ECONOMIC SECURITY OF THE COUNTRY FOR STABLE DEVELOPMENT

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Abstract: The slowdown in EU economic growth leads to the search for ways to ensure security in the economic sphere, in particular through a strategic partnership with world leaders. The aim of this article was to identify the state of economic security of EU countries in the context of stable development. The research methodology is based on the correlation and factor analysis of the factors that determine the state of economic security based on the system of indicators of stable development of the EU countries for 2011-2020. The results show a slowdown in economic growth in the EU in 2011-2020, in particular the systemic nature of the crisis. The factor analysis suggests that long-term unemployment, changes in export and import indices best explain the variation in EU GDP growth.

Keywords: Economic Security, EU Security, GDP Growth, Stable Development, Strategic Partnership.

1 Introduction

The stable development of the EU and economic security are linked by the stability of economic growth as a key indicator that characterizes these concepts. The slowdown in EU economic growth for a number of reasons, especially in 2011-2020, leads to the search for ways to ensure security in the economic sphere, in particular through strategic partnerships with world leaders: China, USA, Japan and countries with significant reserves of raw materials and human capital (Moldova, Ukraine, and Georgia). Among the reasons for the slowdown: population aging, industrialization and as a consequence of the reduction of the share of the agricultural sector in GDP, the need to import raw materials for production, the growing share of services. To solve these problems, the EU is steadily establishing partnerships and enjoys the relative competitive advantages of other countries: China to attract resources (including financial during the crisis) and use human potential through the financing of manufacturing enterprises, developing countries, to attract raw materials for production. Instead, EU countries provide a number of advantages to strategic partners due to the highly developed technology sector and services, which poses a number of economic security risks (for example, joint ventures between European and Chinese companies require the provision of all information on technology and development, which leads to transfer technology and innovation in China). Some of the reasons for the disengagement are: an aging population, industrialization and, as a result, a declining share of the agricultural sector in GDP, the need for imports of raw materials for manufacturing, and an increasing share of the services sector. To solve these problems, the EU steadily builds partnerships and takes advantage of significant competitive advantages of other countries: China to gain resources (including financial resources during the crisis) and use the human potential through the financing of manufacturing enterprises, the countries that are developing, to gain raw materials for production. In fact, EU countries offer a number of advantages to strategic partners due to a highly developed technological sector and the services sector, which entails a number of risks in the field of economic security (for example, joint ventures between European and Chinese companies require all information about technology and development, which leads to the transfer of technology and innovations to China). Despite the EU countries' search for partners to ensure stable economic growth and the emergence of a number of security risks, it is relevant to study the experience of countries in the context of ensuring economic security and old growth.

The aim of this article is to identify the state of economic security of EU countries in the context of stable development. The main objectives of the study are:

- Identifying the dynamics of the level of economic security through the assessment of annual GDP growth in the EU.
- Identification of the dynamics of EU economic security factors and their impact on the security situation in the region.
- Discussion of relations of EU countries with other countries in the context of economic security.

2 Literature review

The economic security means a set of economic ties to ensure stable economic growth, economic independence of the country, and a strong position in the world trade market provided military security and security of the country (Gryshova et al., 2020). According to the European Commission's definition, economic security is the long-term ability to protect a country's relative well-being by accessing resources and productive capacity, protecting the market and maintaining macroeconomic stability (Casarini, 2006). This definition directly indicates the three main indicators of economic security: the stability of economic growth, output growth, trade.

The economic security and resilience are the biggest challenges in the world, especially in times of crisis. In the scientific literature, there are many theories of achieving sustainability and economic security, which are characterized by different levels of utopianism due to the lack of economic basis (Wysokińska-Senkus & Raczkowski, 2013). The economic security in general determines the stable economic development and the state of protection of the country from internal and external threats (Smirnov et al., 2019). Gryshova et al. (2020) propose to assess the level of economic security based on indicators of annual GDP growth, inflation. In the scientific literature, there are no comprehensive studies of EU economic security in the context of stable development for the last 2011-2020. Research focuses on the EU's economic security and ways to achieve it through partnerships with world leaders or developing countries through resource mobilization. In addition, individual EU economies are often become the objects of the research.

3 Materials and research methods

The article proposes a study of the economic security of EU countries using a system of indicators in the context of stable development goals, which are identified based on the most socially dangerous threats to economic security.

The main threats to the EU's economic security are:

- within Sustainable Development Goals (SDG) 2 "Zero hunger" – sustainability of agricultural development in connection with the reduction of agricultural production in the EU through industrialization, which is estimated based on the dynamics of the Index of the real income of factors in agriculture per annual work unit (Index = 2010) in the EU for 2011-2020 (Eurostat, 2021);
- within SDG 8 "Decent work and economic growth" – the sustainability of economic development due to the slow growth of growth development product (GDP), especially after the crisis of 2008 (measured by GDP annual growth (%) (World Bank, 2021); Gross domestic product at market prices and current prices, euro per capita); Total population national concept, percentage change on previous period; real labor productivity per person, Index, 2015 = 100; Total

long-term unemployment from 15 to 74 years, percentage of unemployment and percentage of population in the labor force (Eurostat, 2021);

▪ the position of EU countries in the world trade market, measured by indicators: Share of national imports, national exports in world imports (all products, %); Trade balance in million ECU/EURO (Total – all products); Export unit value index (2015 = 100, all products); Import unit value index (2015 = 100, all products) (Eurostat, 2021).

The correlation analysis based on Spearman's correlation coefficient was used to determine the directions of the relationship between economic security indicators with a significance level of 5%. To determine the structure of economic security, a factor analysis was conducted in order to group the factors (indicators) of the greatest impact on the security of EU countries. The Principal Component Analysis (PCA) was used for the first stage of factor analysis, which involves the separation of key factors into a separate group (Schneeweiss & Mathes, 1995). Based on the coefficient of variation, the priority of groups of factors in explaining changes in economic security is determined. The statistical method of Varimax rotation (Kaiser, 1958) was used to explain the relationship between factors. For correlation and factor analysis, the average values of these indicators for the period 2011-2020 for 28 EU countries were used.

4 Results

The problem of stable development in the EU is related to ensuring stable GDP growth, the rate of which has been steadily accelerating since 2000 (see Fig. 1). Despite the fact that the pace of economic growth was the most sporadic in 2011-2020, this period will be analyzed in order to identify the state of economic security in the context of the old growth. During the period 1971-1981, the average annual GDP growth rate was 3.11%; during the period 1981-1991 – 2.36%; during the period 1991-2001 - 2.22%; during the period 2001-2011 – 1.43%; during the period 2011-2020 - 0.72%. Therefore, ensuring the stability of economic growth can be considered as one of the threats to economic security, which encourages the EU authorities to find solutions to reduce insecurity, including dependence on imports from other countries through deficit of production. The speed of economic development is associated primarily with a decrease in real labor productivity: for the period 2011 - 2020, the index was 99.9 on average. The next factor contributing to a reduction in the pace of economic growth is the aging of the population within the EU, namely through widespread population growth: the average value of the population changes over 2011-2020 was 0.2%. Among the threats to national security is the problem of long-term unemployment: the indicator was 43.4% for 2011-2020 among the population aged 15-74 years out of the total number of unemployed and 4% of the labor force.
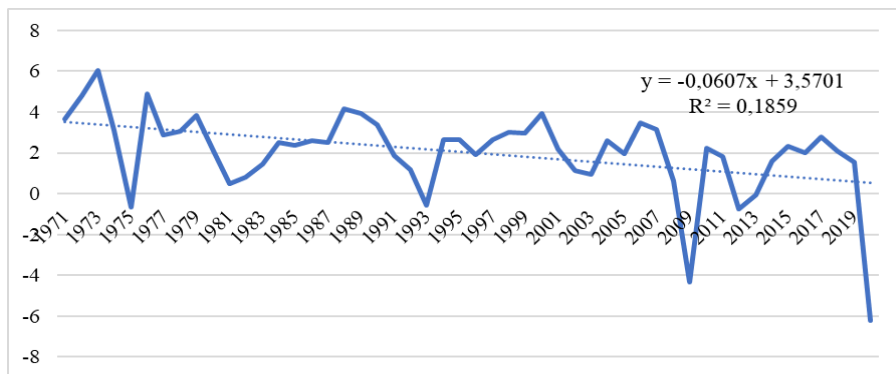

Figure 1 – GDP annual growth in the EU, 1971-2020%
Source: World Bank (2021)

Table 1 shows the results of the correlation analysis of economic security indicators of the EU. The average GDP growth rate in the EU is linearly related to the long-term unemployment rate: a correlation coefficient of -0.44 indicates the reversibility of the relationship between variables. In addition, a low degree of inverse linear relationship was found between GDP growth over

the last 2011-2020 and changes in exports and imports in the EU (Table 1).

This means that these factors can have a negative impact on economic security and be a threat to stable economic growth.

Table 1: The correlation analysis of EU economic security indicators

Indicators	Average GDP	Index of real income of factors in agriculture	Total population,%	Real labor productivity	Total long-term unemployment	Export unit value index	Import unit value index
Average GDP annual growth,%	1.00	0.20	0.21	-0.03	-0.44	-0.30	-0.25
Index of real income of factors in agriculture per annual work unit	0.20	1.00	-0.52	0.28	0.15	0.07	-0.01
Total population national concept, percentage change on previous period	0.21	-0.52	1.00	-0.70	-0.40	-0.24	-0.22
Real labor productivity per person, Index, 2015 = 100	-0.03	0.28	-0.70	1.00	-0.16	0.18	0.09
Total long-term unemployment from 15 to 74 years, percentage of population in the labor force	-0.44	0.15	-0.40	-0.16	1.00	0.54	0.52
Export unit value index (2015 = 100, all products)	-0.30	0.07	-0.24	0.18	0.54	1.00	0.72
Import unit value index (2015 = 100, all products) (Eurostat, 2021)	-0.25	-0.01	-0.22	0.09	0.52	0.72	1.00

Source: calculated by the author based on Eurostat (2021a-f), World Bank (2021).

Statistics show that the share of national imports in world imports of EU products averaged 15.3%, down from 16.9% in 2011 to 15.4% in 2019. The share of national exports in the global exports of EU countries averaged 15.6% in 2011-2019, growing from 15.5% in 2011 to 15.9% in 2019. In 2011-2012, the trade balance of the EU countries was €-174,950 million and €-112,738 million, in 2013-2017 the trade balance was positive (the average was € 38,598 million), in 2018 and 2019 the indicator was € -26,202 million and € -20,899 million respectively. At the same time, the negative trade balance between the EU and the US averaged € -702,703 million in 2011-2020, Japan averaged € -23,216 million, and India averaged €-118,524 million. However, the EU countries had a positive trade balance with China – an average of € 314,368 million. It is also worth noting the inverse linear relationship between the index of real income factors in the agricultural

sector per capita and population change (-0.52), population change and real labor productivity per person (-0.7), population change and long-term unemployment (-0.4). A direct linear relationship was found between long-term unemployment and the index of exports and imports (0.54 and 0.52) (Fig.2.).

The graph of distances between factors makes it possible to clearly identify the most important factors influencing economic security. The point where the continuous fall of the eigenvalues slows down (for example, number 3) means that after the level of other eigenvalues reflects only random "noise". In the graph below, this point may correspond to factor 3, after which the eigenvalue of factor 4 is much smaller and after factor 4 there is again a sharp drop in the eigenvalues of the factors. The graph clearly demonstrates the existence of two groups of factors of economic security.
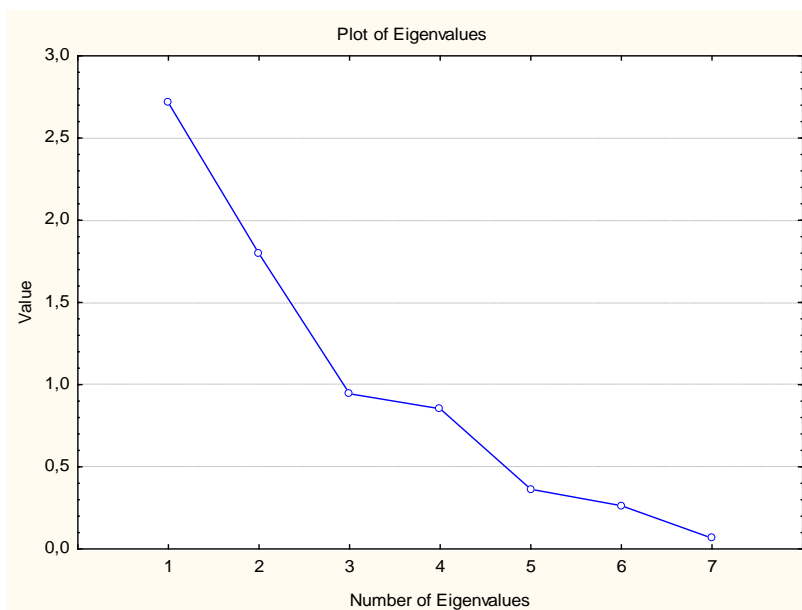

Figure 2 – The plot of Eigen Values (Graph of distances between factors)
Source: calculated by the author based on Eurostat (2021a-f), World Bank (2021).

In Table 2, the groups of factors correspond to columns, and variables - rows, for each factor indicates the load of each source variable, which shows the relative magnitude of the projection of the variable on the factor coordinate axis. The factor loads can be interpreted as correlations between the corresponding variables and factors - the higher the load, the greater the

proximity of the factor to the initial variable; that is, the correlation represents the most important information for the interpretation of the obtained factors. The selection of factors group and factors within the groups occurred in such a way that the variation of each factor was smaller, i.e. less explained the change in economic security.

Table 2: The results of factor analysis by the method of Varimax raw. Extraction: Principal components

Indicators	Factor 1	Factor 2
Average GDP annual growth,%	-0.615954	0.074353
Index of real income of factors in agriculture per annual work unit	-0.074476	0,729767
Total population national concept, percentage change on previous period	-0.285835	-0.884096
Real labor productivity per person, Index, 2015 = 100	-0.025955	0.819964
Total long-term unemployment from 15 to 74 years, percentage of population in the labor force	0.820279	0.091376
Export unit value index (2015 = 100, all products)	0,821640	0.155212
Import unit value index (2015 = 100, all products) (Eurostat, 2021)	0.815020	0.081880
Expl. Var	2.479528	2,031201
Prp. Totl	0.354218	0.290172

Note: Marked loadings are>, 700000 Source: calculated by the author based on Eurostat (2021a-f), World Bank (2021)

The factor analysis shows that the first group of factors of economic security of the EU should include the level of long-term unemployment of the population aged 15-74, export and import indices, which explain 35.42% of changes in the security of EU countries. The second group of factors includes indices of real income of agricultural production factors per unit of labor per year, population change and real labor productivity per

capita, which generally explain 29.01% of the variation in economic security.

5 Discussion

To ensure economic security, the EU pursues an active international policy of establishing a strategic partnership. For example, the EU cooperates with Japan in the field of economic

security based on Economic Partnership Agreement (EPA) and Strategic Partnership Agreement (SPA), the EU Japan Partnership on Sustainable Connectivity and Quality Infrastructure to ensure high standards of economic stability (Kirchner & Dorussen, 2021). The EU's strategic partner is China: countries are increasing the potential for trade cooperation, which has contributed to increased trade between countries, China's exports of information and communication products from EU countries, EU exports of raw materials, food (Casarini, 2006; Dorussen & Christiansen, 2018). At the same time, there is constant competition between the EU and China due to the desire to gain leadership in the international arena (Geeraerts, 2019).

As the economic crisis in the EU in 2008 significantly affected the level of economic security, which was reflected in the slowdown in economic growth, China acted as a financial partner (Jensen & Tatham, 2017). In particular, several euro area Member States, namely Greece, Portugal, Ireland and Spain, have faced serious difficulties in repaying or refinancing their public debt or repurchasing their debt instruments without the assistance of third parties. At that critical juncture, it was to be hoped that China, with its large foreign reserves, would invest more in resolving the Eurozone crisis (De Ville & Vermeiren, 2016). During the Grexit crisis in 2012, European Council President Herman Van Rompuy and European Commission President José Manuel Barroso visited Beijing to encourage China to help resolve the EU's financial crisis.

Today, China is the world's second largest economy and it is playing an increasingly influential role in world politics. Economic relations between the EU and China are no exception, especially at a time when the EU needs to accelerate economic growth and overcome the threat of high unemployment. The experts disagree that China's growing economic power has become a political force for the EU. During the economic downturn, the EU became more accommodating to China in the economic sphere due to the need to finance the region's economies. These are manifestations of mercantilism, which indicate China's use of economic force and the reduction of the EU's level of economic security. EU trade policy processes point to economic cooperation with China to attract resources, including financial resources through technology transfer and innovation. China also, in line with mercantilist logic, tried to use the crisis situation to put pressure on the EU and member states to change policy and secure their own leadership. Looking at the level of economic security of the EU member states, one can observe a division into north south, which contradicts the expectations of concessions of less economically developed countries to the interests of China. On the contrary, the position of member states depends on whether they have a protectionist or liberal trade position, and on their vulnerability to Chinese competition. The number of visits to Europe and meetings with heads of state and government has increased since the crisis began. However, a closer look reveals some evidence to support the fact that China has successfully encouraged some economically dependent and/or smaller member states not to meet. Although China has tried to use its economic power to make political concessions, it has had limited success. Despite China's attempts to use its own economic power in the context of cooperation with the EU, the partner's attempts were unsuccessful (Wu & Jensen, 2017).

The EU's economic integration with Ukraine, Moldova and Georgia also aims to increase security (Ene, 2018). In Ukraine, taking into account the current state and trends of socio-economic development, increasing the volume of budget financing is problematic (Stehnei, Irtysheva, and Gurina, 2018). At the national level, the fight against corruption and the fight against the shadow economy are also elements of the EU's economic security (Otajonovich, 2021).

6 Conclusion

The EU's economic security is characterized by a number of shocks, as evidenced by a slowdown in GDP growth: the average annual rate of GDP growth was 0.72% in 2011-2020. The slowdown in the pace of economic development is due to a decrease in real labor productivity, the aging of the population within the EU, in particular through the growth of the population, and long-term unemployment. A low level of the bell-like linear dependence is seen between the growth rates of GDP over the past 2011-2020 years and the change of exports and imports in the EU countries. A positive linear relationship was revealed between the index of real income factors in the agricultural sector per person and the change in the number of population (-0.52), the change in the population and real labor productivity per person (-0.7), the change in the population and long-term unemployment (-0.4). A direct linear relationship was observed between long-term unemployment and the index of exports and imports (0.54 and 0.52). Factor analysis allowed us to identify two key groups of economic security factors. The first group of factors of economic security of the EU countries includes a level of long-term unemployment of the population aged 15-74 years and indices of exports and imports, which account for 35.42% of changes in the security of the EU countries. The second group of factors includes indices of real income of agricultural production factors per work unit per year, change in the population number and real labor productivity per person, which altogether explain 29.01% of the variation of economic security.

Further research should focus on the specifics of the EU's strategic partnership to ensure economic security with world leaders compared to developing countries, to assess the benefits of cooperation and possible challenges.

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