

Innovations as a Factor for Ensuring Economic Safety

Maxim SANDU¹, Lilia ŞARGU²,
Alexandru GRIBINCEA³

Abstract

In modern conditions of development of the competitive environment, one of the main ways to solve economic, social and environmental problems is to use the latest achievements of science and technology. Each enterprise seeks to ensure that economic growth is intense, i.e. to be a consequence of the application of more sophisticated factors of production and technology. The prerequisite for intensive growth is the use of innovative strategy in the practical activities of enterprises. The end result of innovations is the materialization and industrial development of innovation, the idea of which can be the scientific and technical activity, and marketing research to identify unmet needs. The innovations are an effective defensive reaction of the firm to the emerging threats of losing market place, constant pressure from competitors, the challenge of new technologies, shortening the life of products, legislative restrictions and changing the market situation. In the offensive version, the innovation is a mean of exploiting new opportunities to preserve or gain a competitive advantage. In the long term aspect, the company has no choice but to pursue an innovation policy, which is the only source of lasting success. The main objective of researching the innovation activity of any organization is to ensure competitiveness in market conditions in order to identify risk factors and ways to overcome them.

Key words: Innovation policy, innovation advantage, competitiveness, economic security, innovative component, model of economy.

1. Introduction

The economic security presupposes the maintenance of the national economy at that stage of development, which ensures further economic growth and is able to counter the influence of external and internal threats. One of the criteria of economic security is the assessment of the resource potential and the opportunities for its development and the level of efficiency of the use of resources. In modern conditions, one of the main priorities that determines the strategy of economic security of the state, the achievement of the threshold values of the resource potential and the possibilities for its development,

¹ Maxim SANDU, PhD student, Free International University of Moldova

² Lilia ŞARGU, PhD, associate professor University of European Studies of Moldova,
e-mail: lsargu@list.ru

³ Alexandru GRIBINCEA, Phd, prof., Free International University of Moldova,
e-mail: gribincea@yahoo.fr

as well as the level of efficiency of the use of resources, is the innovative development [1]. Innovation, state policy, structural transformation, investment and innovation potential, innovation policy, lawmaking, innovative categories, economic security, the revival of the industrial and scientific and technical sphere.

The aim of the research is to analyze the safety of innovation activity as the basics, the foundation of national security, the implementation of an effective innovation strategy to achieve a state of sustainability in the economy, accelerate economic growth, move away from economic dependence in the raw materials and energy component, rather than to increase the competitiveness of goods and services offered on the world market

Degree of elaboration of the research topic. For the study of the problems of economic security has devoted their works G.G. Azgaldov, A.B. Kostin, V.Ganea, N., Percinscaia, Jan Fagerberg, Todorova L., and others.

Methods of research. To solve the set goal, the authors resorted to analytical methods, comparison, induction and deduction, forecasting, etc.

2. Results and analysis

The need for the transition of the Moldovan economy to an innovative development path is a recognized point of view among intellectual and power elite. The prospect of becoming a raw material appendage of the world economy is not very impressive for the Republic of Moldova, which is limited in minerals and other natural resources. Oil and gas remain the key items of Moldovan imports, providing the main outflow of currency from the country. This fact does not allow talking about the formed system of economic security and the possibility of gaining more significant positions in the world space. The Republic of Moldova occupies an unobtrusive position in the world markets of high-tech products. The threshold value of the country's economic security index - a share in the export of high-tech products - in the world practice is 10-15%, for technologically underdeveloped countries, the value of this indicator is within 1%. The share of the country in the total volume of world exports of high-tech goods is less than 0.2%, which is less than in countries such as the Czech Republic and Portugal [6].

The level of economic security of the state and its stable maintenance is largely determined by the effective functioning of the real sector of the national economy, the degree of its enterprises' susceptibility to innovation, and the ability to generate them. In our country, the innovative development of the economy during the period of market reform and especially in the 90s has been sharply stalled, and to date there are quite a lot of unresolved problems, which negatively affects the competitiveness of domestic products, as well as the national and economic security of the country [16].

In such conditions, ensuring national economic security is a priority task of the state, which strives to integrate fully into the world economic space. And for full integration into the world economy it is necessary that the country's economy is in a progressive phase of development, based on advanced achievements of science and technology [19]. It is for this reason that innovative activity has become today the main resource of the state, the effectiveness of its use determines the dynamics and progressiveness of the development of the national economy. The activation of the

innovative activity of the national economy, its branches and key economic entities becomes a necessary condition for the realization of the national interests of the Republic of Moldova in the system of economic security.

Table 1. Countries with the highest global innovation rating, 2016

Rating	Country	Rating	Country
1	Switzerland	21	Israel
2	Sweden	25	China
3	United Kingdom	42	Turkey
4	United States of America	43	Russian Federation
5	Finland	46	Republic of Moldova
6	Singapore	47	Croatia
7	Ireland	48	Romania
8	Denmark	
9	Netherlands	126	Togo
10	Germany	127	Guinea
11	The Republic of Korea	128	Yemen

Source: The Global Innovation Index 2016 Winning with Global Innovation.
http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016.pdf

According to other studies by Bloomberg-2017 (Bloomberg Innovation Index) In the battle of ideas, Sweden climbed to No.2 and Finland cracked into the top five of the 2017 Bloomberg Innovation Index, which scores economies using factors including research and development spending and the concentration of high-tech public companies.

Table 2. Bloomberg Innovation Index, 2017

Rank/ Economy	R&D intensity	Manufacturing value - added	Productivity	High-tech density	Researcher concentration	Patent activity
1.South Korea	2	1	39	2	6	2
2.Germany	8	3	32	5	14	3
3.Sweden	5	16	16	9	5	8
4.Japan	3	3	29	5	9	1
5.Switzerland	7	8	3	10	13	5
6.Singapore	17	5	5	13	7	24
7.Finland	4	18	26	23	3	7
8.United States	10	26	8	1	21	4
9.Denmark	6	22	13	21	2	10
10.France	15	39	15	4	18	11
11.Israel	1	35	35	7	1	20
12.Russia	31	27	18	8	27	15
21.China	16	15	40	3	46	6
36.Turkey	34	20	41	30	44	33

Source: The Global Innovation Index 2016 Winning with Global Innovation.
http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016.pdf

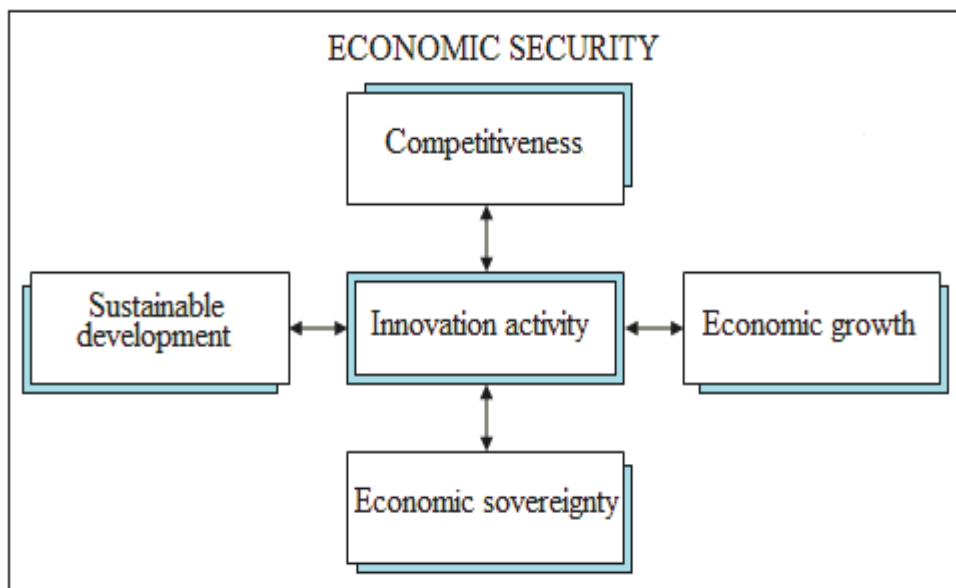
South Korea remained the big winner, topping the international charts in R&D intensity, value-added manufacturing and patent activity and with top-five rankings in high-tech density, higher education and researcher concentration. Scant progress in improving its productivity score — now No. 32 in the world — helps explain why South Korea's lead narrowed in the past year.

Innovations create conditions for accelerating the economic growth of countries at all stages of development. However, these conditions do not automatically appear, each country should define a combination of policy measures that will mobilize the innovative and creative potential existing in their economy [11].

The world leaders in the sphere of innovations are still Switzerland, Sweden, Great Britain, the USA, Finland and Singapore. In the list of 25 countries with the highest rating for the first time entered China. It became the first middle-income country to join a group of highly developed countries that invariably top the Global Innovation Index. Russia in this list is on the 43rd place, Ukraine - on the 56th, Armenia - on the 60th, Georgia - on the 64th, Belarus - on the 79th and Azerbaijan - on the 85th. Investments in innovation are an important condition for increasing the rate of economic growth in the long term perspective. The US remains one of the most innovative countries in the world [20; 21]. However, compared to other advanced countries in this area, the United States has lower educational expenditure, which affects the quality of higher and secondary special education. There are few university graduates in science and technology. For the last 20 years the Republic of Moldova has been moving towards radical economic transformations connected with the transition from a planned system of economy to a market economy, which requires the maximum openness of the national economic system - and this, in turn, means vulnerability to various internal and external threats [9]. A significant influence on the course of the economic development of the Republic of Moldova is also provided by globalization, which requires the country to reform its economy, to abandon its raw materials orientation, to fully and more effectively use intellectual potential, new technologies, and to increase innovation activity. The raw orientation of Moldovan imports fixes the status of the Republic of Moldova as commodity dependence, strengthens the country's dependence on fluctuations in energy prices on the world market, and makes it weak and vulnerable during periods of economic crises. The main task of the Republic of Moldova at the present stage is to create conditions for priority development of innovative high-tech industries, stimulating the export of goods with a high share of added value [12]. It is the innovative component of most economic processes that will allow the Republic of Moldova to integrate into the world economic space in the future. Innovation and innovation activity can be considered as one of the most important factors that can have a significant impact on ensuring national economic security in the context of globalization. A full use of innovations for national development is possible only if a purposeful innovation policy is implemented at the state level. This task is especially relevant for the Republic of Moldova, which has a significant innovative potential, which is clearly not used [13]. The main core of the innovation policy of the state should be a competent and effective innovation strategy, which in the Republic of Moldova is only

in the process of development. The key goal of any innovation strategy is to achieve a state in which the country's economy will have technical and technological independence and technical and technological invulnerability. Therefore, one of the main directions for ensuring the security of the economy of Moldova is the achievement and maintenance of the effective functioning of the innovative sphere of the economy, on the basis of which the implementation of the entire set of national economic interests of the country largely depends. The safety of innovation is the basics, the foundation of national security, since the implementation of an effective innovation strategy allows us to achieve a state of stability in the economy, accelerate economic growth, move away from the resource component of the economy, rather than increase the competitiveness of goods and services offered on the world market (Figure 1).

Figure 1. The role of the innovation factor in the system of economic security



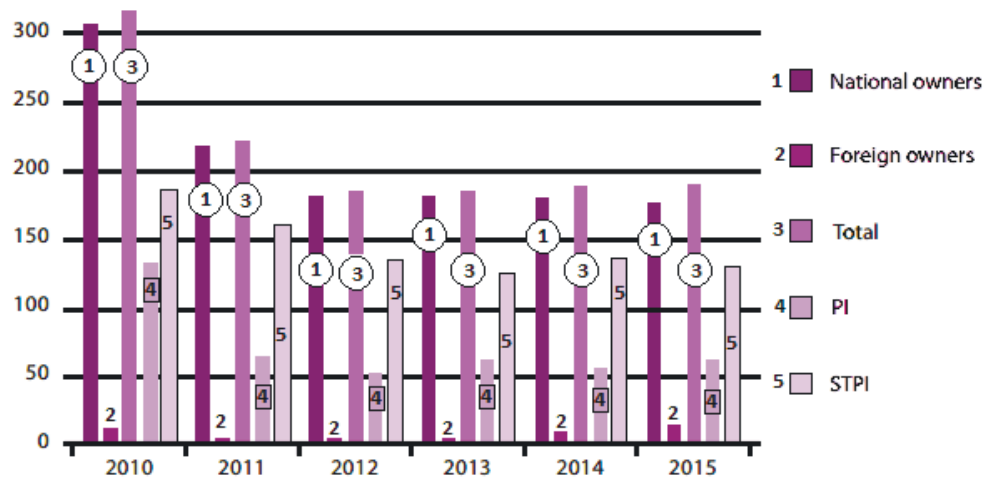
Source: Descoperiri și inovații ale savanților moldoveni.
<http://asm.md/?go=descoperiri>

To integrate the national economy into the world economic system, it is necessary to increase its innovation, which, in turn, will strengthen the competitive positions of domestic goods and services in the world market, and, as a result, the country's economic security system will strengthen [4]. For this, the main thing is the transition of the Moldovan economy from the raw material orientation to the innovative economy through the implementation of the following measures:

- overcoming the phenomena of criminalization and corruption in the national economy;
- formation of a favorable business environment and business climate;
- investment support from the state of innovative development;
- formation and development of a favorable innovation environment;
- stimulating innovation activities of enterprises;

- formation of conditions for a successful transfer of technology both from foreign countries to the Republic of Moldova, and vice versa;
- improvement of infrastructure [15], legislation, promotion of innovative projects (by the type of the Laboratory for Innovation in Moldova (MiLab)).

Figure. 2. Issued patents for invention, R. Moldova, AGEPI, 2015



Source: Laboratorul de Inovații Soc din Moldova (MiLab).

http://www.md.undp.org/content/moldova/ro/home/operations/projects/effective_governance/moldova-social-innovation-hub.html

During the reference period, AIP (Moldova) yielded 189 titles of protection for the invention (61 patents and 128 short duration patents). The absolute majority of them were released to national owners - 176 (94%), of which 64 (37%) were issued to individuals and 112 (63%) - legal persons. The dynamic release of patents in the past 6 years is reflected in Figure 2.

According to the authors, the impact of negative processes in the national economy of the Republic of Moldova on economic security is manifested in the emergence of a whole range of threats in the innovation sphere [5; 7]:

- the severance of economic ties between enterprises, shops and industries that make up single technological chains;
- the isolation of the sphere of scientific research and development from the real sector of the economy, and as a result, the crisis state of branch science;
- the imbalance of the national innovation system, the lack of mechanisms for the interconnection between its individual elements;
- a sharp reduction in the sphere of interaction of financial capital with industrial capital, the outflow of capital from the real sector to less risky industries with shorter payback periods at home and abroad;
- structural deformation of industry, different degree of readiness of industries and industries to operate in a market economy, taking into

- account the available scientific, technical and human resources and competitiveness of products, works and services;
- curtailing of high-tech industries and stopping the production of progressive products;
 - low competitiveness of domestic goods both in the world and national markets, which leads to: a) the dependence of the Moldovan economy on imports and the conjuncture of the world market; B) the need to improve the technical and technological level of production;
 - A raw material model of the export specialization of the Republic of Moldova, which offers raw materials in exchange for finished products - and this leads to financing of the economic growth of foreign countries, the exchange of resource rents for the intellectual, depending on the market conditions for energy resources;
 - a significant increase in the profitability gap between export-oriented industries and industries operating on the domestic market.

The above list of threats in the innovation sphere can be supplemented by the fact that the educational and scientific spheres in the Republic of Moldova practically lost their former positions, and this led to the brain drain, the curtailment of applied and fundamental developments, and the closure of a number of scientific institutions in the country. In addition, the Republic of Moldova has a high degree of development of the shadow economy associated with phenomena of corruption and criminalization, which undoubtedly constitutes an obstacle to the development of innovative industries and industries in the country. All this is because of the nihilism of state authorities and the lack of faith in the future of the Republic of Moldova makes it virtually impossible for the population to make rapid economic breakthrough of the country, its inclusion in the world system of economic relations [8]. Proposals for the transfer of the economy of the Republic of Moldova to an innovative development path are a subject of wide discussion in the scientific literature. Some experts are generally pessimistic about the new concept of socio-economic development of the Republic of Moldova. The authors believe that many points and provisions of innovation policy are not clear and allow us to state the following facts [11; 12]: First, in terms of spending on the social sphere, the budget of the Republic of Moldova will significantly approach world standards. Nevertheless, the level of state funding for the reproduction of human potential and socio-economic development planned for 2020 remains below the level of developed countries. Secondly, long overdue measures to create internal mechanisms for lending to economic growth have been postponed beyond the current decade. Thirdly, the Government continues its policy of further outstripping the growth of tariffs for gas and electricity. Fourth, the strategy does not intend to remove tax barriers that prevent the transition to an innovative development path. Fifth, the measures in the sphere of production and consumption of new equipment are not combined. The trajectory of the development of promising high-tech industries is formed under the influence of lobbyists of foreign competitors, as a result of which the scientific and technical potential created earlier in

the sectors is depreciating, and its most qualitative components are absorbed by foreign competitors [13].

All of the above allows us to talk about the imperfection of the socio-economic development of the Republic of Moldova for the near future in terms of the innovative component of economic growth and development. So, the strategic goal of development of innovative activity and formation of innovative economy in our country for the next few years can be called integrated development of domestic industries and territories to the level of their competitiveness in the world. And this requires carrying out structural modernization of the country's economy, technical and technological re-equipment of industries, combating shadow economy, criminalization and corruption, developing new legislation in the sphere of economic and innovation activity.

The main resource for all technological and modernization transformations in the innovative and economic spheres of the Republic of Moldova should be not the fuel and energy sector of the country, but the scientific and educational sphere. It is the integration of government, administration, education and science in the very near future that can accelerate the restoration of innovative production practically throughout the country. At the same time, attention should be paid to the deconcentration of scientific and educational activities, rather than its concentration, as the state authorities are doing now.

3. Conclusion

Today, the main source of economic growth is the innovation introduced into production. In this regard, the ability to generate them, as well as to translate new knowledge into technologies and products, determines the course of the accelerated development of the national economy.

The complexity of the problem is the need to understand the state, first of all governing bodies, that only new technologies have a dominant role for a stable, sustainable and progressive development of the country and the world at large. In this regard, it is important not only the formation, but also the implementation of an appropriate innovation policy in the country, aimed at improving the level of economic security. Based on the research conducted in the thesis, the conceptual foundations of the innovative component of Russia's economic security were developed and the following main results were obtained:

An innovative component of economic security has been singled out, a definition of this category has been developed, internal and external threats have been revealed, a system of interrelated criteria and indicators has been put forward and justified, which should be guided in terms of strengthening the innovative component of economic security.

The place of innovative security in the system of economic security of the country is revealed, the statistical material shows the influence of innovations on the state of national and economic security of the country in the internal and external economic sphere.

The state of the innovative component of the economic security of the Republic of Moldova and its regions has been revealed from the standpoint of the realization of national interests and a list of key problems that do not allow to effectively neutralize threats, both real and potential, is maintained, thereby maintaining the corresponding level of economic security of the country.

Priorities of innovation policy have been determined from the point of view of options for economic modernization, in terms of the directions of development of science and technology, from the standpoint of the branch structure of the national economy; as well as in terms of targeted programs.

Prospective directions of the state regulation aimed at activization of innovative processes in the domestic economy, connected with educational and cluster development, are grounded. In this regard, the following provisions can serve as proposals aimed at improving the level of economic security in Russia.

References

- Andreeva T., Gribincea A. Проблемы привлечения инвестиций в инновации как фактор экономического роста государства. *Revista științifică Studia Universitatis, seria Științe exacte și economice*, 2013, nr. 2(62), p.173-178
- Azgaldov, G.G., Kostin, A.B. К вопросу о термине "иноваția" (Аsupra problemei despre termenul "inovație"). 2009.
- Descoperiri și inovații ale savanților moldoveni. <http://asm.md/?go=descoperiri>
- Fagerberg, Jan (2004): *Innovation: A guide to the Literature*, in *The Oxford Handbook of Innovation* Oxford University Press, 2004, pp.1-26
- Ganea V., Gribincea A. Nohailic S. Optimizarea creșterii economice prin intermediul difuzării inovațiilor în condiții de risc și incertitudine. *Revista științifică Studia Universitatis, seria Științe exacte și economice*, 2009, nr. 2(22), p.224-228
- Ganea V., Gribincea A. Rolul inovației și creativității în dezvoltarea economică. Instruirea și cercetarea: modalități de integrare. Conf.intern. / Șișcan N. 2008, Chișinău: ASEM, 16 apr. 2008, p. 109-118
- Gribincea A. Gherghina V., Colțea T., Roșcăneanu R. Inovațiile în comerțul modern. *Revista științifică Studia Universitatis, seria Științe exacte și economice*, 2013, nr. 2(62), p.189-193
- Gribincea A. Percinschi N. Инновационные кластеры (типы, их характеристики и различия). Fourth Edition of International Scientific Conference. *Economic growth in conditions of internationalization*. Chisinau: IEFS (Institute of Economy, Finance and Statistics), 2009, C.451-455
- Gribincea A. Todorova L. Динамика развития инфраструктуры инновационной системы Республики Молдова. Межд.конф. Управление в социальных и экономических системах. XXI межд.научно-практ. Конф. Минск, 15 мая 2012, с. 23-25
- Gribincea A. Развитие электронной коммерции в Молдове на основе инновационной технологий. Материалы международной научно-практической конференции Управление в социальных и экономических

- системах. Минск: 30-31 мая 2009, Минский Институт Управления, 2009, С.16-18
- Gribincea A., Ganea E. Rolul inovației și al creativității în dezvoltarea economică. Revista științifică: Studia Universitatis, seria Științe exacte și economice, 2008, nr. 3(13), p. 172-175
- Gribincea A., Poștaru E., Roșca P. Nivelul de implementare a inovațiilor și noilor tehnologii în activitatea întreprinderilor din Republica Moldova: probleme și sugestii. Conferința internațională "Economia în condiții de criză". Tomis, Constanța, 23-25 oct.2009, Constanța: Ed. Nautica, p.212-219
- Gribincea A., Sava E., Ganea E. Evoluția inovațiilor: reflecții, probleme, soluții. Revista științifică: Studia Universitatis, seria Științe exacte și economice, 2008, nr. 3(13), p. 90-100
- Gribincea A., Todorova L. Конвергенция европейского инновационного развития: роль программ ЕС. Universitatea Agrară de Stat din Moldova. Lucrări științifice : [în vol.] / Univ. Agrară de Stat din Moldova. – Ch. : UASM, 2012. Vol. 31 : Economie. – 2012. – 757 p. pp.275-285
- Laboratorul de Inovații Soc din Moldova (MiLab). http://www.md.undp.org/content/moldova/ro/home/operations/projects/effective_governance/moldova-social-innovation-hub.html [visited on 15.03.2017]
- Percinschi N., Cernei M., Gribincea A. Aspecte teoretico-practice ale asigurării securității energetice prin intermediul utilizării inovațiilor în sectorul energetic. Simposion științific internațional. Sectorul serviciilor în sec. XXI: realizări, problema, perspective, 26-27 martie 2010, Chișinău: USM, 2010. p.221-226
- Percinschi N., Gribincea A. Теоретические подходы к формированию рынка инновационных ресурсов в Молдове в условиях перехода к новой экономике. Analele ULIM, vol.8, Seria Economie, Chișinău: ULIM, 2009, nr. 8, p.59-64
- The Global Innovation Index 2016 Winning with Global Innovation. http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016.pdf [visited on 15.03.2017]
- Todorova L., Gribincea A. Инвестиции в современную инновационную систему – основа стабильного экономического роста. Intern Scientific and Practical Conference. Economic Growth in Conditions of Globalization. VII th edition, 2012 oct. 18-19, Chișinău: IEFS, 2012, p.7
- Барт А.А. Необходимость совершенствования национальной инновационной стратегии как фактора обеспечения экономической безопасности в условиях глобализации. <http://uecs.ru/uecs-33-332011/item/632-2011-09-22-06-00-44>[visited on 15.03.2017]
- Леонова Ж. К. Инновационное малое предпринимательство как стратегический ресурс экономической безопасности / Ж. К. Леонова. Национальные интересы: приоритеты и безопасность, 2011. – № 6.