

**GCPMED 2018**  
**International Scientific Conference "Global Challenges and  
Prospects of the Modern Economic Development"**

**METHODICAL APPROACHES TO ASSESSING THE ECONOMIC  
SECURITY**

V.V. Klimuk (a), V.A. Piskunov (b), E.P. Pecherskaya (c)\*, T.M. Tarasova (d)

\*Corresponding author

(a) Baranovichi State University, Voykov Str. 21, 225404, Baranovichi, Brest Region, Republic of Belarus, e-mail:  
klimuk-vv@yandex.ru

(b) Samara State University of Economics, Soviet Army Str., 141, 443090, Samara, Russia, e-mail: piskunov-  
va@mail.ru

(c) Samara State University of Economics, Soviet Army Str., 141, 443090, Samara, Russia, e-mail:  
pecherskaya@sseu.ru

(d) Samara State University of Economics, Soviet Army Str., 141, 443090, Samara, Russia, e-mail:  
tarasova2004@inbox.ru

***Abstract***

State security serves as an integral indicator of the effectiveness of the country's development and is determined by a set of components that reflect the productivity of the functioning of the state. The article analyzes the state security of the Republic of Belarus. Each component reflects the real state, dynamics, development prospects and determines the account of the influence of factor groups. Therefore, in order to quantify the level of security, it is necessary to define an indicator complex, which allows to form a vector of development of the investigated field of activity. The integral level of economic security of the regions of the Republic of Belarus is determined. The article attempts to qualitatively assess the level of economic security of internal and external segments of the country, phased ranking of the achieved safety index, as well as a vector description of developed and backward areas of the country's functioning. In the framework of this study, taking into account the detailed study of each component of general state security, the evaluation tools were tested on the most important component determining the country's development vector - economic security. The proposed methodological tools provide an opportunity to assess the level of economic security of the country, cross-country comparisons, criteria for grading security levels - based on the selected set of unified indicators, which allows to determine the strengths and weaknesses of the realized vector of economic development, acting as a basic concept of general state security.

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**Keywords:** Digital economy, economic security, indicator, national security, economic system.



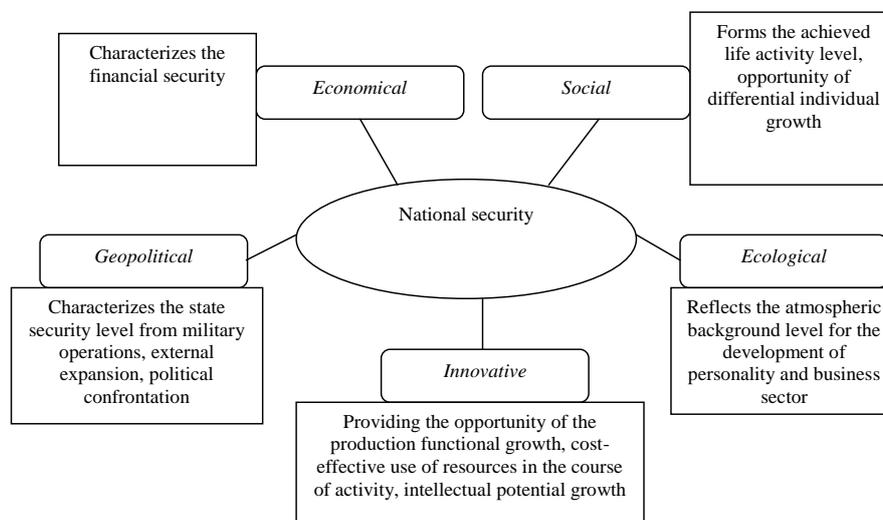
## 1. Introduction

The modern situation in the world podium of economic defile of countries demonstrates the state of dynamic development decline in the majority of components of the structural branch mechanism. The noted tendency of decline of production volume indicators, salary, together with the reduction of purchasing power of the national monetary unit, inflation growth, dependence on importers forms the persistent necessity of formulation of the protection strategy and smooth development of the country. This requirement is possible on the assumption of creating the security of functioning of each activity sphere on the basis of the synergetic effect. It is achievable at the development of the tools of assessment of the country security level, determination of weak points in the development with the purpose of the total security of the economic management branches of the country and provision of favourable factors of development stimulation. The provision of stable development in functioning fields is the basis of the secure state.

## 2. Problem Statement

The works of Erkeev (2015), Kiryanov (2006), Matveeva, Chernova, & Klimuk (2015), Miroschnichenko (2015), Novikova & Krasnikov (2011), Gurban & Myzin (2012), Koksharov & Agarkov (2015), Spear & Williams (2010), Bussière, Imbs, Kollmann, & Rancière (2013), Capone, Bilali, Debs, Cardone, & Driouech, (2014), Echterling, Eierle, & Ketterer (2015), Galbraith (1973), Kormishkina, Kormishkin, Semenova, & Koloskov (2015), Kudrevatykh & Sheveleva (2016), Fridman, Rechko, & Pimonov (2012) and other scientists are devoted to the study of dynamics, factor influence on the country security level. At their bottom there is the reflection of the methodological basis and practical use for assessing the security and strategizing of country development.

The state security serves as the integral indicator of the effectiveness of actually realized development strategy. In our opinion the national security is determined by the complex of components which reflect the polydirectivity of state functioning (Fig. 01).



**Figure 01.** Compositional analysis of the state national security

Source: Authors

Each component (Fig. 01), for the purpose to reflect the real state of dynamics, development prospects, stipulates the accounting of influence of factor groups. Therefore, for the quantitative assessment of security level it is necessary to determine the indicator complex that allows to form the development vector of the studied functioning sphere.

### 3. Research Questions

Within the frames of the conducted study, appraisal of work volume, the economic security component is of interest, that presents “the economy state at which the security of national interests of the Republic of Belarus from internal and external threats is reliably provided” (Table 01) (in conformity with Conception of the National Security of the Republic of Belarus, Order of the President № 575 dtd. 9.11.2015).

**Table 01.** Approaches to the definition of economic security

Approaches	Definition
1. Production approach	Under the economic security of this or that system the cluster of features of state of its production subsystem that provides the opportunity to achieve purposes of the whole system should be understood.
2. Personal approach (Protection of interests) (Decree of the President of the Republic of Belarus № 575, Decree of the President of the Russian Federation № 608)	The economic security is a system of protection of life interests of the country. The following can serve as protection objects: national economy of the country as a whole, separate country regions, separate spheres and branches of the economy, legal and natural persons as business entities.
3. Progressive approach	The economic security is the economic system state which allows it to develop dynamically, efficiently and solve social tasks and at which the state has the opportunity to develop and put into effect the independent economic policy.

Source: Authors.

For the assessment of economic security of the country (region) different methodical approaches are used which differ by their algorithm and indicator set (Table 02).

**Table 02.** Methodological approaches to assessing the level of economic security

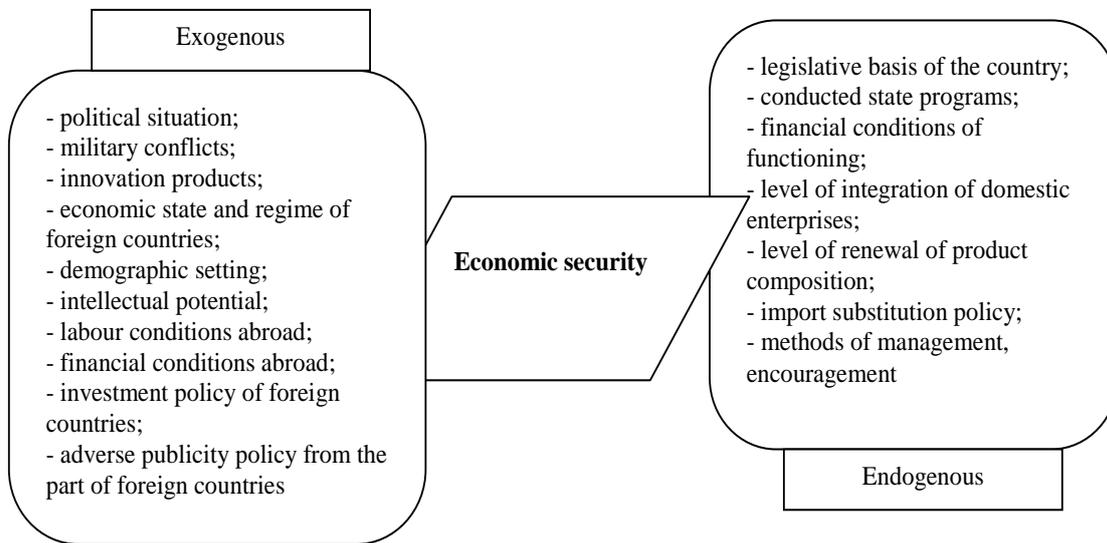
Approaches	Characteristic
1. Monitoring approach	Keeping track of the main microeconomic indicators and their comparison with designated threshold values.
2. Expert approach	Indicator ranking (activity spheres) by importance in the formation of economic stability concept.
3. Econometric approach	Use of applied mathematics methods with the purpose of building a formalized model that provides the opportunity to forecast changes, take into account threats and to prevent them.
4. Reflexive approach	It is based on the assessment of damage from the consequences of arisen economic threats, which allows on the basis of threshold values and on the basis of retrospective data to develop the complex of recommended measures for their prevention.

However, according to our imagination, the following drawbacks are peculiar to designated approaches:

1. Uncertainty (at determination of threshold values of indicators).
2. Subjectivity (at formation of scores by experts).
3. “Embodiedness” (when using econometric methods which provide the opportunity to forecast without taking into account force majeure situations, external actions).

Many scientists express their opinion about the restriction of used indicators in proposed author’s methods of assessment of the economic security – in the context of their criticism. However, the indicator set has the feature of unification at the assessment of separate spheres with the highest priority in the long view. And the included indicators can be added, excluded already in the course of performed works, that is testing. The researcher (performer) determines the quantitative level, and the qualitative system state is formed in regard to the current development level, state interests (according to predetermined priorities, reference indicators, retrospective data).

The economic system is the aggregate of mutually connected elements which take part in processes of purchase, production, sales, dealer operations, infrastructure network formation, conditions for running business and other elements. The quality of activity of each designated sector and its final result are determined by the complex of influencing factors which can be divided into exogenous ones (influencing extrinsically, formed by external agents-members) and endogenous ones (acting from inside, formed by the country itself) (Figure 2).



**Figure 02.** Factors of influence on the level of economic security of the country  
 Source: Authors

#### 4. Purpose of the Study

The purpose of this article is to study the existing tools for assessing the level of security in the country, identify weaknesses in development with the goal of complete safety of the economy's management branches and ensure favorable factors for stimulating development. Ensuring sustainable development in existing areas is the basis of a secure state.

## 5. Research Methods

Within the frames of observation of conditions of work volume restriction imagine in detail the indicator complex in regard to the leading component – economic one, that includes the following indicators.

GDP (gross domestic product), nominal salary, export, import, portion of the external state debt on GDP, gold and foreign currency reserves, net profit of organizations, inflation, investments, portion of loss-makers.

The level of security achievement in regard to each component ( $B_i$ ) is determined as the weighted mean on the basis of ranking of the chosen indicator system and weighting factors corresponding to them (determined by the ranking method):

$$B_i = \sum_1^n p_s \times k_s, \quad (1)$$

where  $p_s$  are values of the rate of change of the  $s$ -th indicator of the system;

$k_s$  is the significance factor of the  $s$ -th indicator of the system.

Accordingly, one can form the integral level of state security ( $K_s$ ) on the basis of components proposed by it above:

$$K_s = \sqrt[5]{E \times S \times I \times G \times P} \quad (2)$$

where  $E$  is the economic security level;

$S$  is the social security level;

$I$  is the innovation security level;

$G$  is the ecological security level;

$P$  is the geopolitical security level.

With the purpose of differentiation of the received result and formation of the general picture and tendency of changing the level of development the dynamic index ( $ДИ$ ) that reflects the rate of change of studied indicators – concerning absolute assessment indicators, and the identified index ( $ИИ$ ) that reflects the ratio of actual value with minimal (maximal) in the country – concerning relative indicators will serve as the selection criterion. The dynamic index is determined:

- for indicators influencing positively the country development:

$$DI^+ = \frac{p_{st}}{p_{st-1}} \quad (3)$$

- for indicators influencing negatively the country functioning:

$$DI^- = \frac{p_{st-1}}{p_{st}} \quad (4)$$

where  $p_{t-1}$ ,  $p_t$  is the actual value of the examined indicator for last (basic) and current (recent) year, respectively.

These tools are used for dynamic models.

The proposed methods can be used both for the qualitative assessment and gradation by levels of country security as a whole, and its separate regions with the purpose of reflection of the development dynamics in the perspective time segment, as well as intercountry comparisons.

On the basis of criterial ranking (as well as in quantitative terms) the security levels are formed:

- high ( $DI_t > DI_{t-1}$ ;  $DI_t > ИИ_{max}$ ) or ( $DI_t > +10\%$ );
- moderate ( $DI_t > DI_{t-1}$ ;  $ИИ_{min} < DI_t < ИИ_{max}$ ) or ( $+10\% > DI_t > 0$ );

- destructive ( $DI_t < DI_{t-1}$ ;  $DI_t > III_{min}$ ) or ( $0 \geq DI_t > -10\%$ );
- critical ( $DI_t < DI_{t-1}$ ;  $DI_t < III_{min}$ ) or ( $DI_t < -10\%$ ).

The proposed tools of quantitative assessment can be used for dynamic models. For static models (at the data limitation, selection of the research period) the complex of relative indicators is used. For the quantitative assessment of economic security the following serves as such indicators:

- import and export capacity (specific weight of import, export in the gross domestic product);
- labour efficiency;
- coefficient of renewal of fixed assets;
- investment returns (ratio of products volume to invested funds in this process);
- debt burden (portion of the external debt to gross domestic product);

salary returns (ratio of product release to the cost value for labour payment) and other indicators characterizing the economic background state at this moment of country development.

## 6. Findings

Modern organizational structures are more "flat", with fewer hierarchy levels, compared to those existing 20-30 years ago. It is not for nothing. John O'Shaughnessy (2013) wrote as early as 1976: "The more uncertain the jobs to be done, the flatter the organization structure ... A flat structure is better for the horizontal communication needed to achieve coordination when task uncertainty necessitates on-going integration of individual efforts". However, reducing hierarchy levels in an organization with the same number of employees leads to increasing in the number of supervisees assigned per manager and to extending the function span. Under the circumstances, the share of purely rational decisions under the manager's responsibility structure goes down. At the same time the number of tasks to be coordinated grows simultaneously. Coordination and interaction with employees take on greater roles. Multitasking, meticulous reconciliation and social interaction – these are the types of work a female can successfully cope with.

The matrix structure of the company is one of the most effective modern organizational structures which implies the principle of one-man management violation. It is widely known, that in the matrix structure company, an employee may have simultaneously several bosses, who can give conflicting orders and instructions. In that context, purely diplomatic qualities become absolutely necessary, as well as the ability to be amicable and non-confrontational in working relations; above all to have a way of coordinating multidirectional work processes, finding optimal solutions in multicriteria conditions, and presenting arguments for the management.

The ability to work in multitasking conditions and successfully turn contradictory and even competitive relations into cooperation, the tasks of coordination and approval usually come easier to women.

The need for constant changes. A female being the genus guardian (the population depends more upon the number of females) is more conservative than a male who by nature is a fearless innovator. Therefore, the initiative-innovative function in companies is usually better performed by a male.

Innovations are often risky. As shown above, taking risky decisions by women has its own specificities; in this regard male and female risk approaches can successfully complement each other.

However, it is well known that innovations introduction often meets resistance from employees, and here we go again: the female qualities of successful cooperation, reaching agreements and consensus are in demand.

In a rapidly changing environment, it happens that "horses have to be changed in midstream". For instance, a year ago variant A seemed to be the most optimal solution, but as of today it has to be adapted to the changed conditions, or even completely abandoned because of changes in the external environment. A man often perceives this situation as an erroneous decision taken (resulting in the mistake acknowledgement, following damage to his authority).

Meanwhile, in the baseline, the initial adopted solution could have been the most effective indeed, and at that time no one could predict the situation to change in that manner.

A woman usually accepts the course of events without a painful accent, and much more easily modifies the strategy, conceiving it to be a natural development instead of a mistake. She faces it every day, for example, in bringing up children. The practices used in child-rearing quickly lose their effectiveness as children grow, develop and become more mature. Every now and then one needs to invent something new, adequate to the current level of child development. A woman easier understands and accepts, that it isn't not much of a wrong strategy - the conditions have changed.

The share of irrational decisions taken under conditions of uncertainty and lack of information increases. It is caused by volatility growth and the external environment uncertainty in management, especially in top management, when making strategic decisions. Under the circumstances, "female" solutions, based both on accurate calculations and intuition, are increasingly in demand.

## 7. Conclusion

The suggested methodical tools provide the opportunity to assess the level of the country economic security, intercountry comparisons, criterial gradation of security levels – on the basis of the selected complex of unified indicators, which allows to determine strong and weak sides of the realized vector of economic development, acting as the basic concept of the total state security. The developed directions are the recommended complex of prerogatives that provide the country development stability.

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