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**THE INFLUENCE OF DISBALANCES IN FINANCIAL RESOURCES
MOVEMENT ON NATIONAL FINANCIAL SYSTEMS**

In the article the effect of disbalances in the movement of financial resources on the national financial systems is formalized. For ensuring the corresponding monitoring objectives the financial sustainability indicators developed by the IMF and the World Bank have been used, as well as the integral indicator of financial resource disbalances, which serve as statistical units for measuring the financial situation and sustainability of the financial sector of the country. For the overwhelming majority of the studied countries, the hypothesis about the negative impact of disbalances in the flow of financial resources on the stability of their financial sectors, regardless of the general economic conditions of these countries' development, was confirmed. At the same time, such a hypothesis was denied for a group of developing countries. Conditions-destabilizers of financial sectors' stability of the countries under the influence of financialization of their economies, which should be considered the object of regulatory measures in financial markets, are defined. These include the level of market integration into the global financial space, which determines the tendency to systemic risks transmission and the degree of markets' development that affects their volatility.

Key words: *financial resources, national financial systems, disbalances, financial sectors, national economies.*

Formulation of the problem. In the process of development of national financial systems, there are many problematic issues in determining the impact of financial resources' movement. The issue of the study of financial resources imbalances is relevant, considering that due to financialisation significant volumes of financial resources are used inefficiently. At the same time, the peculiarities of the functioning of the financial sector, its structure in particular, and the financial instruments that are rotated on it, sharply raise the question of determining the impact of disbalances in the movement of financial resources on the stability of national financial systems.

The experience of global financial crises shows the negative impact of disbalances on the stability of the financial sector of countries. Along with this there is a flow of such negative trends into the real sector. The stability of the financial sector is characterized by well-functioning relevant institutions that carry out activities without difficulty, and prices for assets that are almost consistent with their real value. On the other hand, financial instability can hold back economic activity and reduce economic welfare. If the financial sector loses its functionality and financial institutions are in difficult situations, the accompanying pressures on companies and households may have an inevitable effect on the real economy, as capital may not flow into investment, creating prerequisites for emerging crises. Consequently, we can state that the advance development of the financial sector of the country's economy is inextricably linked with its sustainability. Therefore, the actual direction of scientific research is formalization of the directions of influence of disbalances in the movement of financial resources on the stability of the financial sector of the country's economy and its financial system as a whole.

Analysis of recent research and publications. The above-discussed issue is investigated by many experts. Basic fundamentals of the study of financial disproportions were given by foreign scholars such as L. Abalkin, J. Arrigie, T. Beck, E. Demirguc-Kunt, S. Irwin, J. Keynes, S. Claessens, R. Levin, H. Minski, D. Sanders, Y. Mirkin, S. Moiseev, F. Myshkin, P. Russo, J. Stiglitz and others. Among the domestic economists it is necessary to distinguish the works of famous specialists, among them: O. Abakumenko, G. Azarenkova, V. Bazylevych, O. Baranovskyi, V. Boronos, A. Vasylyk, T. Vasilieva, O. Vovchak, V. Heyets, O. Dziubliuk, I. Dyakonova, F. Zhuravka, V. Zymovets, Yu. Kovalenko, S. Kozmenko, V. Koziuk, V. Korneev, M. Korneev, M. Krupka, S. Leonov, I. Lukianenko, O. Luniakov, I. Liutyi, M. Makarenko, S. Mishchenko, S. Sardak, N. Stukalo, V. Fedosov, I. Shkolnyk and others.

The study of the above-mentioned sources shows that now in the world practice there are many approaches to assessing the stability of the financial system of the country. One of the common approaches is the use of financial stability indicators (FSI), which serve as statistical units for measuring the financial situation and sustainability of the financial sector of the country to ensure appropriate monitoring objectives. These indicators were developed by IMF experts with the support of international organizations

such as the World Bank (WB), the Bank for International Settlements (BIS), the Organization for Economic Cooperation and Development (OECD), the European Central Bank (ECB) and others. The first pilot data on the FSI of 60 countries was collected in 2006, and since 2007 FSI have been published on a regular basis. We should note that these FSI can be considered the most suitable and appropriate approach to assessing the stability of the financial sector of the country that was developed by the IMF as a result of the need to create a new financial sustainability database. Such a need arose as a result of a series of crises, the number of which over the 1970-1998 was more than twenty. Therefore, we can state that the relevant indicators have been developed and formulated to assess the sustainability of the financial sector of the country, including crisis situations. However, these approaches need to be clarified in the light of the latest methodological developments [1-6].

The aim of the article is to formalize the effect of disbalances in the movement of financial resources on the national financial systems. In the aspect of such logic, the hypothesis has been put forward. It consists in the negative impact of disbalances in the movement of financial resources on the stability of the financial sector, regardless of the general economic conditions of the country's development. It has been verified by economic and statistical methods.

The main material. The IMF conducted studies to identify the required list of financial sector sustainability indicators, which highlighted the main and recommended sets of FSI. As a result of the formation of the FSI list, six criteria were considered that most fully characterize the aspects of financial sustainability (concentration in the basic markets and relevant institutions; analytical importance; utility; significance in most conditions for different countries; available; economical) [2, 8]. We also use the Z-score indicator, which is presented for each country in the World Bank (WB) statistic section. It should be noted that the use of such an indicator for the assessment of sustainability is due to the fact that in most countries the financial sectors are of the bank-centric type [4]. Thus, to assess the sustainability of the financial sector of the country's economy, we apply two different approaches that are used by foreign experts and scientists. The first approach is based on the use of the FSI, and the second – on the use of the Z-score. The indicator proposed in [2] was used as an integral indicator of financial resource

disbalances (*IR*). A correlation analysis was used to detect the relationship between disbalances in the movement of financial resources in the country's economy and the level of stability of its financial sector. The predicted direction of connection (2017-2018) between *IR* and individual *FSI* is given in Table 1.

Table 1

The predicted direction of *IR* and individual *FSI* connection (abstract) [2]

FSI	The direction of connection to <i>IR</i>
Indicators of financial sustainability based on capital (deposit-taking corporations)	
The ratio of regulatory capital to risk-weighted assets	Indirect
The ratio of regulatory capital of 1 st level to risk-weighted assets	Indirect
The ratio of non-performing loans excluding capital reserves	Direct
The ratio of capital to assets	Indirect
Rate of return on capital	Direct
The ratio of large open positions to capital	Direct
Indicators of financial stability on the basis of assets (deposit-taking corporations)	
The ratio of liquid assets to total assets	Ambiguous
The ratio of liquid assets to short-term liabilities	Ambiguous
The ratio of customer deposits to total gross loans (except interbank ones)	Indirect
Rate of return on assets	Direct
The ratio of non-performing loans to total gross loans	Direct
The ratio of loans for residential real estate to total gross loans	Ambiguous
The ratio of liabilities in foreign currency to aggregate liabilities	Direct
Indicators of financial sustainability based on income and expenditure (deposit-taking corporations)	
The ratio of interest margin to gross income	Indirect
The ratio of income from trading operations to gross income	Direct
The ratio of non-interest expenses to gross income	Direct
Indicators of financial stability of other financial corporations	
The ratio of assets to total assets of the financial sector	Direct
The ratio of assets to gross domestic product	Direct
Z-score	Indirect

The investigation of the connection between *IR* and regulatory ratio assets indicators to risk-weighted assets shows a shift in trends from the positive impact of disbalances in financial resources on the sustainability of the financial sectors of the economy in the pre-crisis period to the negative in the post-crisis years for most countries selected. The particularly pronounced positive impact of such disbalances on the ratio of regulatory capital to risk-weighted assets was observed in pre-crisis period in such countries as Canada, Indonesia, Italy, Romania, as evidenced by the calculated correlation coefficient at the level of 0,8–0,9. In the post-crisis years the situation changes somewhat. For the ten countries (France, India, Italy, Mexico, the Philippines, the Russian Federation, Ukraine, the Great Britain, Estonia, Bulgaria) there is a positive effect of the disbalances of the financial resources movement on the stability of the financial sectors of the economies of these countries. At the same time, nine countries (Kazakhstan, China, Georgia, Indonesia,

Japan, South Africa, Latvia, the Czech Republic, Armenia) show a reverse situation, which is confirmed by corresponding correlation coefficients at the level of more than 0,7. In general, for most countries the calculated correlation coefficients show moderate or significant connections between the investigated values.

Correlation relations between *IR* and individual *FSI* of the first level to risk-weighted assets for the countries under study show similar results of calculations as in the *FSI* described above. In the post-crisis period 18 of 31 countries have negative correlation coefficients, and 10 of them (Australia, Kazakhstan, Georgia, Indonesia, Japan, South Africa, Romania, Latvia, Estonia, the Czech Republic) show moderate or significant intensity in terms of connection between the studied values. At the same time, 8 countries (France, India, Italy, Mexico, the Philippines, the Russian Federation, Ukraine and the Great Britain) demonstrate the positive effect of disbalances in the flow of financial resources on the growth of the ratio of regulatory capital from level 1 to risk-weighted assets in the post-crisis years.

Along with the study of the links between disbalances in the flow of financial resources and the ratio of regulatory capital to risk-weighted assets, it should be noted that there is the negative impact of such imbalances on the ratio of non-performing loans to capital and total gross loans. We should note that in the pre-crisis period the financialization of the economies of almost all of our chosen countries contributed to the reduction in the volume of non-performing loans in relation to capital and total gross loans, showing negative correlation coefficients between these indicators. In the post-crisis period, the excessive development of the financial sectors of the economies in almost all the sample countries, except for Kazakhstan, Georgia, Indonesia, Mexico, the Philippines, Ukraine, Romania, Hungary and Bulgaria, has led to an increase in the volume of non-performing loans in relation to capital and total gross loans, which is confirmed by high positive correlation coefficients [2].

Regarding the correlation between the integral indicators of financial resources disbalances and capital-to-asset ratios, we note that 7 countries (France, Italy, Mexico, the Philippines, the Russian Federation, Bulgaria) in the post-crisis period demonstrate the presence of direct significant or moderate intensity connections, while for 9 countries (Kazakhstan, Georgia, South Africa, Ukraine, Latvia, Lithuania, Estonia, the Czech

Republic), the correlation coefficients show the existence of reverse connections. As for the correlation between *IR* and indicators of the ratio of interest margin to gross income, we note that in the pre-crisis period, only in relation to Canada, Germany, Indonesia, Italy and Romania, correlation coefficients show significant or moderate intensity of the relationship between these indicators. At the same time, these connections in a number of countries indicate a direct relationship between the surveyed indicators, and therefore the positive impact of disbalances in the flow of financial resources on the FSI until the events of the global financial crisis of 2007-2008. In contrast to the pre-crisis period, in the post-crisis years most of the countries under study show significant or moderate intensity of the connections between the *IR* and the indicators of the ratio of interest margins to gross income. In addition, in almost the entire majority of countries, except China, Mexico, Ukraine, Malaysia, Latvia, Lithuania and Bulgaria, there is a negative impact of disbalances in the flow of financial resources on the FSI. That is, disbalances in the flow of financial resources in economically developed countries to a greater extent have a negative impact on the share of net interest income in gross income. In this aspect, we note that in the conditions of financialisation of the country's economy, the main source of profit should not be interest income, but the income received through operations with major and derivative financial instruments, active use and the volume of operations with which determine the advanced development of the financial sector of the country's economy over its the real sector [2].

At the same time, the results of the correlation analysis for the post-crisis period between *IR* and indicators of the ratio of non-interest expenses to gross income did not make it possible to identify unambiguous trends for the countries under study. For example, 10 sample countries (Australia, Brazil, China, Germany, India, Italy, Mexico, Romania, Lithuania, Estonia) show a direct significant or moderate connections between the mentioned indicators, while the other 10 countries (Kazakhstan, Georgia, Japan, Korea, the Philippines, South Africa, Malaysia, the Czech Republic, Bulgaria and Armenia) also demonstrate the presence of similar rates of connections between the indicators, but they have an inverse trend. Regarding the sustainability of the financial sectors of the economy, the disbalances in the flow of financial resources in the second group of 10 countries are regarded as a positive phenomenon, as they lead to the reduction

in administrative expenses in relation to gross income, which is positively reflected in the growth of the volumes of the latter [2]. The above mentioned indicator is to a certain extent related to the ratio of costs for staff retention to non-interest expenses. The correlation analysis between *IR* and indicators of the ratio of staff costs to non-interest costs shows the distribution of sample countries into two groups: the first includes countries for which there are direct relationships between the indicators (Brazil, Germany, Korea, Poland, Armenia), the second – indirect (Australia, Indonesia, Italy, South Africa, Romania, Lithuania, Estonia). For both groups of countries, the correlation coefficients show a moderate or significant correlation between the indicators in the post-crisis period. In this case, one cannot unanimously assert about the positive or negative impact of disbalances in the movement of financial resources on the reduction of staff costs to non-interest costs in accordance with the specific group from the formed groups of countries. On the one hand, imbalances in the flow of financial resources in the first group of countries, as opposed to the second group, can be viewed positively, since the gradual accumulation of such imbalances leads to an increase in the number of employed people in the financial sector, which leads to higher wages and, consequently, leads to an improvement in the welfare of the population in the country. On the other hand, for the second group of countries, with the increase in the level of disbalances in the flow of financial resources, the ratio of staff costs to non-interest costs is reduced, which is positive in terms of ensuring the stability of the financial sectors of these economies, but is negative from the point of view of ensuring social development of the countries [2].

A particular importance belongs to the detection of correlations between *IR* and indicators of the ratio of income from trading operations to gross income in the countries under study. Thus, the results of the conducted correlation analysis indicate a direct moderate and significant intensity of the connections, as well as indirect links of similar intensity in the sampled countries. For example, direct connections between the indicators are observed in Germany, Italy, the Philippines, Poland, South Africa, Latvia, Estonia, the Czech Republic, which is typical for the post-crisis period. At the same time, negative correlation coefficients in the post-crisis period are inherent in the countries such as Australia, Kazakhstan, Mexico, Ukraine, the Great Britain, Moldova and Bulgaria. As in the case of the previous FSI, the results of the correlation analysis between *IR* and the ratio

of liquid assets to aggregate assets show the distribution of countries to two almost equal groups. In the first group of countries (Brazil, China, Georgia, Germany, India, Italy, the Philippines, Poland, the Russian Federation, Malaysia, Slovakia, Armenia), the disbalances in the flow of financial resources have a positive effect on the growth of the ratio of liquid assets to total assets. The second group of countries in which imbalances in financial resources lead to a decrease in the ratio of liquid assets to total assets include: Australia, Indonesia, Japan, Korea, South Africa, Ukraine, Latvia, Lithuania, Estonia, the Czech Republic and Bulgaria. Such conclusions are confirmed by the moderate or significant intensity of correlation links for these countries, taking into account the fact that due to the lack of data the analysis was carried out predominantly for the pre-crisis period of development of the world economy. The similar situation is illustrated by the calculated correlation coefficients between the integral indicator of financial resource disbalances and the indicator of the ratio of liquid assets to short-term liabilities [2]. The results of the analysis between the integral indicators of financial resource imbalances and the indicators of the ratio of customer deposits to total gross loans (except for interbank ones) show the existence of indirect moderate or significant connections between them for 11 of the 31 countries in both the pre-crisis and post-crisis periods. This situation suggests that increasing the level of disbalances in the flow of financial resources leads to a reduction in the ratio of «stable» deposit base to total gross loans, which can be regarded as the negative impact of such imbalances on the stability of the financial sector of the economy of each individual country [2].

The analysis is carried out for the vast majority of FSI, which are applied only to deposit-taking corporations. At the same time, it is necessary to identify the connections between the integral indicators of disbalances in the movement of financial resources and FSI of other economic entities – financial corporations, non-financial corporations, households, as well as separate liquidity and real estate markets [2]. In particular, the positive impact of disbalances in the movement of financial resources on FSI of other financial corporations is observed in both periods (pre-crisis, post-crisis) in the countries such as Australia, Canada, France and Indonesia. Nevertheless, Moldova and Slovakia show quite opposite tendencies [2].

According to the indicators of financial stability defined by IMF, real estate markets are characterized by two indicators: the ratio of loans for residential real estate to total gross loans and the ratio of loans for commercial real estate to total gross loans. It should be noted that the results of the correlation analysis between the integral indicator of financial resource disbalances and the mentioned FSI show some differences in the connection between them. At the same time, it is problematic to make unambiguous conclusions about these FSI in terms of the impact of financial resources imbalances on them. On the one hand, in the conditions of financialisation of the economy, the market for both residential and commercial real estate should be actively developed; on the other hand, financial intermediary transactions linked to the boom in mortgage lending have caused the recent global financial crisis and its negative effects for many countries around the world. In particular, between the integral indicators of disbalances in the movement of financial resources and the indicators of the ratio of loans for residential real estate to total gross loans for countries such as Germany, Indonesia, Italy, South Africa, Ukraine, the Great Britain, direct correlations are established, while for Australia, Romania and Slovenia – indirect ones. The same differences in a number of countries are also observed in the connections between the integral indicators of financial resource disbalances and indicators of the ratio of loans for commercial real estate to total gross loans [2].

Thus, based on the correlation analysis conducted for a number of countries between *IR* and individual FSI, we have obtained the results that allow us to assert about the direct or indirect relationship between such disbalances and the stability of the financial sectors of the economies of the countries. In this study the connections between the integral indicator of financial resource disbalances and financial stability indicators that were related to the ratio of loans by sectors of the country's economy to total gross loans and the ratio of loans by geographic distribution to total gross loans were not analyzed, since they should be investigated regarding the features of a particular country, which does not allow us to formulate conclusions regarding a group of countries.

Conclusion. On the basis of the study, it can be concluded that disbalances in the movement of financial resources have a negative impact on the stability of the financial sector in particular and the national financial system of the country as a whole. The study formalized the effects of disbalances in the movement of financial resources on the

stability of the financial sectors based on the results of the analysis of the connections between the integral index of such disbalances and FSI of the International Monetary Fund and the World Bank for the countries with different levels of economic development. For the overwhelming majority of the studied countries, the hypothesis about the negative impact of disbalances in the movement of financial resources on the stability of their financial sectors, regardless of the general economic conditions of these countries' development, was confirmed. At the same time, such a hypothesis was denied for the group of developing countries. Conditions-destabilizers of stability of financial sectors of the countries under the influence of financialization of their economies were defined; they should be considered the object of regulatory measures in financial markets. These include: the level of market integration into the global financial space, which determines the tendency to systemic risk transmission; the degree of markets' development, which affects their volatility.

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