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COMPARATIVE ANALYSIS OF FINANCIAL-ECONOMIC INDICATORS AND EXTERNAL SECTOR DYNAMICS OF POLAND AND THE CZECH REPUBLIC

Summary. The article is devoted to the analysis of the main macroeconomic indicators` dynamics characterizing the state of the economy of the Czech Republic and Poland in the period of 2000-2017. It also demonstrates the changes of indicators of foreign trade activity, the structure of exports and imports of goods and services, the main trading partners and the dynamics of FDI. The regression models of the factors affecting exchange rate of the countries were built.

Key words: economic indicators, financial indicators, comparative analysis, balance of payment, international investment position, external debt, the Czech Republic, Poland.

Introduction and formulation of the problem. The integration of the markets of different countries is deepening in the modern world, barriers to the movement of goods, services and capital are eliminated. The acceleration of globalization of world economic relations and increased competition in world markets require the objective need for systematic and coordinated actions of the state, business and society to ensure the financial and economic stability of the country. Financial stability is characterized by financial system working without serious disruptions or undesirable consequences for the current and future development of the economy, while demonstrating a high degree of resistance to shocks. Thus, stable development of the country's national economy is important issue, since financial crises lead to a general decline in the country's income and the well-being of citizens, so it is important to determine the state of the economy and the financial system.

The countries of the Visegrad Group, namely the Czech Republic and Poland, are the core of CEE and belong to the group of countries with a high level of development. These countries are also a place of expansion of European trading companies and banks, so the analysis of the main economic indicators, as well as the stability of their financial systems is relevant for the Visegrad Group, and may be interesting from the point of view of a practical approach for less developed countries, such as Ukraine.

Analysis of recent research and publications. The research of various aspects of comparative analysis of the state of economic and financial indicators of countries is carried out by many scientists both domestic and foreign, including Drews A., Rodionova T., Kholod B., Ivanová E. and others. Data were taken from the official websites of the following organizations: IMF, World Bank, National banks.

The purpose of the article is to conduct a comparative analysis of macroeconomic indicators and the state of the financial systems of the Czech Republic and Poland in modern economic realities.

Presentation of the main material of the study. The Czech Republic and Poland are countries with a high level of openness of the economy and its involvement in the world one. A distinctive feature is the integration of the industrial sector of countries in production units, especially European TNCs. These countries are members of the community of Central European countries – Poland, the Czech Republic, Slovakia, and Hungary – which is called the Visegrad Group [1].

Considering the key macroeconomic indicators of the Czech Republic and Poland, Czech Republic GDP shows annual growth, however, in 2008-2009 the effects of the global financial crisis affected the decline of this indicator from 235 billion dollars to 206 billion dollars. However, by 2011 there was an increase of almost the pre-crisis period – $ 228 billion. In 2017, it amounted to 215 billion, that is, showed 4.3% growth compared to 2016.

Poland's GDP also tended to decline in 2008–2009 from 534 billion dollars to 440 billion dollars respectively. In Poland, there is a greater volatility of this indicator than in the Czech Republic, but in 2017 there is a positive trend in both countries. So, in 2017 GDP increased by 4.6% compared with 2016. Thus, the Czech Republic ranks 17th, and Poland – 9th position from 40 European countries. An indicator such as GDP per capita in the Czech Republic in 2017 was 20 thousand dollars and in Poland – 13, 8 thousand dollars.

The next indicator is the unemployment rate, one of the main economic indicators that affects the state and development of the economies of countries. The unemployment rate in the Czech Republic in 2017 was 2.9%. It was an improvement in this indicator since 2012. In Poland, there is also a tendency for this indicator to decline in recent years. So, it decreased from 10.3% in 2013 to 4.9% in 2017. For comparison, in Germany, Great Britain, France the unemployment rate is 3.8%, 4.4%, 9.4%, respectively. Thus, the Czech Republic is the country with the lowest unemployment rate in the EU.

An equally important macroeconomic indicator in analyzing the state of the country's economy is the level of inflation. So, the dynamics of inflation in the analyzed countries are very similar. From 2000-2003 it is possible to notice a significant decline, which was the result of a consistent and tight financial policy, which was conducted by the national banks of the countries in the period of transformation. A sharp leap was noticeable in the period of the global financial crisis, in Poland in 2008 the inflation rate reached 4.2%, and in the

Czech Republic – 6.3%. Starting from 2012 there is the reduction in inflation that is the result of the implementation of successful financial policies. But in the end, such a significant decrease in inflation led to the risk of being in a state of deflation, as, for example, in Poland. Therefore, it was decided to conduct a new policy, which led to an increase in inflation in 2017 in the Czech Republic and Poland to 2.3% and 2%, respectively (Fig. 1.1).

Monetary policy of the Czech Republic and Poland is one of the main instruments of governments in regulating the economy, which determines the development of the dynamics of its main financial indicators. The National Bank of the Czech Republic (NBCH) and Poland (NBP) is the main actor in the implementation of this policy [4].

The Czech National Bank (CNB) has actually approached the border of zero interest rates, having lowered its discount rate to 0.05% in November 2012. However, the CNB did not take further action to weaken the monetary policy, although the IMF experts discussed the possibility of introducing negative nominal interest rates for the Czech Republic. By decision of the Council of the CNB, the interest rate for two-week repo operations was set at 0.5%.

The National Bank of Poland (NBP) has also set a constant level over the past years of base interest rates at 1.5%. This decision was justified by the fact that the current level of interest rates contributes to the preservation of the Polish economy on the path of sustainable growth and maintaining macroeconomic balance.

To improve the functioning of the national economy, prevent deflation, as well as increase the competitiveness of Czech goods on the international market, the CNB has been implementing measures to weaken the national currency since December 2013. In order to prevent deflation, the Czech National Bank continued to carry out currency intervention, keeping the national currency rate against the euro at CZK 27. The goal was achieved, since in 2017 inflation rose from 0.11% to 2.3%, while the EU average in 2017 was 1.9%. It is worth noting that in 2018 it is planned to end the mode of currency intervention by the CNB, which should lead to the strengthening of the national currency of the Czech Republic and reduce figures of foreign trade [5]. In Poland, the Polish zloty has become stronger both against the dollar and against the euro. So, in 2017 the average annual rate was 4.26 zł. compared with 4.36 zł. for 1 euro in 2016 [6].

The level of financial stability of the Czech Republic and Poland is considered further through the analysis of financial indicators (FI). The favorable trends observed in the domestic financial sector in previous years continue in 2017. The banking sector shows its highest levels of capital, profitability and liquidity. The sector is approaching a low level of registered overdue loans. The insurance sector continues to grow and maintain good profitability. Persistently dynamic growth of pension and investment funds is supported by the growth of real incomes. The financial sector in the Czech Republic is characterized by the dominant position of the banking sector [5]. As for Poland, the modern financial sector has been developing in Poland since the beginning of the 1990s. The first to develop was the interbank deposit market. The next for development was the treasury bill market [6].

By the end of 2017, there were 46 banks in the Czech Republic. It is worth noting that 38 of the 46 banks are controlled by foreign owners, and 9 – national, two of which belong to the state. Thus, we see that foreign banks dominate and make up 83% [7].

At the end of 2017, the Polish banking sector consisted of 35 commercial banks, 553 cooperative banks and 28 branches of credit institutions. The state owns several banks, but this sector is largely privately owned, managing approximately 80 % of the market. The government made an attempt to increase the share of the state banking sector by acquiring foreign banks by state banks. As a result, the share of foreign banks in total sector assets fell at the end of 2017, close to 55.5 percent. Thus, for the first time since 1999, the share of domestic investors in the sector's assets was higher than the share of foreign owners, it reached 54.5% (compared to 43.4% in 2016) [8].

The countries were assessed by the risk of investments in its infrastructure. Based on this indicator, it is possible to assess whether the state will be able to meet its debt obligations. The most well-known and respected rating system ratings are created by three agencies: 1. Standard & Poors, 2. Moody's, 3. Fitch [9].

Table 1.1

Credit Rating of the Czech Republic and Poland

	S&P	Moody`s	Fitch
Czech Republic	AA-	A1	AA-
Poland	BBB+	A2	A-

Source: composed according to the data [9]

Analyzing the table. 1.1, it can be concluded that the credit rating of the Czech Republic is higher than in Poland, according to international rating agencies. It is also worth noting that according to the World Economic Forum, the Czech Republic ranks 11th in terms of public confidence in the banking system (Canada, New Zealand and Australia are leaders). It means that the Czech Republic has a very high level of public confidence in the state and the banking system.

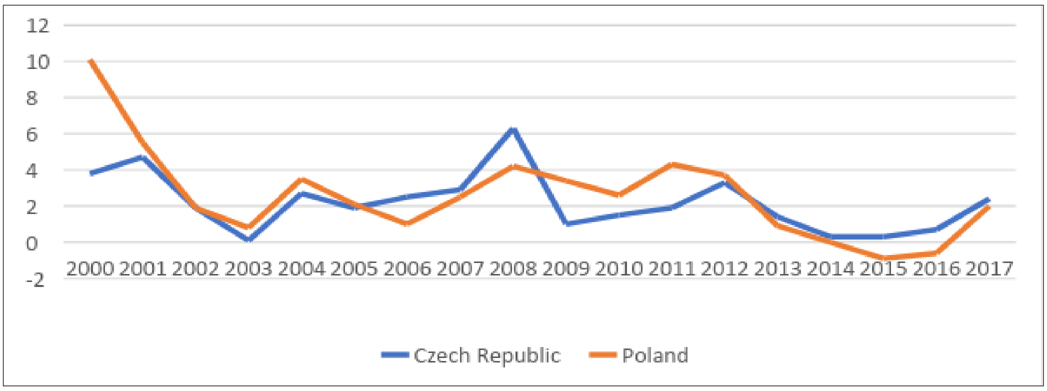

Fig.1.1. Inflation rate in the Czech Republic and Poland from 2000-2017, %

Source: composed according to the data [2; 3]

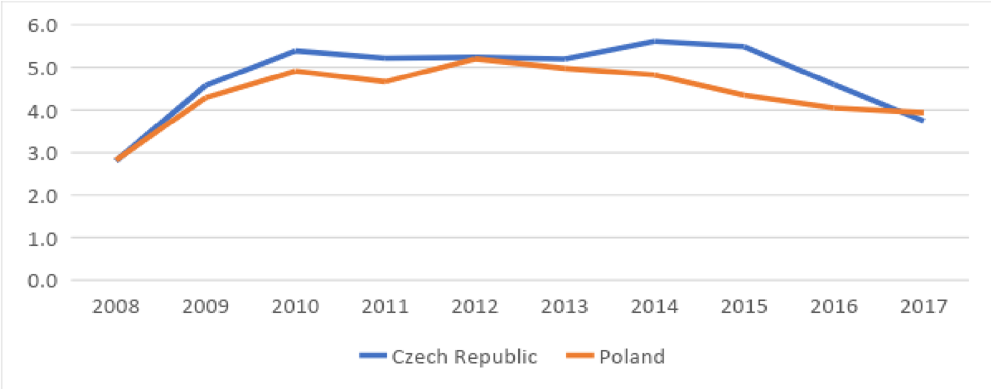

Fig. 1.2. Ratio of non-performing loans in total gross loans in the Czech Republic and Poland in 2008-2017, %

Source: composed according to the data [10]

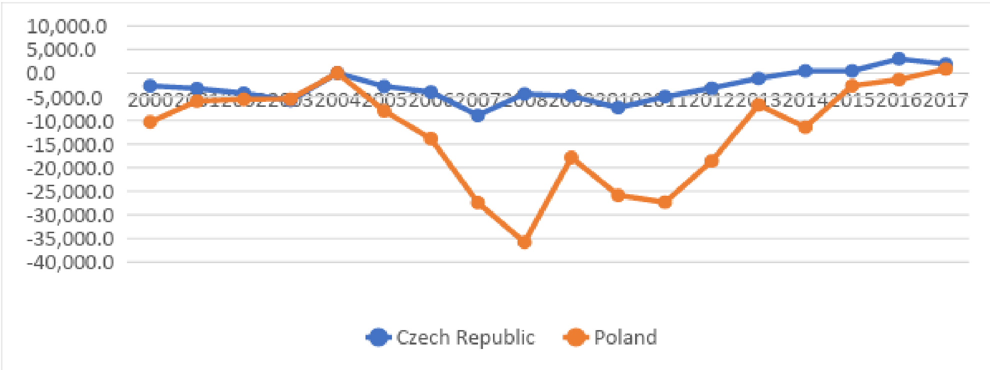

Fig. 1.3. Current account (million dollars)

Source: composed according to the data [11]

The one of the main financial indicators is the ratio of non-performing loans (loans, late payments on which exceed 90 days) and loans to the total gross loans of the Czech Republic (Fig. 1.2). The dynamics of the ratio of non-performing loans in the total value of all loans shows that from 2008 to 2010, this figure actively increased from 2.8% to 5.4%. However, from 2011-2013 it remained relatively stable at the level of 5.2%, and in 2016 it decreased from 5.5% to 4.6%. Thus, from 2007 to 2016, the indicator increased from 2.4% to 4.6%, respectively. However, in 2017 there was a decline to 3.7%, that is, the decline in this FI indicates an improvement in the quality of the Czech loan portfolio.

In Poland, there is a tendency to increase this indicator after the financial crisis of 2008–2009 (Figure 1.2). This indicates a deterioration in the quality of the loan portfolio. However, it should be noted that since 2014 the ratio of non-servicing loans in the total value of loans shows a decrease, which indicates an improvement in the quality of the loan portfolio in Poland.

Foreign trade in goods and services makes a significant contribution to the development of the Czech and Polish economies. The balance of payments of the Czech Republic over the past 4 years shows a current account surplus, which in 2017 amounted to $ 1,918 million (Fig. 1.3). This is less than in 2016 by 36% as a result of the worsening deficit in the balance of primary and secondary income, while the surplus in the balance of goods and services increased by 6%.

The positive balance of payments is due to the overall favorable economic situation in the Czech Republic, the growth of industrial production, as well as the continuation of the policy of the Czech National Bank to artificially weaken the national currency. The imbalance towards imports in foreign trade in mineral fuels, chemical products and food products is offset by a significant prevalence of exports over imports of such groups as "machinery, equipment and vehicles", as well as "various finished products" [12].

The key trading partners are the EU countries, whose share in 2017 amounted to 88.6% (Germany (share – 32.6%), Poland (6%), Slovakia (7.8%)). Germany occupies the largest share, as many Czech industrial enterprises belong to German companies and are their sub-suppliers.

The Czech Republic is an exporter of services in a growing surplus. In 2017, the surplus of services in the country's balance of payments increased compared with the previous year from 4.4 billion dollars to 5.2 billion dollars. The share of EU member states in Czech exports of services is 70%, and in imports – 69%. The main categories of Czech export and import services: tourism transport services; other business services; telecommunication, computer and information services.

As for Poland, it should be said that in 2017, for the first time in 17 years, a significant improvement in the current account was achieved. It amounted to 874 million dollars, which indicates a surplus. Analyzing the dynamics of the current account, it is possible to notice in the period from 2005-2008 there was a very significant deficit, a consequence of the financial crisis of 2008-2009. Further, a gradual improvement, and a surplus in 2017, as already noted earlier. The surplus of goods balance decreased from 3.3 billion dollars by 2016 to 873 million dollars in 2017, but there was a positive trend in improving service surpluses and improving the negative balance of primary and secondary incomes. This situation is partly due to the strengthening of the Polish zloty. It should also be noted that the surplus of goods balance for the analyzed period was first achieved in 2015. Consequently, the appearance of a surplus in Poland's foreign trade in 2015 was primarily affected by the decline in world prices for imported energy. But, as already noted in 2017, there has been a significant deterioration, this is due to the increase in these prices again.

The key trading partners are the EU countries, whose share in 2017 amounted to 88.4% (Germany (share – 27.4%), Czech Republic (6.4%), Great Britain (6.4%)). As in the case of the Czech Republic, Germany occupies the largest share.

The commodity structure of exports and imports of Poland can be represented as follows: its main segment remained machinery and equipment, the chemical industry and pharmaceuticals, metallurgical products and crop production.

Poland is a net exporter of services in a steadily growing surplus. In 2017, the positive surplus of services in the country's balance of payments increased sharply compared to the previous year from 15.6 billion dollars to 21.1 billion dollars. Poland is a net exporter of transport services and travel.

Analysis of the Czech financial account indicates that, starting from 2015, there is a sharp deterioration in the Czech financial account. This is due to the growth of the outflow of portfolio investments, that is, the excess of imports over exports. Direct investments have an identical problem, but in 2017 there is a significant improvement from -7.7 billion dollars by 2016 to 5.7 billion dollars in 2017. Thus, the Czech financial account in 2017 amounted to a negative balance of -44.8 billion, which indicates a significant deterioration in 2.5 times compared with 2016, when the financial account amounted to – 18.7 billion dollars.

Analysis of the Polish financial account in 2017 has a tendency to improve and amounts to a surplus of $ 8.3 billion. For comparison, in 2016 Poland had a negative balance of the financial account, namely, – 23.2 billion dollars. The improvement was due to an improvement in the balance on foreign direct investment (from 5.6 billion dollars in 2016 to 3.8 billion dollars in 2017) and especially on other investments (improvement from 13.9 billion dollars in 2016 to 18.1 billion dollars).

The net reserve assets in the Czech Republic from 2012 are actively growing and in 2017 amounted to $ 49.4 billion, which is 2 times more than in 2016. Errors and omissions from 2012 also have a positive balance and in 2016 they amounted to $ 609.1 million As for Poland, the reserves show a deterioration compared with the previous year. So, this figure in 2016 was $ 22.7 billion, and in 2017 -7.8 billion. Errors and omissions also show a negative balance and deterioration from -4.1 billion dollars to -7.2 billion dollars in 2016-2017, respectively.

Next, consider the analysis of the international investment position of the Czech Republic and Poland. There is a very similar dynamic of this indicator in both countries. However, in Poland the state of the international investment position is deteriorating every year. So, in 2017, this figure showed a decrease compared to 2016 and amounted to a deficit of 62.8 billion dollars. The largest deficit was recorded more than 330 billion dollars in the period of 2009-2012, which indicates the predominance of liabilities over assets. In the Czech Republic, this indicator also has a negative balance. The largest deficit was recorded more than 90 billion dollars in the same period of time of 2009-2012. In 2015, there was a slight improvement in Poland and the Czech Republic, but already in 2016, the negative balance again worsened. Thus, in both countries there is a predominance of liabilities over assets [13].

The national debt of the Czech Republic for 2017 was 34.7% and, starting from 2013, has a tendency to decline. The budget deficit in recent years has also been declining and in 2016 there is a surplus of 0.7% of GDP, and in 2017 it continued to grow and amounted to 1.6% [14]. The Ministry of Finance claims that the budget has been in surplus in recent years – the most profitable since 1993. There are two reasons explaining such changes in the Czech Republic: the growth of income and wages (due to economic growth) and effective taxation.

The national debt of Poland for 2017 amounted to 51.4%, which is 5% lower than last year. So, in Poland, as in the Czech Republic, the amount of debt tends to decrease. The budget deficit decreases from 2013, that is, from -4.10% to -1.70% in 2017, which demonstrates a positive trend [14].

The exchange rate plays an important role in macroeconomic adjustment and in achieving the state of internal equilibrium (the ratio of production levels and prices, which ensures full employment and low inflation) and external balance (equality of balance of payments to zero).

To study the effect of various indicators on the dynamics of the exchange rate, a regression analysis was used based on the following indicators: Y – Exchange rate; X1 – interest rate; X2 – current account; X3 – household expenditure; X4 – budget deficit. Annual data were used for 17 years from 2000 to 2017. Standardized beta-coefficients are presented.

The general formula for the two countries is as follows:

$$Y = \beta 1 * X1 + \beta 2 * X2 + \beta 3 * X3 + \beta 4 * X4 \quad (1)$$

Thus, the final regression model is as follows:

1. For the Czech Republic:

$$Y= 0{,}742 * X1 + 0{,}606 * X2 + 0{,}243 * X3 – 0{,}545 * X4 \quad (2)$$

$$(8{,}68^{***})\ (6{,}52^{***})\ (2{,}93^{**})\ (-5{,}58^{***})$$

2. For Poland:

$$Y= 0{,}490 * X1 + 0{,}133 * X2 + 0{,}889 * X3 – 0{,}136 * X4 \quad (3)$$

$$(5{,}23^{***})\ (1{,}71)\ (7{,}87^{**})\ (-1{,}28)$$

The analysis revealed that all indicators have an impact on the selected dependent variable in accordance with the coefficient of significance. In the Czech Republic, the coefficient of determination (R-square) is 0.924, which means that 92% of the selected factors explain the dependent, researched variable. In Poland, this figure is 0.888 that is 89%.

The results of the regression analysis can be summarized as follows. The ratio of the interest rate is directly dependent on the growth of the national currency in both countries. Thus, an increase in this macroeconomic indicator will lead to an increase in the exchange rate of the Czech Republic and Poland. That is, the increase in the interest rate of the Central Bank is a factor contributing to the growth of the national currency. An increase in the current account ratio in the Czech Republic and Poland will lead to an appreciation of the national currency in both countries. So, the current account surplus contributes to the appreciation of the national currency, as there is a growing demand for it from foreign debtors. The increase in the ratio of household expenditure to 1 standard deviation will lead to an increase in the exchange rate in the Czech Republic and Poland by 0.88 and 0.9 st. deviations respectively. The increase in the ratio of budget balance to 1 st. deviations in the Czech Republic and Poland will lead to a decrease in the exchange rate by 1.5 and 0.05 st. deviations respectively.

So, for the Czech Republic all selected independent variables, namely: interest rate, current account; household expenditure and budget deficit are significant and affect the dynamics of the exchange rate. For Poland there are insignificant indicators such as current account and budget deficit. The most influential factors for the Czech Republic are interest rate, current account and budget deficit, for Poland is interest rate.

So, fundamental factors, as a rule, have the expected effect on the exchange rate. However, any of these factors should not be used as a one hundred percent guarantee of a corresponding change in the exchange rate. Since the causal link in an economy where globalization processes are sufficiently accelerated is not always transparent. It is impossible to fully interpret the change in the influence of the economic factor on the dynamics of the exchange rate. Depending on the economic policy of the state, the dynamics of exchange rates can be contrary to generally accepted trends.

Conclusions. Poland and the Czech Republic are an example of successful transformation from a socialist country into a market one. In contrast to Ukraine, these countries have achieved significant success in economic development, which confirms the analysis. Thus, having analyzed the main macroeconomic indicators, it was found that in the Czech Republic and Poland in 2016-2017 there is a positive trend in the following indicators, such as GDP growth, a decrease in unemployment, an improvement in the inflation rate and a way out of deflation (Poland), a strengthening of the national currency against the euro, an improvement of the ratio of non-servicing loans and borrowings in total gross loans and borrowings. As for the analysis of the credit rating, it should be said that in the Czech Republic this figure is significantly higher than in Poland, according to the assessment of international rating agencies.

The Czech balance of payments for the last 4 years shows a current account surplus, but in 2017 there is a tendency for the indicator to decline. In Poland, opposite, there is a noticeable tendency to improvement. So, in 2017 for the first time in 17 years, a significant improvement in the current account has been achieved. The capital account in Poland and the Czech Republic has a similar dynamic, there is a surplus in both countries. The financial account of the Czech Republic in 2017 has a negative trend, this balance of payments' item has decreased 2.5 times. In Poland, on the contrary, the financial account improved and showed the first surplus in recent years. There has been a decline in both countries of the international investment position in recent years. Government debt tends to improve in the Czech Republic and Poland, which indicates an annual decrease in the amount of debt obligations (in contrast there is an annual growth in the level of government debt to GDP in recent years in Ukraine).

The regression analysis revealed a corresponding change in the exchange rate based on selected independent variables, such as interest rate, current account, household expenditure and budget deficit

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СРАВНИТЕЛЬНЫЙ АНАЛИЗ ФИНАНСОВО-ЭКОНОМИЧЕСКИХ ПОКАЗАТЕЛЕЙ И ДИНАМИКИ ВНЕШНИХ СЕКТОРОВ ЧЕХИИ И ПОЛЬШИ

Аннотация. Статья посвящена анализу динамики основных макроэкономических показателей, характеризующих состояние экономики Чехии и Польши в период 2000-2017 гг. Она также демонстрирует изменения показателей внешнеторговой деятельности, структуры экспорта и импорта товаров и услуг, основных партнеров и динамики ПИИ. В статье были построены регрессионные модели факторов, влияющих на обменный курс стран.

Ключевые слова: экономические показатели, финансовые показатели, сравнительный анализ, платежный баланс, международная инвестиционная позиция, внешний долг, Чехия, Польша.

ПОРІВНЯЛЬНИЙ АНАЛІЗ ФІНАНСОВО-ЕКОНОМІЧНИХ ПОКАЗНИКІВ ТА ДИНАМІКИ ЗОВНІШНІХ СЕККТОРІВ ЧЕХІЇ І ПОЛЬЩІ

Анотація. Стаття присвячена аналізу динаміки основних макроекономічних показників, що характеризують стан економіки Чехії та Польщі в період 2000-2017 рр. Вона також демонструє зміни показників зовнішньоекономічної діяльності, структури експорту та імпорту товарів і послуг, основних партнерів та динаміки ПІІ. У статті були побудовані регресійні моделі факторів, що впливають на обмінний курс країн.

Ключові слова: економічні показники, фінансові показники, порівняльний аналіз, платіжний баланс, міжнародна інвестиційна позиція, зовнішній борг, Чехія, Польща.