of Moldova of 2.6 million inhabitants would earn about \$2.6 million additional to GDP.

Table 5. Correlation between gross domestic product per capita, competitiveness expressed through the efficiency of the macroeconomic environment, institutions, the fight against bribery.

Estimation method	Fixed effects method (7)	Fixed effects method (8)	Fixed effects method (9)
The dependent variable	Ln GDP/Cap	Ln GDP/Cap	Ln GDP/Cap
The rank of the macroeconomic environment	-.0005** (.0002)		
The rank of institutions		-.0005 (.0004)	
Bribe rank			-.0005 (.0005)
Country-level fixed effects	✓	✓	✓
R squared (grouped)	0.01	0.004	0.003
R squared (between groups)	0.33	0.42	0.55
Statistical index F	5.27	1.43	1.04
N groups (countries)	143	143	143
N observations	548	548	548

Source : own calculations. Note: level of statistical relevance: ***99%, **95%, *90%, */ 80%.

Equations (10) and (11) consider a complex econometric model that considers institutional indicators and all interactions between them. In equation (10), country fixed effects are also considered. Namely, the estimators in equation number (10) provide the size of the economic impact of the improvement of one or another institutional dimension in the complex context of the entire economy defined by the other institutional dimensions as well as the interactions between them. Equation (11) does not control for country fixed effects.

$$\begin{aligned} \ln GDP/cap_{it} = & \beta_{62} \ln Performance\ index\ in\ terms\ of\ voice\ and\ accountability_i + \\ & \beta_{63} \ln Performance\ index\ in\ terms\ of\ political\ stability_i + \\ & \beta_{64} \ln Performance\ index\ in\ terms\ of\ governance\ effectiveness_i + \\ & \beta_{65} \ln Performance\ index\ in\ terms\ of\ quality\ of\ the\ regulatory\ environment_i + \\ & \beta_{66} \ln Performance\ index\ in\ terms\ of\ quality\ of\ respect\ for\ the\ rule\ of\ law + \\ & \beta_{67} \ln Performance\ index\ in\ terms\ of\ corruption\ control_i + \\ & \beta_{68} \text{the interactions between all these indicators} + G_i + \varepsilon_i, \quad (10) \end{aligned}$$

$$\begin{aligned} \ln GDP/cap_{it} = & \beta_{62} \ln Performance\ index\ in\ terms\ of\ voice\ and\ accountability_i + \\ & \beta_{63} \ln Performance\ index\ in\ terms\ of\ political\ stability_i + \\ & \beta_{64} \ln Performance\ index\ in\ terms\ of\ governance\ effectiveness_i + \\ & \beta_{65} \ln Performance\ index\ in\ terms\ of\ quality\ of\ the\ regulatory\ environment_i + \\ & \beta_{66} \ln Performance\ index\ in\ terms\ of\ quality\ of\ respect\ for\ the\ rule\ of\ law_i + \\ & \beta_{67} \ln Performance\ index\ in\ terms\ of\ corruption\ control_i + \\ & \beta_{68} \text{the interactions between all these indicators} + \varepsilon_i, \quad (11) \end{aligned}$$

Table 6 presents the results related to the estimates made based on equations (10) and (11). Column (10) shows the estimates that take into account country fixed effects that control for all covariates that are invariant over time. All indicators, except performance in terms of voice and responsibility, have a positive and statistically significant impact.

Table 6. Correlation between gross domestic product per capita and competitiveness expressed by the performance index in terms of voice and responsibility, the performance index in terms of political stability, the performance index in terms of governance effectiveness, the performance index in terms of quality of the regulatory environment, the performance index in terms of the quality of respect for the rule of law, the performance index in terms of corruption control and the interactions between all these indicators.

Estimation method	The method of least squares (estimate based on population mean)	The method of least squares
	(10)	(11)
The dependent variable	Ln GDP/Cap	Ln GDP/Cap
Ln Performance index in terms of voice and responsibility	-0.058** (.026)	-0.142*** (.028)
Ln Performance index in terms of political stability	0.038** (.017)	.11*** (.024)
Ln Performance Index in terms of governance effectiveness	.053** (.026)	.042*** (.026)
Ln Performance index in terms of quality of the regulatory environment	.0541* (.029)	-2.3*** (.041)
Ln Performance index in terms of quality of respect for the rule of law	.083*** (.028)	.076* (.044)
Ln Performance index in terms of corruption control	.049** (.02)	-0.058** (.033)
Country-level fixed effects	✓	
Interactions between indicators	✓	✓
R squared		0.65
Statistical index F		361
Wald-Chi square	429.83	
N groups	189	
N observations	4125	4125

Source : own calculations. Note: level of statistical relevance: ***99%, **95%, *90%, */ 80%.

The greatest positive impact in this complex system approach is that of the performance index in terms of the quality of respect for the rule of law. Thus, if it is possible to improve the performance in terms of respect for the rule of law by 10%, then an economic growth of about 0.83% will be recorded.

For a country like the Republic of Moldova (with a GDP of 15 thousand US dollars adjusted to purchasing power parity), a similar improvement of the rule of law would increase GDP per capita by \$125, and at the level of the aggregate economy, the improvement would bring in US\$325 million. Thus, among all the institutional dimensions, justice and ensuring a functional

and efficient rule of law are the most important dimensions for ensuring competitiveness and economic security.

The other dimensions, namely performance in terms of governance effectiveness, performance in terms of quality of the regulatory environment and performance in terms of corruption control have a more modest impact than the performance of the rule of law, but quite significant.

Thus, an increase in performance similar to that previously examined would bring an increase in the economy, such as that of Moldova, of about 220 million US dollars for each of the indicators. A little less is the impact of performance in terms of political stability. Performance in terms of voice and responsibility has a negative impact on economic development if analyzed in complex with other indicators.

The Republic of Moldova, in order to strengthen its competitiveness, resilience and economic security, needs to improve several institutional, infrastructural and business environment dimensions. Therefore, to raise the efficiency and economic impact of public policies there is a need to improve the efficiency of government spending to minimize economic losses.

Moreover, the level of investor protection must be raised. Thus, in order to stimulate economic investment, investors must have better certainty that their expenditure will be justified in the long term. In the same way, a fair local competition must be ensured by stimulating regulations that stimulate the involvement of citizens in business and productive activities. This fact also requires a legal framework that stimulates individual initiative and the production of goods and services.

Antimonopoly policy is another dimension that needs strengthening given the flawed legal framework, and the legacy of large enterprises from the Soviet era. In general, the macroeconomic environment must be strengthened, this fact is significant for both, competitiveness and economic resilience, and therefore for the economic security of the state.

Other measures include improving the institutional environment, infrastructure quality, research and innovation capabilities. Moreover, special attention must be drawn to the educational system and to the collaboration between universities and industry. All these factors are decisive for economic growth in both quantitative and qualitative terms.

The main advantage that can help the Republic of Moldova to strengthen the competitiveness, resilience and therefore the economic security of both the business environment and the citizens is the effective cooperation with the European Union. Namely, the European Union, and the path of economic integration within it, can help the country to strengthen its institutions and develop a productive market economy.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

Economic competitiveness is one of the determining factors of economic development. It reflects the efficiency of the interaction of all economic factors relative to the level of well-being generated within the economy. The Republic of Moldova has a relatively low level of economic

competitiveness compared to Eastern European countries. Globally, the level of economic competitiveness is similarly modest.

The weak points that undermine the country's level of competitiveness are: first of all, the vulnerability of the financial system. This fact makes businesses in the Republic of Moldova particularly risky, which increase business costs and respectively decrease the level of economic productivity. In other words, a weak financial system diminishes the efficiency of the interaction of various factors of production and consumption. For example, citizens have a low degree of trust in banks, respectively they hesitate to make deposits or investment activities which in turn increase the price of financing for entrepreneurs.

Another factor that reduces the level of economic competitiveness of the country is macroeconomic stability. This factor worsened considerably with the start of the war between Ukraine and the Russian Federation, two of our country's most important trading partners. This fact raises even more the investment costs and diminishes the desire of business to make economic investments and thus the development of the state stagnates.

Moreover, the Republic of Moldova has a separatist region and a frozen military conflict for a long time. Under the current conditions, this conflict risks escalating, and the country may find itself in a war. Respectively, on the terms of how long the war in Ukraine lasts, Moldova has a colossal business risk that diminishes the desire of both local and foreign investors. Economic competitiveness is thus seriously affected.

A third factor that reduces the country's level of competitiveness is the low level of health. The state has an outdated network of hospitals and health checkpoints. In addition to this, the state is affected by a high level of emigration of young people able to work, which leads directly to the aging of the population in general. In this situation, the country loses the most important economic resource, namely the population, a fact that diminishes in the long term the level of competitiveness by diminishing the attractiveness of the country for foreign as well as local investments.

A fourth factor that is related to the third is the reduced capacity for economic innovation given the fact that both labor resources and human capital, people capable of generating new ideas and applying them in economic processes, are emigrating. Thus, the country's economy risks losing an important source of economic growth, namely that related to innovations, perhaps the most important aspect of economic development.

The fifth factor, perhaps the most fundamental, is institutions. The level of bureaucratic efficiency of the country is very low. Bureaucracy is very high and entrepreneurs, especially small and medium ones who cannot afford to have political protection for example, suffer a lot. Every aspect of their work can be influenced by civil servants who have considerable powers. Thus, a precedent is created and a fertile field for the growth of corruption and extortion of money from entrepreneurs. Therefore, people are discouraged from undertaking productive activities and emigration is encouraged.

Considerable productive activities are lost, because hundreds of thousands of people are reluctant to develop businesses when they are forced to deal with the bureaucratic apparatus and the

multitude of procedures and paperwork, permits, etc. In a society like that of the Republic of Moldova, where entrepreneurship has no traditional roots, the excessive bureaucratic presence is very harmful.

Thus, it becomes easier for a citizen to go abroad to earn 1,200 euros for example at an unskilled job than to develop a small local enterprise that brings the same income. The role of excessive bureaucracy in diminishing economic competitiveness should by no means be underestimated.

Among the relatively strong points of the country's economic competitiveness are: first of all, access to the European Union market through the Deep and Comprehensive Free Trade Area. This fact is a colossal advantage for our economy, which could considerably boost the country's development. But reform policies are needed, including those related to the de-bureaucratization of the state. Access to the single European market compensates for another disadvantage of the Republic of Moldova, namely the small local market from an economic point of view.

Moreover, the close cooperation of the Republic of Moldova with the European Union opens up huge opportunities in terms of ensuring a favorable regulatory environment and opportunities for financing infrastructure projects that are particularly expensive. Thus, the European Union is a strategic partner of the developing country that can boost the consolidation of the infrastructure, for example of the roads and not only of them, a fact that would lead to the reduction of the operational costs of the entrepreneurs.

Another advantageous factor is the level of technology penetration, especially in large cities such as Chisinau. This fact creates a fertile field for the development of innovative projects and technological business. Therefore, the Republic of Moldova can develop its level of competitiveness by creating economic clusters focused on technologies. Technology companies may be interested in business opportunities and relatively good technological infrastructure, as well as relatively skilled labor.

It must be understood that the Republic of Moldova has limited economic resources, thus its economic resilience is relatively low. This fact, however, should not deter authorities from taking the right steps to build resilience. Factors that determine a lower level of resilience include: reduced productivity. Labor is relatively unproductive in our economy. This fact is influenced both by the low level of use of machines and technologies in agriculture and industry, as well as by the low level of technical training of workers, a fact conditioned by the low level of professional education.

A second factor is related to the political risks associated with the conflict in Ukraine. There can be no question of a level of economic resilience if there are high-intensity military risks that can unpredictably change the economic, political and social situation within a country. However, as long as the situation becomes predictable, economic resilience is defined by the interaction of several factors that include the level of economic support that the country can receive from economic partners, especially the European Union.

A third factor influencing the country's economic resilience are natural risks, namely seismic, climatic, and natural fire risks. Although the seismic risks are very destructive, they are quite representative for the Republic of Moldova. The only earthquake hotspot is the one in

Vrancea, which can cause earthquakes with a magnitude of 6-7 degrees on the Richter scale. The Republic of Moldova is relatively affected, because it is located at a territorial distance that does not reduce the magnitude of earthquakes sufficiently so that they do not present major risks. The South-West of the country is more exposed to seismic risk.

Climate risks have a strong economic impact, and the Republic of Moldova is a country that is very vulnerable, especially the agricultural sector. The irrigation network is even more outdated, non-existent on most agricultural fields. This fact periodically causes the agricultural sector and the entire economy to be seriously affected due to the large share of agriculture in employment and GDP. Thus, the country's economic growth becomes closely linked to climate cycles and highly exposed to droughts or floods, for example. The government of the country must undertake measures to strengthen the irrigation system and the management of agricultural crops in order to reduce as much as possible the climatic risks.

Another factor that diminishes the country's economic resilience is its outdated and often deplorable infrastructure. This increases the business costs of the entrepreneurial environment and therefore reduces the level of availability of their financial resources.

As a result of low economic competitiveness and modest economic resilience, the economic security of the Republic of Moldova is quite low. Entrepreneurs, citizens and investors have considerable economic risks that limit their availability of financial resources to carry out investment activities and thus limit their economic growth or prosperity.

Recommendations for the Government of the Republic of Moldova based on the conclusions of the thesis:

- Simplifying business registration and operating procedures.
 - Eradication of the controls of relevant bodies on entrepreneurs. This fact must release, in particular, small and medium-sized businesses from administrative pressure. Plus, it must discourage so-called petty corruption.
 - Business-state relations must be based on simple and clear procedures and principles. These procedures must be simple and convenient, primarily for the business environment.
 - Since the corporate culture is very weak, emphasis must be placed on initiative and individual activity and small business. Given that the resources of this category of entrepreneurs are very limited, and they often have no employees, the state's interference in the activity of this category of entrepreneurs must be minimal. Paying a reasonable tax to the state is better than unemployment or working in the dark economy.
- Reducing the number of employees in the public sector.
 - Taxes for the business environment must be minimal. To counterbalance the public budget, the optimization of the number of employees in the public sector must be carried out. They must be motivated to join the business sector either as entrepreneurs or employees.

- Reducing budget deficits, opting for a balanced monetary policy, reducing the debt level. This fact is important for economic resilience.
- Carrying out the territorial-administrative reform. The number of town halls is very large compared to the population and the technological potential of administration. This large number leads to inefficient spending and economic stagnation.
- Promoting foreign trade and foreign investment by creating partnerships with other countries and international organizations.
 - Optimizing the production sector according to the principle of comparative commercial advantages, but also the development of areas with high added value.
- Supporting the European integration of the country by carrying out the necessary reforms and promoting European values in society.
- Improving access to quality medical services for all citizens, by modernizing the medical infrastructure and providing modern medical equipment.
- Eradication of corruption at all levels.
- Promoting innovation and cutting edge technologies.
- Increasing financial transparency in the public sector. Improving the efficiency of public spending.
- Infrastructure improvement
 - Improving road infrastructure to reduce transport costs.
 - Reorganization of railways, investment in container wagons. The railway must be integrated into the Black Sea-Danube- Baltic Sea logistics chains. Otherwise, it can become a budgetary burden.

Future research directions:

1. Detailed analysis of the role of the educational system in increasing the competitiveness and economic resilience of the Republic of Moldova.
2. Detailed analysis of the role of the foreign policy of the Republic of Moldova in increasing the country's political and economic security, taking into account its inclusion in the global and regional architecture of international security.

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LIST OF PUBLICATIONS OF THE AUTHOR ON THE TOPIC OF THE THESIS

**List of scientific works on the theme of the thesis/thesis
Increasing the Competitiveness and Economic Resilience of the Republic of Moldova as Factors to
Consolidate the Security of the National Economy
of Mr. Augustin IGNATOV
Doctoral student, Academy of Economic Studies of Moldova**

2. Articles in scientific journals

2.1. in journals from the Web of Science and SCOPUS databases

1. **IGNATOV, Augustin. Entrepreneurial performance of the European Union—pivot of its economic security.** In: *New Medit: Mediterranean Journal of Economics, Agriculture and Environment= Revue Méditerranéenne d'Economie Agriculture et Environnement*, 2020, Italy, Volume 19, No. 2, pp.113-131, ISSN 1594-5685/1120-6403, ISSN (online) 2611-1128, 1.72 ca
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3. **IGNATOV, Augustin. Entrepreneurial innovation—Key to a sustainable and competitive European Union .** In: *International Journal of Euro-Mediterranean Studies* , 2019, Slovenia, Volume 12 , No. 1 , pp. 33-67, ISSN 1855-3362, ISSN (online) 2232-6022, 1.68 ca Available: https://ibn.idsi.md/ro/vizualizare_articol/89095
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21. CRUDU, Rodica , **IGNATOV , Augustin .** *The role of innovation policies in the sustainable economic development of the EU.* In: Revista *Economica* , 2016, ASEM, No. 98(4), pp. 71-87, ISSN 1810-9136 , 1.55 ca (Database: DOAJ) , category B. Available: <https://irek.ase.md/xmlui/handle/123456789/260>

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3.3. in the works of scientific events included in the Register of materials published on the basis of scientific events organized in the Republic of Moldova

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5. Other works and achievements specific to different scientific fields

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30. CRUDU, Rodica , **IGNATOV, Augustin.** *Can the Experience of Visegrad Countries Help Moldova to Integrate in the European Union?* In: *European Studies*, No. 7 , 2016, pp. 85-111 , Chisinau, ISSN 2345-1041, 0.89 ca

ADNOTARE

Ignatov Augustin, Creșterea Competitivității și Rezilienței Economice a Republicii Moldova ca Factori de Consolidare a Securității Economiei Naționale, teză de doctor în științe economice, Chișinău, 2023.

Structura tezei: structura tezei este următoarea: introducere, trei capitole, concluzii generale și recomandări, bibliografie (196 titluri), 141 de pagini de text de bază, 54 tabele, 8 figuri, 63 de ecuații econometrice și 6 de anexe. Rezultatele științifice au fost publicate în cadrul a 30 lucrări științifice.

Cuvinte-cheie: competitivitate, reziliență, securitate, antreprenoriat, eficiență instituțională, investiții, capital fizic, capital uman.

Domeniul de studiu: studii economice.

Scopul lucrării: Acest studiu are ca scop fundamental definirea unui cadru strategic național al securității economice a Republicii Moldova și al instrumentelor relevante care pot fi abordate prin politici guvernamentale pentru a favoriza dezvoltarea și standardele de viață a populației. Mai mult de atât, cercetarea dezvoltă o analiză aprofundată a relației dintre competitivitatea și reziliența economică a Republicii Moldova ca factori determinativi a securității economice în contextul schimbărilor regionale și globale prin aplicarea unei cercetări economice riguroase fundamentată pe considerente teoretice, metodologice și practice relevante și comprehensive.

Obiectivele cercetării: Obiectivele specifice sunt: 1. stabilirea cadrului conceptual-teoretic cu referință la securitatea economică; 2. identificarea principalelor schimbări regionale și globale, dar și estimarea potențialului impact al acestora asupra securității economice a țării; 3. evaluarea competitivității economice a Republicii Moldova prin intermediul mai multor factori, atenție deosebită fiind acordată mediului de afaceri, capacităților antreprenoriale și inovaționale ca fundament al competitivității; 4. asigurarea unui fundament statistic, matematic și econometric care ar facilita înțelegerea dependenței dintre competitivitate și reziliență, pe de o parte, și securitate economică, pe de alta parte; 5. analiza principalelor măsuri care pot fi întreprinse pentru ridicarea competitivității și rezilienței economice a țării în contextul schimbărilor identificate.

Noutatea și originalitatea științifică: cercetarea abordează corelația dintre competitivitate, reziliență și securitate economică prin prisma mediului de afaceri și capacităților acestuia de a dezvolta activități productive pentru satisfacerea nevoilor cetățenilor și ale antreprenorilor parteneri, fie locali sau externi. La fel, studiul dezvoltă un cadru sistemic care analizează mecanismele de interacțiune dintre diverși factori decizionali și influența acestora asupra mediului antreprenorial și a performanței acestuia. Originalitate lucrării se reflectă prin modul comprehensiv sau de sistem de analiză a interdependenței dintre multitudinea de factori socio-economici, politici și geo-politici și impactul lor asupra potențialului de creștere al economiei naționale în general și al mediului de afaceri în particular.

Implementarea rezultatelor științifice se atestă prin două certificate de implimentare obținute de la Camera de Comerț și Industrie a Republicii Moldova și de la „Export Partners” SRL (Gateway&Partners Moldova).

Semnificația teoretică și valoarea aplicativă a lucrării: se rezumă la faptul că se identifică factorii principali care afectează performanța economică a mediului de afaceri din Republica Moldova, exprimată prin nivelul de competitivitate și reziliență economică ale acestuia. Mai mult de atât, se dezvoltă un cadru de analiză sistemică al securității economice a țării care abordează ca factor primordial eficiența antreprenorială. În baza acestei analize de sistem se pot dezvolta politici economice care să încurajeze dezvoltarea sustenabilă a economiei naționale. În acest context, atenția principală se acordă capacității businessului autohton de a concura eficient pentru piețele locale și cele internaționale, dar în același timp de a rezista șocurilor economice ciclice sau de caracter imprevizibil.

ANNOTATION

Ignatov Augustin, Increasing the Competitiveness and Economic Resilience of the Republic of Moldova as Factors to Consolidate the Security of the National Economy, doctoral thesis in economic sciences, Chisinau, 2023.

Thesis structure: the structure of the thesis is as follows: introduction, three chapters, general conclusions and recommendations, bibliography (196 titles), 141 pages of base text, 54 tables, 8 figures, 63 econometric equations and 6 appendices. The scientific results were published in 30 scientific papers.

Keywords: competitiveness, resilience, security, entrepreneurship, institutional efficiency, investments, physical capital, human capital.

Field of study: economic studies.

The purpose of the paper: this study has as its fundamental purpose the definition of the economic security of the Republic of Moldova and of the relevant instruments that can be applied through government policies to favor the development and living standards of the population. Moreover, the research develops an in-depth analysis of the relationship between the competitiveness and economic resilience of the Republic of Moldova as determining factors of economic security in the context of regional and global changes by applying rigorous economic research based on relevant and comprehensive theoretical, methodological and practical considerations.

Research objectives: 1. establishing the conceptual-theoretical framework with reference to economic security; 2. identifying the main regional and global changes and estimating their potential impact on the economic security of the country; 3. evaluation of the economic competitiveness of the Republic of Moldova by means of several factors, special attention being paid to the business environment, entrepreneurial and innovative capacities as the foundation of competitiveness; 4. providing a statistical, mathematical and econometric foundation that would facilitate the understanding of the dependence between competitiveness and resilience, on the one hand, and economic security, on the other; 5. analysis of the main measures that can be taken to increase the competitiveness and economic resilience of the country in the context of the identified changes.

Scientific novelty and originality: the research addresses the correlation between competitiveness, resilience and economic security through the lens of the business environment and its capacities to develop productive activities to meet the needs of citizens and partner entrepreneurs, whether local or foreign. Likewise, the study develops a systemic framework that analyzes the interaction mechanisms between various decision-making factors and their influence on the entrepreneurial environment and its performance. The originality of the work is reflected by the comprehensive or system analysis of the interdependence between the multitude of socio-economic, political and geo-political factors and their impact on the growth potential of the national economy in general and the business environment in particular.

The implementation of the scientific results is certified by two implementation certificates obtained from the Chamber of Commerce and Industry of the Republic of Moldova and from "Export Partners" SRL (Gateway&Partners Moldova).

The theoretical significance and the applied value of the paper: it boils down to the fact that the main factors that affect the economic performance of the business environment in the Republic of Moldova are identified. Moreover, a framework for systemic analysis of the country's economic security is developed that addresses entrepreneurial efficiency as a primary factor. Based on this system analysis, economic policies can be developed to encourage the sustainable development of the national economy.

АННОТАЦИЯ

Игнатюв Августин, "Повышение конкурентоспособности и экономической устойчивости Республики Молдова как факторы укрепления безопасности национальной экономики".

Докторская диссертация на соискание ученой степени доктора экономических наук по специальности 521.02 Мировая экономика и международные экономические отношения, Кишинев, 2023.

Структура диссертации: диссертация содержит: введение, три главы, общие выводы и рекомендации, библиография (196 наименований), 141 страница основного текста, 54 таблицы, 8 рисунков, 63 эконометрических уравнения и 6 приложений. Научные результаты опубликованы в 30 научных работах.

Ключевые слова: конкурентоспособность, устойчивость, безопасность, предпринимательство, институциональная эффективность, инвестиции, физический капитал, человеческий капитал.

Область исследования: экономические исследования.

Цель исследования: основной целью данного исследования является определение экономической безопасности Республики Молдова и соответствующих инструментов, которые могут быть применены посредством государственной политики в целях содействия развитию и повышению уровня жизни населения. Кроме того, исследование развивает углубленный анализ взаимосвязи между конкурентоспособностью и экономической устойчивостью Республики Молдова как определяющих факторов экономической безопасности в контексте региональных и глобальных изменений путем применения экономических исследований, основанных на релевантных и всеобъемлющих теоретических, методологических и практических соображениях.

Задачи исследования: 1. создание концептуально-теоретической базы экономической безопасности; 2. выявление основных региональных и глобальных изменений и оценка их потенциального влияния на экономическую безопасность страны; 3. оценка экономической конкурентоспособности Республики Молдова по нескольким факторам, с акцентом на бизнес-среду, предпринимательство и инновационный потенциал как основе конкурентоспособности; 4. обеспечение статистической, математической и эконометрической основы, которая облегчила бы понимание зависимости между конкурентоспособностью и устойчивостью, с одной стороны, и экономической безопасностью, с другой; 5. анализ основных мер, которые могут быть приняты для повышения конкурентоспособности и экономической устойчивости страны в условиях выявленных изменений.

Научная новизна и оригинальность: исследование рассматривает взаимосвязь между конкурентоспособностью, устойчивостью и экономической безопасностью через призму бизнес-среды и ее возможностей развивать производственную деятельность для удовлетворения потребностей граждан и предпринимателей-партнеров, как местных, так и иностранных. Аналогичным образом, исследование разрабатывает системную основу, которая анализирует механизмы взаимодействия между различными факторами принятия решений и их влияние на предпринимательскую среду и ее эффективность. Оригинальность работы отражается в комплексном или системном анализе взаимозависимости множества социально-экономических, политических и геополитических факторов и их влияния на потенциал роста национальной экономики в целом и деловой среды в частности.

Теоретическая и практическая значимость работы: сводится к тому, что определены основные факторы, влияющие на экономические показатели бизнес-среды Республики Молдова. Кроме того, разработана основа системного анализа экономической безопасности страны, в которой эффективность предпринимательства рассматривается как основной фактор. На основе этого системного анализа можно разработать экономическую политику, способствующую устойчивому развитию национальной экономики.

Внедрение научных результатов подтверждено двумя сертификатами внедрения, полученных от Торгово-Промышленной Палаты Республики Молдова и от «Export Partners» SRL (Gateway&Partners Молдова).

IGNATOV AUGUSTIN

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**SPECIALTY: 521.02 – WORLD ECONOMY; INTERNATIONAL
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