Index of Economic Stability and Financial Integration of Small Open Countries

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Abstract

Over the recent decades, we have witnessed advanced processes of liberalization of capital flows, and increasing integration and globalization of financial markets. Along with the globalization trend, ever since the end of the 1980s, the process of financial integration has also been taking place, as a consequence of removing barriers to free movement of capital between countries. Therefore, this research explores financial integration of small open countries and aims to make conclusions on how this integration can affect their economic stability. Qualitative definitions of small countries point out that they typically have a limited territory, relatively small population and limited resources. The research hypothesis is postulated as follows: the economic stability index of small open countries is conditioned by their financial integration. The analysis includes small open countries of Southeast Europe observed from 2005 to 2020, with relevant statistical data used for the total inflow and outflow of investments, the share of assets and liabilities in gross domestic product and the calculated value of the economic stability index. The analysis was made using the methods of correlation analysis and correlation test. The results show that there is a correlation between financial integration and the economic stability index in small open countries.

Keywords: financial integration, small open countries, Southeast Europe, the economic stability index

1. Introduction

One of the basic features of modern national economies is precisely their openness through owing to which goods, services, capital, technology, workforce, knowledge and the like can freely move across national borders. In theory, financial liberalization or capital account liberalization is seen as a better inclusion of the country in world savings and investment flows, which would, in principle, have to enable a better allocation of scarce economic resources (Globan, 2011). Liberalization allows for the strengthening of trade ties with foreign countries and inflow of foreign capital as well as a stronger influence of foreign movements on the economy of the domestic country and the strengthening of the import of goods to the detriment of home production.

Kovačević (2016) noted that disparate macroeconomic and institutional characteristics of countries largely define country's openness and international capital flows. Small and less developed countries are a special case as they, when opening to the world market, must be particularly careful since they have no influence on international economic developments, i.e., world prices, foreign interest rates, as well as international capital flows (Andabaka, 2016). There is no formal definition as to what makes a small country; however it is generally accepted that this designation applies to sovereign economies with a population of less than 1.5 million. However, this is only a quantitative determination of small countries, while the paper will use a qualitative determination, which implies that the size of the states is associated with their special behavior, typical of a group of small states (East, 1975, 160). Although the average ratio of the volume of gross capital flows to gross domestic product (GDP) is higher for small countries than for other developing countries, it is still some 25 percent lower than that of industrialized economies. Aid dependence is an important problem in several small states, as foreign aid is still the main source of income. Although there is a long list of special challenges related to small countries, most of them are ultimately linked to the fact that small countries have relatively high output volatility, even after they control income level and level (degree) of openness. One reason may be that smaller countries tend to be less diverse and more vulnerable to external shocks.

History has showed that capital account liberalization, due to its high mobility, may cause the outbreak of many

crises. In the past, crises were country-specific while nowadays they tend to affect several emerging markets at the same time (Mauro, Sussman & Yafeh, 2002). Stability is the capacity of a country to restore balance to its economy, primarily through its self-regulating actions. Stability is not only a determinant of economic growth, but rather all the aspects of the quality of socio-economic development and progress. (Note 1) Vukmirica (1996) viewed the most significant indicators of stability of any national economy to be economic growth with stable prices, full employment and a positive balance of payments. Economic stability refers to a situation in which all relevant economic resources of a country are available to its citizens, and in which no economic developments interrupt their daily life. This stability helps in achieving macroeconomic goals such as unemployment reduction, balance of payments stabilization, price stability, and sustainable economic growth.

In order to express and measure the stability of an economy in the simplest possible way, a unique measure was created, the so-called stability index. The index measures the share of economic growth rate, unemployment rate, inflation rate and balance of payments in a country's gross domestic product. This means that a quantitative indicator of economic stability of small open countries is called the stability index. In practice, the stability index ranges from +10 to -100, whereby a positive value expresses extremely high stability of the economy. The values from 0 to -10 can be marked as relatively satisfactory, having certain problems within tolerance levels. The values below -10 indicate severe economic disruptions, while the values below -30 point to economic processes spiraling out of control thus demanding prompt and adequate stabilization policy measures. (Note 2)

The contribution of the research on the interrelationship of the index of economic stability and the financial integration of small open countries is reflected in the fact that, based on this observation, it is possible to see what consequences financial integration can have on the economy of a country. The economic stability index collectively includes the basic elements of every economy. That is why the result obtained from this observation is important for economic decision-makers and their future actions in terms of financial integration.

Neoclassical economics proposes that an integrated global financial market may boost economic growth by reducing capital costs and increasing risk sharing. However, the countries with capital account liberalization do not necessarily perform better than the countries with capital controls, and the last global financial crisis itself caused a shift of confidence in the process of financial globalization. (Note 3) Therefore, questioning the role of financial integration in economic stability is of major importance for discussion and academic research.

2. Literature Review

Financial integration, and consequently capital account liberalization, caused the clashes of researchers' opinions. Some believe that it is beneficial for middle-income countries (Fisher, 1998), while others claim that the risks outweigh the benefits (Rodriguez & Rodrik, 2001). In reality, while some countries benefited from financial integration, others did not see a greater economic growth while some even got into crisis and recession following financial integration. The recent financial crisis revived the discussion about whether countries benefit significantly from financial integration and whether such benefits compensate for the accompanying risks.

The leading hypotheses from classical theories claim that financial integration reduces the volatility of consumption and production through cross-border division of income and production, which facilitates consumption smoothing (Obstfeld, 1994; Obstfeld & Rogoff, 1995; Baxter & Crucini, 1995). New theories assume that financial integration increases volatility in imperfect markets (Von Hagen & Zhang, 2006; Evans & Hnatkovska, 2007; Broner & Ventura, 2016).

Stiglitz & Greenwald (2003) believed that deregulation and liberalization of financial and capital markets must be accompanied by the implementation of macroprudential supervision so to preserve the stability of the financial system. The reason why capital inflow may be dangerous lies in the fact that when confidence is undermined, any information available to a minority can lead to the actions of all other participants in the financial market (Bagvati, 2008). As Rodrik (1992) stated, openness creates macroeconomic instability by inflation increase and exchange rate depreciation, ultimately leading to numerous disturbances in the balance of payments.

Economists who challenged the positive effects of financial integration in practice, base their arguments on the potential presence of other distortions, arising from trade policy regimes, labor market, information asymmetries, and the like. They believe that financial integration may lead to worsened capital allocation and financial instability (as, for example, in Rodrik, 1998 and Stiglitz, 2000). As these economists stated, intensive and too fast financial opening of countries may threaten the stability of the entire global financial system.

In his article, Bogdan (2009) stated that there is one group of authors who claim that financial integration is always desirable. There is also a group of authors who believe that social benefits are small, while a third group

of economists claim that financial integration should be carried out cautiously, or else it is a path to the currency and financial crisis.

Badri & Sheshgelani (2016) studied the relationship between financial development, financial integration and economic growth. The research was conducted for 24 countries, using the panel data method. The time frame analyzed included the period 2005–2013. According to the results of the study, financial development had a positive impact on economic prosperity in selected countries, while financial integration was negatively related to growth.

Ye et al. (2017) developed a quantile regression model to measure financial contagion. Their empirical results showed that contagion existed during the Euro crisis between Greece and all tested European markets and during the American banking crisis between the US and all tested markets.

Piffaut & Rey Miro (2016) in their study aimed to discover and record the spread between the main stock indices in the markets of Europe, Asia and the United States. Using Garch's model, they observed that stock markets were highly correlated during the financial crisis, creating a complete contagion process.

In his research, Burzala (2016) presented dealing with the contagion process in selected capital markets during the financial crisis of 2007–2009. The conducted research shows that the rates of return on the studied European markets simultaneously react to a much greater extent as a result of interdependence than as a result of mutual contagion.

Wlodarczyk et al. (2018) examined the long-term interdependence between financial market variables and macroeconomic stability in Poland in the period 2006–2017. To analyze the data, they used the Engle-Granger cointegration analysis and confirmed cointegration only in the case of certain pairs of variables.

Phutkaradze et al. (2019) investigated the level of financial integration of Georgia in the global financial system. They concluded that financial integration in this country is still in the development phase. One of the main explanations could be the fact that the financial industry in the country is relatively new, as the real development of this sector started after 2003 (after so called *Rose Revolution*). Before this revolution, the financial sector was extremely small and quite unpopular among the Georgian population, regional investors and international institutions. The results of this study suggest that incentives to further expand financial integration could boost economic growth in Georgia.

John Williamson, former chief economist of the World Bank, argued that the only factor explaining the reasons for the Asian currency crisis was capital account liberalization (Wang, 2006). What is important to highlight is that the currency (and financial) crisis which occurred in Asia, Russia and Latin America had very similar preconditions, such as capital account liberalization and cross-border flows immediately before the onset of the crisis.

In view of the literature, we can say that financial integration led to financial contagion, especially in times of crisis. Financial integration has both, benefits and cost. According to Chiwira & Tadu (2013), the most frequently cited benefits of financial market integration include:

- consumption smoothing due to international diversification of risks (reduction of the large country-specific shocks);
- the positive effect of capital flows on domestic investment and economic growth;
- improving efficiency of the financial system;
- increasing prudence of financial market agents;
- the attainment of a high level of financial stability.

Conversely the major costs of financial integration include:

- insufficient access to funding at times of financial instability or inappropriate allocation of capital flows;
- loss of macroeconomic stability;
- herd behavior among investors;
- financial contagion and high volatility of cross-border capital flows

Therefore, the most significant cost of financial integration is the risk of financial "contagion".

3. Research Methodology

The level of international financial integration is difficult to measure in any precise form. Until now, there have

been no indicators generally agreed upon for measuring international financial integration. On the other hand, economic stability of small open countries exists when key economic relationships are in balance (for example, between domestic production and demand, balance of payments, fiscal revenues and expenditures, and savings and investments) (Ames et al., 2001). What can be concluded is that there is no single set of threshold for each macroeconomic variable between stability and instability.

The research hypothesis: The economic stability index of small open countries is conditioned by their financial integration.

The dependent variable is the economic stability index, and the independent variable is the level of financial integration of small open countries.

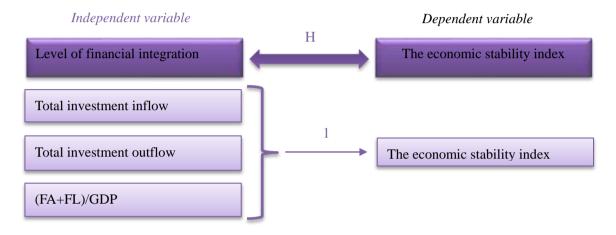


Figure 1. Graphic representation of the hypothesis

The research presented in this paper covers the area which includes small open countries of Southeast Europe. According to the CIA World Factbook classification, small open countries of Southeastern Europe are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Montenegro, North Macedonia, Romania, and Serbia, as well as Slovenia and Greece, which, according to the same classification, belong to Central and Eastern Europe, respectively.

The data contain a spatial (cross-sectional data) and a temporal component (time series data), and were collected based on the available internet data for individual countries. The period observed in the research is 2005-2020, which means that the research included two external shocks (the global financial crisis of 2008 and the crisis caused by the outbreak of the corona virus (Covid-19) in 2020). The data collected in this way are called panel data. Since all of them were available for all the observed units (countries) in the same observation period, they are balanced panel data.

The data for the necessary indicators of the dependent and independent variables were obtained from the relevant reports made by global financial institutions as follows:

- Data related to: gross domestic product, inflation rate, unemployment rate, export and import (required for calculating the economic stability index) were taken from the World Bank (WB) database.
- Data related to: inflow and outflow of foreign direct investments, portfolio investments and other investments, and the size of foreign assets and foreign liabilities of each observed country were taken from the International Monetary Fund database.
- Data not available for a country from these reports, were taken based on the relevant reports of Central Banks or competent statistical agencies of the observed countries, and other appropriate relevant financial institutions.

All the figures were in a form of annual data expressed in euros or in percentages, depending on the type of indicator. The average annual exchange rate was used to convert data from USD to EURO.

The following science and research methods and were used: hypothetical-deductive, economic-historical, descriptive, causal, analysis and synthesis, generalization, systematization, classification and comparison, and induction. Data on financial integration and economic stability of small open countries are given in graphs and tables. Using the correlation analysis, the correlation between a certain dimension of financial integration and the

selected variables of economic stability was tested.

In order to check the interrelationship and conditionality of financial integration and economic stability of small open countries of Southeast Europe, we aimed to check the correlation coefficients between certain indicators used to measure financial integration and economic stability. The following guidelines were used to interpret the strength of the relationship expressed through correlation coefficients (Zahirović & Okičić, 2021, 69):

- correlation coefficient 0.10–0.29 weak correlation
- correlation coefficient 0.30–0.49 medium correlation
- correlation coefficient 0.50–1.00 strong correlation.

The positive values of the coefficients indicate a strong positive relationship, and negative values indicate a strong negative relationship. In this part of the paper, numbers in bold are used without an asterisk above them to indicate coefficients that are not statistically significant. The cointegration test will be used to explain the interrelationships between certain observation entities (or panels), i.e., in our case, states, for the period 2005-2020. Data processing was performed using the STATA software package.

4. Results and Discussion

Empirical analysis is commonly started with descriptive statistics. Table 1 shows descriptive statistics for the dependent and independent variables, i.e., financial integration and the stability index.

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Table 1. Descriptive	STATISTICS TO	r ine depende	ent and inden	oendent research	variables

Variables	Number of observations	Arithmetic mean	Standard deviation	Minimum value	Maximum value
Total inflow of investment	176	58082.49	115758.34	248.94	539549.63
Total outflow of investment	176	25220.19	53624.42	130.37	250303.27
(foreign assets+foreign liabilities)/GDP	176	22.92	13.23	5.93	63.39
The stability index	176	0.966	4.777	-23.26	8.48

Figure 2 shows the stability index for small open countries of Southeast Europe. As evident from the figure, these countries have rather unstable economies and their index changed very often. All these countries experienced huge changes of the index in the observed period, and the index value in all of them dropped immediately after the global financial crisis as well as after 2019, i.e., after the emergence of Covid-19.

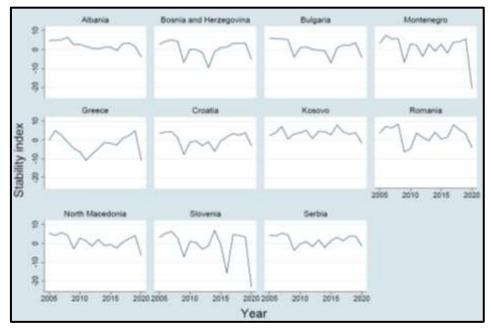


Figure 2. The stability index for small open countries of Southeast Europe in the period 2005–2020

Figure 3 presents the total inflow of investments to the observed countries. Romania, Greece, Bulgaria and Serbia experienced the biggest fluctuations in the inflow of foreign direct investment.

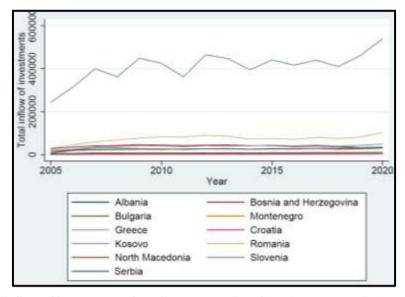


Figure 3. The total inflow of investments of small open countries of Southeast Europe in the period 2005–2020 Figure 4 shows the total outflow of all investments in the observed period. As evident, Greece faced the most unstable but also the largest outflow, followed by Romania, Bulgaria and Slovenia, with rather smaller outflows and instabilities.

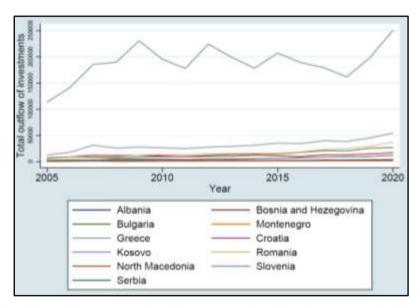


Figure 4. The total outflow of investments of small open countries of Southeast Europe in the period 2005–2020

In order to gain a more precise insight into the actual state of foreign assets and foreign liabilities by country, we examined the share of foreign assets and foreign liabilities in gross domestic product of those countries. As evident from Figure 5, the countries with the most unstable ratio of foreign assets and foreign liabilities and their gross domestic product are Greece, Slovenia, and Serbia. We also added Montenegro and Croatia, which did not have such expressed instability in terms of their foreign assets and foreign liabilities.

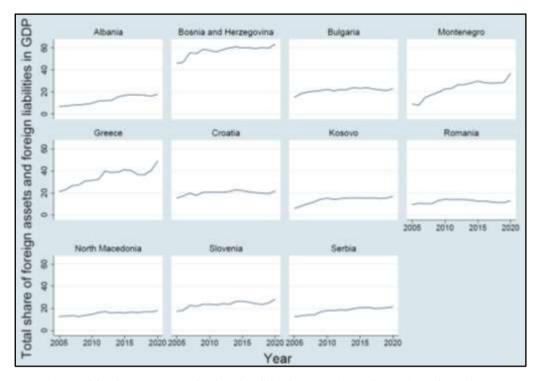


Figure 5. The share of foreign assets and foreign liabilities in gross domestic product of small open countries of Southeast Europe in the period 2005–2020

We previously stated that the research hypothesis was postulated as follows: The economic stability index of small open countries is conditioned by their financial integration.

The dependent variable is the economic stability index and it is to be expressed as a share of the GDP growth rate, unemployment rate, inflation rate and the balance of payments in a country's gross domestic product.

The independent variable is the level of financial integration of small open countries. It is to be observed based on the indicators: total inflow of investments, total outflow of investment, and the share of foreign assets and foreign liabilities in GDP.

Table 2. Correlation of indicators of the variables: the economic stability index and the level of financial integration of small open countries of Southeast Europe

Indicator	The stability index	Total inflow of investments	Total outflow of investments	Share of foreign assets and liabilities in GDP
The stability index	1.000			
Total inflow of investments	-0.46* (0.001)	1.000		
Total outflow of investments	-0.275* (0.000)	0.986* (0.000)	1.000	
Share of foreign assets and liabilities in GDP	-0.294*	0.263*	0.284*	1.000
	(0.000)	(0.000)	(0.000)	

^{***} p<0.01, ** p<0.05, * p<0.1

As evident from Table 2, the relationship between all the observed variables is statistically significant at the level of p=0.05. As for the direction of the relationship between the indicator of the dependent variable and the indicator of the independent variable, it is negative. When it comes to the interrelationship between the indicators of the independent variable, there is a positive relationship among all the indicators.

Observing the strength of the relationship between the dependent variable, the stability index, it can be seen that the strongest relationship is present with the indicator of the share of foreign assets and foreign liabilities in GDP (-0.294 - small negative strength of the relationship).

Owing to the fact that the data were panel in nature, we will use Kao panel-data cointegration test for a more detailed explanation of the interrelationships between individual observation subjects (panels), i.e., countries in our case. The hypotheses are in this test are as follows:

H0: There is no cointegration

H1: All panels are cointegrated.

If the p-value is less than 5%, the null hypothesis is rejected and the alternative hypothesis is accepted. If not, i.e., if the p-value is greater than 5% the null hypothesis cannot be rejected.

Table 3 brings the results of Kao cointegration test for indicators of the dependent variable (the stability index) and the indicators of the independent variable (total inflow of investments, total outflow of investments and share of foreign assets and foreign liabilities in GDP).

Table 3. Kao test of cointegration between the indicators used for proving the third supporting hypothesis

Kao test for cointegration				
Ho: No cointegration	Number of panels $= 11$	Number of panels = 11		
Ha: All panels are cointegrated	Number of periods =14	Number of periods =14		
	The economic sta	The economic stability index		
	Statistic	p-value		
Modified Dickey-Fuller t	-10.258	6 0.0000		
Dickey-Fuller t	-7.381	7 0.0000		
Augmented Dickey-Fuller t	-6.425	9 0.0000		
Unadjusted modified Dickey-Fuller t	-10.976	0.0000		
Unadjusted Dickey-Fuller t	-7.481	9 0.0000		

Based on the results given in Table 3, there is complete co-integration between the panels when observing the mentioned indicators.

As outlined above, it can be concluded that the postulated hypothesis, which reads: The economic stability index of small open countries is conditioned by their financial integration, has been proved.

Movements of capital affect the movement of GDP thereby creating an impact on the long-term stability of the country. Positive effects can only be achieved if the liberalization processes are implemented consistently and by established rules with a clear strategy, which is an issue many economists deal with. Therefore, a gradualist or gradual approach to the implementation of reforms is once again brought to the forefront, whereby the first step must be the increase in the degree of exchange rate flexibility, then the removal of capital restrictions, and finally gradual capital account liberalization (Radošević, 2010).

Another important feature of international flows of capital is that their components differ significantly in terms of volatility. Although a precise classification of capital flows is not straightforward, evidence suggests that the structure of capital flows can have a significant impact on a country's vulnerability when it comes to financial crises (Prasad et al., 2003).

The advantages of a stable small open country speak of its importance and role and are given as follows: (Note 1.)

- It provides more employment opportunities the participation of every individual is essential for a stable economy to function effectively. It increases demand for labor and consequently increases employment.
- It increases public spending economic stability contributes to financial gains, which allows for the government to spend more on its citizens (providing free education, health care, sanitation, and other public services).
- It improves the standard of living jobs for all and easy access to public goods offer citizens a better life. They have personal and social benefits. Also, such standard helps people getting out of poverty by giving them a fair and equal chance.
- It attracts foreign direct investment a stable economy benefits everyone. Therefore, foreign investors and businesses want to invest their assets in such a country.

• It tackles income inequality – Income inequality often goes unnoticed in a country, but a stable economy also focuses on equal distribution of income and wealth. This is necessary as every citizen is a part of the economy, and collective inclusive growth is the growth of the economy.

5. Conclusion and Recommendation

Increasing international financial integration, defined as the unrestricted cross-border mobility of capital, was initially expected to benefit capital-receiving countries. However, the recurrence of financial crises, including the global financial crisis of 2007/2008., has led some economists to question whether countries benefit from opening capital accounts.

Although the process of financial integration in many ways improved financial systems of small open countries, it also caused certain negative consequences. These consequences refer to both the financial system of developing countries as well as to their real economies, i.e., the real sectors. The very course of financial liberalization was accompanied by easing various measures, deregulating the financial system and institutions within it, and removing restrictions related to international flows of capital and money (Prasad et al., 2003). All these processes in a way led to the emergence of undesirable effects.

Recent currency fluctuation in the years 2015-2016 showed that financial integration can also bring negative consequences. Therefore, in order to achieve only positive effects of financial openness and avoid the negative ones, it is crucial for the appropriate government and non-government organizations to develop and implement appropriate policies and support the overall development of institutional quality in the country (Phutkaradze et al., 2019).

Financial policy in small open countries is increasingly focused on the goal of improving the efficiency of the financial system, not neglecting, however, the other two main goals: ensuring the stability of the financial system and maintaining an adequate level of investor protection.

As opposed to the growing consensus in the academia that trade liberalization is generally beneficial for both industrialized and developing countries, there is a debate among scholars and practitioners about the costs and benefits of financial integration (Kose et al., 2006). Some economists (for example, Rodrik, 1992; Bagvati, 2008; and Stiglitz, 2000) believe that unhindered capital flows disrupt global financial stability, and call for controls and other restrictions imposed on international trade in assets. Others (including Fisher, 1997; Gerard and Summers, 1993) argue that a greater degree of capital openness generally proved crucial for countries seeking to move from lower-income to middle-income status and affected the strengthening of stability among industrialized countries. These debates evidently affect the change in economic policies in certain countries, such as China and India, which have recently taken steps to open their own capital accounts (Forbes, 2004).

Based on the conducted research on small open countries of Southeast Europe, the hypothesis that the economic stability index of small open countries is conditioned by their financial integration was confirmed. The unstable movement of the economic stability index is noticeable in all observed countries, while a drop can be seen especially immediately after the global financial crisis and after 2019, i.e. after the emergence of Covid-19. Countries that were more financially integrated had greater fluctuations in the economic stability index. Based on the above, it can be concluded that the financial integration of small open countries can be good, but only in a way that it is implemented gradually and when the country itself is developed enough to be involved in financial flows with other countries. Gradual integration as an important element is also mentioned by Radošević (2010). The paper confirms the findings of some of the economists who believed that financial integration can be beneficial for the country, but in such a way that it is implemented when a specific country is ready for it (after implemented macroprudential controls, availability of information to all market participants, stability of production and consumption, etc.). As a recommendation for further research, a study of the connection between the stability index and the financial integration of other European countries and a comparison of the obtained results with the results of small open countries can be mentioned.

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Notes:

Note 1. Adjusted according to the data given in: Wallstreetmojo Team. Economic Stability.

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Note 2. Adjusted from (accessed: 30.01.2023.):

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 $e246a041aba78138715129b88fc984.zip\% 3F1439380827\&usg=AOvVaw2CR7DNbrIiO5ifF2hqP1Sj, \ \ accessed: 30.01.2023.$

Note 3. For more details see: Halle Institute for Economic Research. *Financial integration, economic growth and financial stability*.

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