

CDSSES 2020**IV International Scientific Conference "Competitiveness and the development of socio-economic systems" dedicated to the memory of Alexander Tatarkin****TRENDS AND CONTRADICTIONS IN THE ECONOMIC SECURITY OF THE REGION DEVELOPMENT**

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Abstract

Economic security is a multifaceted concept. It is impossible to increase Russia's economic security without considering the contribution of its regions to ensuring socio-economic development. The problem of accurate definition and measurement of economic security exists, which can be subjective, and combine economics with the analysis of economic security. The Sverdlovsk region is used as a case. The analysis revealed the contradictions in the socio-economic system's development emerged when regions strive to improve their economic security. These contradictions refer to pseudo-security. The quantitative analysis was based on Rosstat open-source data related to the Sverdlovsk region's economic performance in 2000-2018. Time series analysis and correlation analysis of economic security sub-indexes were held. The correlation analysis revealed a strong linear dependence between financial security, living standards, food security, demographic security, law and order, and environmental security. The analytical results of regional socio-economic systems displayed specific contradictions that hinder the development of a particular economic level, despite the general improvements in the region's economic security. Thus, the system needs additional incentives to overcome destructive trends, to guarantee stability and to diminish the level of pseudo-security.

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1. Introduction

It is impossible to increase Russia's economic security without considering the contribution of its regions to ensuring socio-economic development. Commonly, economic security is defined as the resilience of the systems that provide a nation, region, community, or household with a basic living (Spacey, 2018). According to Scopus and Web of Science databases, the scientific background of economic security research in the period of 2000-2019 shows a significant growth of interest in this field. (Figure 1). A total of 9,981 papers have been published since 2000.

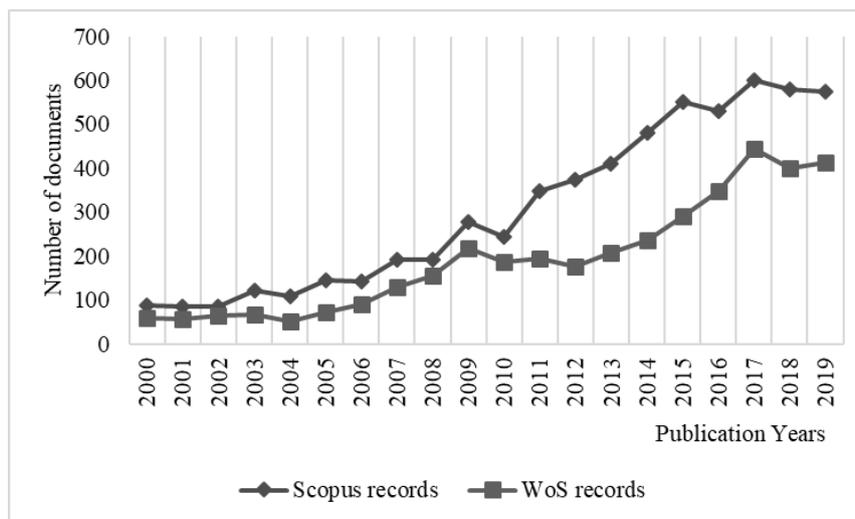


Figure 1. Number of documents with the keyword "economic security" published in Scopus and Web of Science databases, 2000-2019

Many researchers consider economic security a substantially challenging concept in the focus of ideological debates about the state's role and social justice. Combining the approaches into three groups, Marton (2020) criticises academic literature on economic security for the ambiguity and vagueness of the subject. The author describes the traditional statist-mercantilist, socialist, and liberal schools of thought according to the implications of distinct ideological approaches to economics and economic policy.

Table 1 presents the classification of different schools of thought regarding economic security in the triangular logic of state – market – society. In this case the differences of economic security concepts are defined from the perspective of threats and referent objects. The referent objects are those who need to be protected from threats. But, depending on the approach, the particular subject of economic security can be considered either a reference object or a threat. Consequently, for example, if the liberal approach uses constant economic restructuring as a reference object, then for traditionalists and socialists this phenomenon refers to a specific threat.

The discourse on economic security is worldwide. Thus, Momot and Avanesova (2016) studied international economic security approaches at the country and global level. They note the importance of this topic due to the strengthening of globalization and integration processes in the world economy, which they define as a threat to economic security. The researchers concluded that the state's central functions

are the protection of national interests and the formation of an economic security strategy. The authors consider the economic growth as a pledge of economic security of the country.

Table 1. Schools of thought concerning economic security

Schools of thought	Economic security pillars	Main adherents	Referent objects of security
Nationalists-traditionalists	Positive balance of trade, fiscal stability of the state. The stability and strength of the state is in priority.	Mercantilists, Antonio Serra	The state as the main referent object over the free and independent market which leads to abundance of potential threats.
Socialists	Measures to provide justice and equality within society as well as worldwide. Stable and even growth of the well-being of people in priority over fast overall economic growth. The challenges to the security of economic actors (insecurity) to make them more resilient in the long run or being replaced by better-adapting actors to obtain the collective benefit of all involved.	Henri de Saint-Simon, Robert Owen, Karl Marx	Society and social actors should be shielded from the effects of the competition of changeable market forces, which provides various threats.
Liberals	Tolerance for inequalities and acceptance of dangerous consequences. The little role for the state.	Adam Smith, David Ricardo	The defense of the constant economic restructuring as a referent object. The protection against the protectionist and sovereigntist impulses of states, market actors' oligopolistic tendencies, and egalitarian endeavours in society as significant threats.

Source: adapted from Marton (2020)

2. Problem Statement

Currently, a liberal approach prevails in the world economy, but its postulates could be problematic for the states that can hardly support themselves independently, e.g., Heavily Indebted Poor Countries. Thus, on the one hand, there is a particular paradox in economic security development. On the other hand, there is no absolute liberal order due to constant inequalities and asymmetrical development of the world economy, a blend of political and economic forces. Consequently, the problem of an accurate definition of economic security exists, which can be subjective, and combine the study of economics with the analysis of economic security.

2.1. Economic security development

Economic security is a multifaceted concept. The analysis often depends on the economic theory, factors, and subjective criteria the researchers use to formulate a specific economic security definition.

The paper does not aim to study all economic security approaches, but only to highlight the latest research in this field to identify some contradictions.

Several recent works focus on globalization and its effects. Thus, Mojsoska and Dujovski (2018) study new forms of economic security arising under the increase of international migration of people and resources, technological development, and globalization. Economic security covers economics, social science, and political science. Soltes et al. (2020) think that globalization positively changed some aspects of human quality of life, especially in regional development. Nevertheless, globalization brought illegal migration and related crimes committed by foreigners, which negatively affects economic security. The researches consider the interdependence between security issues and human quality of life improvement.

As an integration process consequence, Gehrke (2020) discusses interdependence as a cornerstone of the European Union's economic security. He notes that the current pandemic reveals the vulnerabilities of a globalized economy and considers the dependencies of supply chain and economic security. Therefore, Gehrke (2020) sees the solution to increasing these trade networks' resilience and political cooperation. Previously, Ignatov (2019) reveals the constant decrease in the European Union's economic security in the period of 2007-2017. In this research, economic security is identified as a condition or situation of a country's socio-economic environment characterized by stable welfare generation supporting the growing living standards. Economic security describes states' ability to efficiently implement policies and strategies to reach the desired goals without being constrained by any external or internal threat.

A certain amount of research focuses on the economic security of countries. For example, Mikhnevych et al. (2020) study the relationship between country image and economic security level. The authors proved that the country's image is one of the indirect parameters affecting the country's economic security. Allen and Mirsaedi (2020) focus on boosting public health preparedness policy as an issue of national and economic security to be better prepared for future pandemics. Vaslavskaya et al. (2015) examine the relationship between economic factors and social security benefits, their production, and consumption in Russia. The researchers note the difference in defining economic security on the state and on the enterprise levels.

Still much of the research typically comes down to the welfare of nations, but Hacker et al. (2014) pointed out that limiting the definition of economic security only to the well-being assessment is insufficient.

2.2. Economic security methods

The issue of measuring economic security is debatable as well. Mojsoska and Dujovski (2018) denote the variety of approaches in measuring economic security. Moreover, a significant number of countries do not estimate their economic security at all. The problem is the lack of a unified system of measuring economic security through countries. This situation complicates identifying external and internal factors and threats to economic security and does not allow for coordinated state policy.

For measuring economic security, Momot and Avanesova (2016) propose a holistic view of the country's socio-economic development, such as investment, financial, monetary, foreign economic sphere, and institutional reforms. The research compared the economic security of EU member countries

and the CIS. Ignatov (2020) focused the study on revealing the discrepancies in the European Union's economic security. The correlation analysis has shown the differences in business and entrepreneurial performance despite a fundamental basis for growth.

Hacker et al. (2014) performed the Economic Security Index as a measure of economic insecurity. Based on American households' research, they created an integrated measure of volatility in available household resources, accounting for fluctuations in income and out-of-pocket medical expenses, as well as financial wealth enough to buffer against these shocks. The researchers denoted the cyclical character of insecurity and its constant increase through time series. However, the authors admitted the absence of an ideal measure of all aspects of economic security.

Piotrowska and Kosny (2018) study the differentiation in the economic security of households through cohorts. The cohorts were divided according to the similarities in education and professional experiences. The researchers developed the concept of economic resourcefulness to explain the perception of economic security by households.

On the country level (Danova & Dubravka, 2016); (Mura et al., 2017); Mojsoska and Dujovski (2018) use economic security index developed by International Labour Organisation. The researchers consider economic security as an integral part of economic freedom, i. e. economic security with economic freedom. Vaslavskaya et al. (2015) combined the theory of public goods and economic security and admits the significance of public goods production and consumption changes. They developed the diagnostic system of the territory's economic security, including the following subsystem of static and dynamic indicators: energy, scientific and technological components, financial components, food, the safety of property, pure public goods, mixed public goods.

The uniqueness of (Hershbein et al., 2020) research is an empirical simulation exercise for groups of US adults age 24 to 54 to evaluate how the increasing rates of college attainment affect the different measures of income inequality and economic insecurity. The authors used a distributional approach and a causal parameter approach and found that increased rates of bachelor's degree and associate degree could help to increase economic security for lower-income individuals and reduce gaps between the 90th percentile and lower percentiles.

Much of the eastern research concentrated on the regional level. Tsvetkov et al. (2019) argue that current methods for assessing regional economic security are static and contain a complex set of indicators which is challenging to interpret. The authors proposed an indicative model for assessing regions' economic security and tested it on Sverdlovsk region data. Onyshchenko and Bondarevska (2018) developed the method of assessing the region's economic security, which consists of integral indicators and their thresholds, divided to the satisfactory, unsatisfactory, critical, and unsatisfactory state of economic security of the region. Kayukov and Shikhverdiev (2018) examine regional economic security, specifically in institutional theory paradigm, which helps identify specific institutional factors, such as market behaviour. They argue that economic security aids to solve governance imperfections and unify several theories. Chichkanov et al. (2020) hypothesise that the level of economic security of region depends on its main industry which stimulates the socio-economic growth.

The problem of forecasting the economic security trends exists. (Shvaiba, 2020) proposed a statistical method for predicting the characteristics of socio-economic security statistics. The estimation

using the mean square error value and the aspect of the series “ascending” and “descending” series help to select the correct trend and to use deterministic component of trend models. The research revealed the absence of precise cycles in time series of values for characteristics of socio-economic security statistics both modelled and calculated.

3. Research Questions

What are the most significant contradictions that can be attributed to pseudo-security of the region's socio-economic development?

4. Purpose of the Study

The purpose of the study is to reveal the contradictions in the development of the socio-economic system that emerged when regions strive to improve their economic security.

5. Research Methods

The research is based on content-analysis of publications concerning the study of different approaches related to countries' economic security, regions, and households. The quantitative analysis was based on Rosstat open-source data related to the economic performance of the Sverdlovsk region. Time series analysis and correlation analysis of economic security sub-indexes are held to determine the linear association between the variables. The economic security sub-indexes are as follows: investment, manufacturing, scientific and technical, demographic, foreign economic activity, financial, energy, environmental, food security, law and order, living standards, and labour market.

6. Findings

The results of the study of regional socio-economic systems displayed specific contradictions that hinder the development of a certain economic level, despite the general improvements in the economic security of the region. We define this state of the socio-economic system as pseudo-security (Kuklin et al., 2019).

6.1. Correlation analysis of economic security indicators of Sverdlovsk region

The research of interdependency of economic security sub-indexes is based on previous calculations of sub-indexes according to the methodology of Ural school of economic security. The correlation coefficients between the indicators were calculated to find out the linear association between the variables. Table 2 presents the results of correlation matrix of economic security sub-indexes of Sverdlovsk region in the period of 2000-2018.

Table 2. Correlation matrix of economic security sub-indexes of Sverdlovsk region

Ind	C	D	E	F	G	H	I	J	K	L	M	N
C	1											
D	0.632*	1										
E	-0.541*	-0.582**	1									
F	0.246	0.505*	0.490*	1								
G	-0.0683	-0.516*	0.603**	0.667*	1							
H	0.0396	0.458*	0.404	-0.435	0.793**	1						
I	-0.0422	0.510*	0.576**	0.663*	0.976**	0.862**	1					
J	0.0017 2	-0.190	0.491*	-0.408	0.631*	0.585*	0.687*	1				
K	-0.240	0.603**	0.656**	0.834**	0.876**	0.645*	0.863**	0.562*	1			
L	-0.258	0.337	0.444	0.824**	0.530*	0.293	0.533*	0.428	0.781**	1		
M	-0.186	0.680**	0.668**	0.749**	0.915**	0.743**	0.914**	0.580**	0.958**	0.671*	1	
N	-0.371	0.404	0.664**	0.762**	0.624*	0.341	0.608*	0.547*	0.772**	0.916**	0.694**	1

* p < 0.05, ** p < 0.01, *** p < 0.001 (p-value)

Source: authors calculations

The economic security sub-indexes are as follows: C – Investment security, D – Manufacturing security, E – Scientific and technical security, F – Foreign economic activity security, G – Financial security, H – Energy security, I – Living standards, J – Labour market, K – Demographic security, L – Law and order, M – Food security, N – Environmental security.

As it can be observed, the coefficients of the investment, manufacturing and foreign economic activity securities are negative. Simultaneously the correlation matrix shows a strong linear dependence between the following pairs of sub-indexes: financial security – living standards; financial security – food security; food security – living standards; food security – demographic security; law and order – environmental security. Additionally, the calculations revealed the lowest correlation of investments security with almost all other sub-indices except manufacturing security, or probably it could mean the absence of linear dependency.

6.2. Contradictions of economic security trends

Time series analysis of the Sverdlovsk region sub-indexes revealed contradictions as well. A market concentration remains high in the region, a few large companies prevail, while the region's industry structure is becoming more complex. The consequence of this situation is the restriction of competition in regional markets. The analysis revealed a constant growth of financial sector investments, but the stable decrease of real sector investments. There is a lack of long-term investment in regional markets as well. The other interesting controversy is the continuing trend of increasing capital investment in outdated technologies, which leads to the consumption of fixed assets' acceleration. Thus, for example, (Gubanov, 2017) criticises the Economic Security Strategy of the Russian Federation for the period till 2030, highlights the basic problems of Russian economy and its contradiction, specifically the decline in the own production of advanced technologies. In a nutshell, a threat to Russia's security lies not in the high technology of other countries, but in the absence of domestic high technology.

Similarly, we observe an increase in capacity utilization, but it does not give a significant increase in labour productivity. Consequently, this situation leads to the private sector companies' efficiency decline, which partially results in regional budget deficit. Changes are observed in the ratio of regional and federal affiliation of companies. A high degree of presence of foreign companies in the regions remains.

7. Conclusion

The scientific world has yet to see the consensus in economic security issues. The variety of approaches, definitions, measuring methods leads to contradictions in interpreting the results of application the economic security policy. Security gains in certain circumstances do not guarantee the overall socio-economic development. Therefore, in order to increase the economic security of the region and to ensure its further sustainable economic growth, the elimination of internal contradictions in the development of the socio-economic system is not enough. The system needs additional incentives to overcome destructive trends, to guarantee stability and to diminish the level of pseudo-security.

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