

The imbalances in the global economy: the evolution of theoretical approaches and methods for assessing the potential danger

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ORIGINAL ARTICLE

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Abstract. Nowadays, the global imbalances are both problem of payments balance and the factors of macroeconomic and financial instability. It provides a relevance of the research. Those sustainable reproduction is due to the differences in national savings and investments, fiscal and monetary policies, monetary reserve strategies, demographic processes, the oil factor, debt dynamics, and the unequal position of countries in the global financial system. Moreover, the international economic coordination includes them in its agenda. According to the French presidency of the G7 in 2026, the reduction of macroeconomic imbalances and the strengthening of economic security are the priorities of the financial and economic field. The research analyses the main theoretical approaches to explaining global imbalances, reveals their occurrence, describes current account deficits, and surpluses to a broader assessment of the macroeconomic problems. The assessment involves the current account deficit and surplus, the expected economic growth, the international investment position, the structure of external assets and liabilities, the ratio of international reserves and short-term external debt, the fiscal position, and the real effective exchange rate. Therefore, there is a need for a comprehensive assessment of global imbalances to distinguish economically justified forms of external disequilibrium from imbalances providing debt, currency, fiscal and financial risks for the national economy. The paper proposes a conceptual framework for assessing the potential danger of global imbalances. They based on a consistent transition from identifying external imbalances to analysing its macroeconomic validity, the accumulated external position and structure of external assets and liabilities, and assessing the resilience of the economy to external shocks. The model distinguishes economically justified imbalances and disequilibrium states of the economic system could be able to be transformed into a source of macroeconomic and financial vulnerability.

Keywords: global imbalances; the country's external position; international investment position; external assets and liabilities; real effective exchange rate; macroeconomic stability; financial and structural approach; assessment of external risks

JEL codes: F32, F41, G01, B27

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Introduction

Global imbalances in the modern global economy are not the deviations of individual countries from the external equilibrium. The research problem is dual interpretation of persistent external imbalances in terms of economic content. A current account deficit may reflect the attraction of external resources for investment and future economic growth. At the same time, a surplus may reflect the rational accumulation of external assets, and the long-term persistence of deficits and surpluses can increase risks to the national economy, financial, and debt problems. These imbalances can change the structure of external assets and liabilities, increase a country's dependence on capital inflows and outflows, and form a need to adjust the exchange rate. Therefore, the study of global imbalances is important for describing the external position of the national economy, and assessing the external imbalance as a source of macroeconomic instability. Their sustainable

reproduction reflects the transformation of the global economic system. However, the system involves the discrepancies between national savings and investments, current account asymmetry, accumulation of external assets and liabilities, debt dynamics, monetary and financial inconsistencies, differences in models and rates of economic growth. These factors form an interconnected system of macroeconomic and financial stresses. As a result, global imbalances currently are the indicators of uneven development of countries, vulnerability of the global economy, intensity of trade contradictions, instability of capital flows, currency exchange rate adjustments, and opportunities for sustainable economic growth.

In modern economic literature, the problem of global imbalances is considered from different theoretical positions. The basis of the study of external equilibrium was provided by J. Meade and J. Polak. They explained the balance of payments in terms of the internal macroeconomic problems of the country [13; 16]. J. Sachs and M. Obstfeld give the intertemporal interpretation of its current account status. According to it, a deficit or surplus is the result of the distribution of consumption, savings and investments between the present and the future [15; 19]. In the early 2000s, global imbalances were explained through the redistribution of savings between countries in the works of B. Bernanke¹; M. Dooley, D. Folkerts-Landau & P. Garber; J. Aizenman & J. Lee, the materials of the International Monetary Fund, etc. [1; 8]. After the global financial crisis of 2008-2009, the focus of research shifted from analysing the current account to studying the financial structure of the external position of countries. The works of F. Lane & J.M. Milesi-Ferretti; K. Borio & P. Disyatat; H. Rey consider the role of capital flows, countries international investment position, the debt structure, and the global financial cycle [4; 11; 17]. M. Spisi; M. Chinn & H. Ito and G. Meredith study demographic processes and the oil factor influencing the formation of current accounts and external assets [6; 7; 14; 20]. In the domestic literature, the problem of global imbalances is analysed by V.K. Burlachkov; A.V. Kholopov; A.R. Kilmetova & V.A. Noskov, O.I. Rumyantseva & Zhao Lingyun. They examine the causes, forms of manifestation, and consequences of external imbalances for the modern world economy [5; 9; 10; 18].

Currently, global imbalances are both the result of uneven global development and a mechanism for its further reproduction. They increase trade conflicts, financial vulnerability, and risks of unbalanced adjustment. Moreover, reduction of global imbalances is identified as the priority and included into the agenda of the 'Big Seven'. It confirms its theoretical and practical importance for assessing the prospects for sustainable economic growth and the transformation of international economic coordination.

The purpose of the research is to examine the evolution of theoretical approaches to explaining global imbalances, identify the main causes of their formation, and substantiate a system of indicators to assess their sustainability and potential danger to the economy.

The research implements modelling, comparison, analysis, synthesis, historical, and logical scientific approaches. Additionally, we used a number of works on the history of global imbalances formation. As a result, the concept of assessing the potential danger of global imbalances has been developed. It determines the sequence of research, the composition of analytical blocks, the scoring scale, and the interpretation of the results. The quantitative values of individual indicators and the approbation of the model are considered as a subsequent stage of the study.

Main Part

There are several historical stages in the development of ideas on the causes of global imbalances. The first concerns with the monetary interpretation of external disequilibrium. Indeed, an internal credit expansion and its impact on the money supply, imports, and international reserves are essential ones. The second stage is an intertemporal approach considering the current account as a result of the distribution of consumption, savings, and investments of the present and the future. The third stage refers to the transition to global macroeconomic analysis. According to it, imbalances are explained through a stable configuration of deficits and surpluses of creditor and debtor countries. Finally, the post-crisis financial and structural approach extends the analysis beyond the current account and shows the importance of gross capital flows, the structure of external assets and liabilities, debt positions, and the global financial cycle (Table 1).

¹ Bernanke, B. S. (2005, March 10). *The global saving glut and the U.S. current account deficit [Speech]*. Board of Governors of the Federal Reserve System. Source: <https://www.federalreserve.gov/boarddocs/speeches/2005/200503102/> (Accessed on 09.06.2026)

Table 1 – Evolution of theoretical approaches to explaining global imbalances

Name	Authors	Historical stage	Essence of the approach
The first stage. Monetary approach to external equilibrium	J. Polak [16]	1950s	The external imbalance is explained through the internal monetary dynamics. The growth of domestic credit increases the money supply, income and imports. It results in a reduction in international reserves and a deterioration in the balance of payments.
The second stage. Inter-time approach to the current account	J. Sachs [19]	1980s and 1990s	The current account is a result of the intertemporal choice of economic agents and the distribution of consumption, savings and investments of the present and the future. Deficits reflects external vulnerability and the rational use of resources for future economic growth.
The third stage. Global macroeconomic approach	IMF ² ; M. Dooley, D. Folkerts-Landau, P. Garber [8]; J. Aizenman & J. Lee [1]	The first half of the 2000s	Global imbalances is a stable system of interrelated deficits and surpluses between creditor and debtor countries. Their causes are related to the global excess of savings, reserve accumulation, currency strategies, and export-oriented development models.
The fourth stage. Post-crisis financial and structural approach	F. Lane, J. M. Milesi-Ferretti [11]; K. Borio, P. Disyatat [4]; H. Rey [17]	After the global financial crisis of 2008-2009; 2010s	The analysis extends beyond the current account to include gross capital flows, the international investments, the structure of external assets and liabilities, debt and currency risks, and the impact of the global financial cycle.

Source: Authors

The first stage emerged in the 1950s is a monetary interpretation of external economic equilibrium. A significant contribution to its development was made by J. Polak. He considered the state of the balance of payments in terms of the internal monetary processes. Within the framework of this approach, the external problems of the country depend on the dynamics of domestic credit, money supply, income, imports, and international reserves [16].

The approach can be represented through a system of interrelated equations. The money supply depends on the volume of national income:

$$MO = kY, \quad (1)$$

where MO is the money supply, Y is GNP, and k is the money demand coefficient. Imports are also defined as a function of income:

$$M = mY, \quad (2)$$

where M is the import, and m is the marginal propensity to import.

Consequently, the growth of domestic income expands the demand for imported products and connects the internal dynamics of the economy with its external position.

Moreover, J. Polak introduces the equation of money supply change [16]:

$$\Delta MO = \Delta R + \Delta D, \quad (3)$$

² International Monetary Fund. (2005). *Global imbalances: A saving and investment perspective*. In *World economic outlook, September 2005: Building institutions*. <https://doi.org/10.5089/9781589064546.081.ch002> (Accessed on 09.06.2026)

where ΔR is the change in international reserves, and ΔD is the change in domestic credit.

The fast growth of domestic credit results in an increase in the money supply, domestic spending, and import demand.

The following equation reflects the balance of payments state:

$$\Delta R = X - M + K, \quad (4)$$

where X is exports, M is imports, and K is net capital inflows.

The equations show the main mechanism of the imbalance formation: credit expansion increases the money supply and income, income growth expands imports, and an increase in import payments reduces international reserves. The practical application of this approach is shown in the IMF study of the Sudanese economy, 1947-1962 and published in 1964. The deterioration of Sudan's foreign position was due to the expansion of bank credit, the growth of the money supply, and the reduction of reserves. Therefore, the approach of J. Polak explains the dependence of the balance of payments on the country's domestic monetary policy [12].

The second stage dates back to the 1980s and 1990s and is associated with the formation of an intertemporal approach to current account analysis. The works of J. Sachs play a significant role in its formation. The current account was proposed to be considered as the result of the distribution of consumption, savings, and investments of the present and the future [19].

The logic is based on the basic macroeconomic identity:

$$CA = Y - A = S - I, \quad (5)$$

where CA is the current account balance, Y is national income, A is domestic expenditure, S is national savings, and I is investment.

The current account deficit arises at exceeding the domestic expenditures and investments over national savings and is covered by external financing. The surplus shows the excess of savings over investments and make country a net creditor of the global economy.

In terms of an intertemporal logic, the fact of scarcity does not indicate crisis vulnerability. Households can increase current expenses at anticipating future income growth, firms can attract external resources to expand production, and the government can redistribute costs between periods. The final assessment depends on whether borrowing forms a future revenue base for servicing obligations.

For instance, the reaction to the 1973-1974 oil crisis. Oil exporters, primarily OPEC countries, transferred the part of the increased revenues into the accumulation of external assets, considering the non-renewable nature of oil rents. On the contrary, the Republic of Korea had their high demand due to external financing. Therefore, the current account deficit provides the transfer of oil crisis costs into the future and supports capital accumulation. The intertemporal approach focused attention from the magnitude of the deficit to its causes, sources of financing, and sustainability [19].

The third stage had place in the first half of the 2000s as a global macroeconomic interpretation of imbalances. The object of the analysis was the global system of interrelated deficits and surpluses: the surplus of some countries is the accumulation of demands, while the deficit is the use of external savings. This approach is developed in the materials of the IMF, primarily in the World Economic Outlook report. The global imbalances are considered through the ratio of savings and investments in various groups of countries³.

According to B. Bernanke's hypothesis of 'global saving glut', the savings of emerging market countries exceed their domestic investments. Therefore, some of the funds are directed to economies with deep and reliable financial markets. In the 2000s, the United States had a significant share of these resources. Their current account deficit was in the interconnection with the surpluses of the creditor countries. A special role was played by the states of East Asia. After the crisis of 1997-1998, the accumulation of reserves simultaneously

³ International Monetary Fund. (2005). *Global imbalances: A saving and investment perspective*. In *World economic outlook, September 2005: Building institutions*. <https://doi.org/10.5089/9781589064546.081.ch002> (Accessed on 09.06.2026)

performed a protective function and supported export-oriented growth⁴.

A similar interpretation was proposed by M. Dooley, D. Folkerts-Landau and P. Garber in the concept of 'Bretton Woods II'. The underdeveloped countries have a competitive exchange rate, accumulate dollar reserves and transfer them into the financial assets of the developed country. J. Aizenman & J. Lee distinguish the mercantilist and the precautionary issues of reserve accumulation. The first is related to export competitiveness, the second – to self-insurance against capital outflow and liquidity crisis [1; 8].

Other factors also influence the configuration of global imbalances. Rising oil prices increase the incomes of exporting countries. Some of them return to global financial markets in the form of reserves and assets of sovereign funds. Demographic changes also affect the current account: an aging population and a decrease in investment demand can increase the propensity to save and form a surplus [3; 20].

The 'twin deficits' hypothesis concerns with fiscal policy. National savings include private and public components:

$$S = S_p + S_g, \quad (6)$$

where S_p is private savings, s_g is public savings.

The government savings are determined by the difference between tax revenues and expenses,

$$S_g = T - G, \quad (7)$$

the identity of the current account takes the following form:

$$CA = S_p + (T - G) - I \quad (8)$$

An increase in the budget deficit reduces national savings and the current account. Therefore, according to the global macroeconomic approach, persistent external imbalances are formed under the influence of savings, investments, fiscal policy, reserve strategies, the oil factor, and demographic processes.

The fourth stage was formed after the global financial crisis of 2008-2009. The post-crisis financial and structural approach has expanded the analysis beyond the current account. To assess external sustainability, it is necessary to consider account gross capital flows, accumulated external assets and liabilities, their debt, currency and term structure, and the economy's dependence on global financial conditions.

An important prerequisite for such an analysis was the work by F. Lane and J.M. Milesi-Ferretti on the external wealth of countries. The consolidated scale of international financial integration is determined by the ratio of the sum of external assets and liabilities to GDP [11]:

$$IFIGDP = (FA + FL) / GDP, \quad (9)$$

where FA is external assets, FL is external liabilities.

A country may have a moderate current account balance and significant gross balances sensitive to changes in exchange rates, asset prices, and external financing conditions. For industrial countries, the value of this indicator increased from 45% of GDP in 1970 to more than 300% by 2004 [11].

The net external position is determined by the difference between external assets and liabilities:

$$NFA = FA - FL, \quad (10)$$

where NFA is net external assets.

If $NFA > 0$, the country is a net external creditor; if $NFA < 0$, it is a net external debtor. However, the same negative position can form different levels of risk. Long-term direct investments differ in their effects from short-term foreign debt in foreign currency. Indeed, the structure of liabilities is no less important than their total volume.

The change in the net external position depends on the current account and the revaluation of previously accumulated assets and liabilities:

$$\Delta NFA = CA + VE + OA, \quad (11)$$

⁴ Bernanke, B. S. (2005, March 10). *The global saving glut and the U.S. current account deficit [Speech]*. Board of Governors of the Federal Reserve System. Source: <https://www.federalreserve.gov/boarddocs/speeches/2005/200503102/> (Accessed on 09.06.2026)

where CA is the current account balance, VE is the effect of revaluation, and OA is other adjustments.

Changes in exchange rates and asset prices can significantly improve or worsen the external position, even with a relatively stable current account.

K. Borio and P. Disyatat distinguish net and gross capital flows. A small difference between the inflow and outflow of funds can be combined with large counter-financial flows. During the recovery phase, global banks and financial intermediaries receive cheap external financing, direct it to lending and asset purchases. It increases asset prices and collateral value and creates a self-sustaining chain. When financial conditions change, the mechanism reverses: banks reduce assets, prices fall, balance sheets deteriorate, and access to external financing decreases. The importance of gross flows was most clearly demonstrated during the global financial crisis. In terms of the net flows, the scale of financial stress is moderate one. However, decreasing of gross capital inflows and outflows disrupts the work of bank balance sheets, external financing, and liquidity markets. Indeed, the current account does not show the real level of financial interdependence of the country [4].

Further development of this approach is related to the concept of the global financial cycle by H. Rey. According to her approach, international financial conditions is an independent global force influencing capital flows, credit, asset prices, and national monetary policy options. Global imbalances are formed through national savings and investments and the general global financial cycle. It depends on risk appetite, the policy of the central country, and the behavior of global financial intermediaries [17].

Finally, global imbalances are interconnected to debt. Long-term current account deficits are gradually turning into accumulated external debt. Debt interest, dividends, and other investment income paid to non-residents are included in the current account as part of the primary income balance. Therefore, a country with a large negative external position may have a deterioration in the current account even without a deterioration in the trade balance.

Dollar as a key reserve currency and high demand for treasury obligations allow the country to finance the deficit on relatively favourable terms. At the same time, long-term deficits worsen the net international investment position and increase the volume of external liabilities. The issue of a reserve currency mitigates the imbalance, but does not eliminate the need to analyse its accumulated consequences.

Therefore, the evolution of theoretical approaches shows the gradual expansion of the subject of research: from the relationship of domestic credit with reserves and imports to intertemporal choice, the global configuration of deficits and surpluses, the analysis of gross financial flows, and the structure of external balances. According to the post-crisis financial and structural approach, global imbalances cannot be assessed in terms of the current account deficits or surpluses. The sequence of the considered stages is shown in Figure 1.

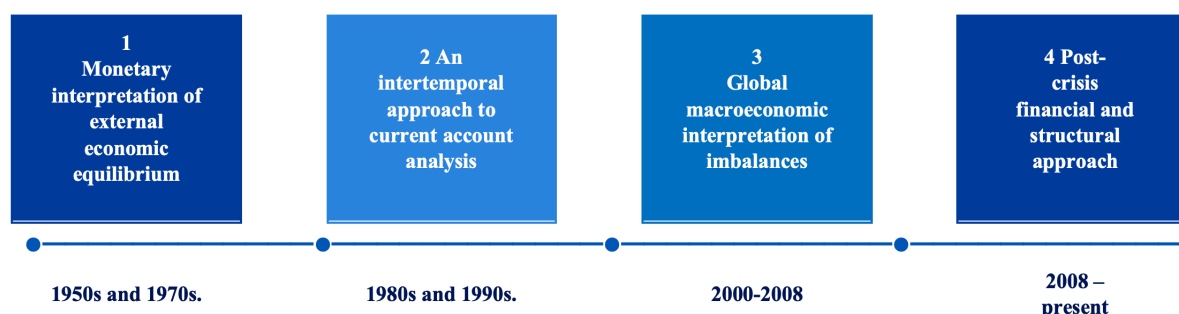


Figure 1. The evolution of theoretical approaches to global imbalances

Source: Authors

The analysis shows the complex nature of global imbalances. They can arise as a result of internal credit expansion, intertemporal redistribution of resources, persistent differences between savings and investments, budget deficits, monetary reserve policy, the oil factor, demographic shifts, and financial and structural asymmetries. In this regard, after identifying the causes of global imbalances, there is a need in assessment of

their sustainability and potential danger to the economy. There are some fluctuations in current accounts and exchange rates. Therefore, the main problem of monitoring the external sector is to understand to what extent these fluctuations are acceptable, excessive and dangerous. Indeed, it is necessary to transit from explaining the sources of imbalances to a system of indicators determining an external deficit or surplus as a factor of debt, currency, fiscal, or financial risks.

In modern international practice, the most developed tool for this assessment is the IMF approach, presented in the methodology for assessing external economic balance (External Balance Assessment) and annual reports on the state of the external economic sector (External Sector Report). It continues the third stage of the development of ideas on global imbalances, since the current account, its deviation from the equilibrium level and the influence of fundamental macroeconomic factors on the country's external position [2].

The IMF's methodology assumes the current account deficit or surplus is not sufficient to consider it as a problem. The external position is assessed by comparing the actual, cyclically adjusted current account with the estimated rate corresponding to the fundamental characteristics of the economy and desirable policy parameters. In a simplified form, it can be represented as follows [2]:

$$CA_{gap} = CA_{actual} - CA_{norm}, \quad (12)$$

where CA_{actual} is the actual or cyclically adjusted current account balance, CA_{norm} is the estimated current account rate, and CA_{gap} is the deviation of the actual external position from the conditional equilibrium level.

The actual value of the current account is significantly low. Therefore, the country may have an excessive deficit; if its higher – an excessive surplus.

The IMF's substantive approach is based on an analysis of the factors of the global macroeconomic interpretation of imbalances. These include the ratio of savings to investments, demographic characteristics, the level of economic development, the oil and gas balance, monetary policy, and financial conditions. Hence, the IMF methodology is important because in terms of the theoretical analysis of global imbalances causes into an applied assessment system: the external imbalance is considered in connection with the fundamental characteristics of the country and the parameters of economic policy [2].

However, this approach is not sufficient for the purposes of this study. The IMF's methodology largely focuses on the current account. Nevertheless, the post-crisis literature shows the danger of an imbalance manifestation in terms of the current account. After the global financial crisis, a country could have a moderate current account, be vulnerable due to accumulated external liabilities, short-term debt, insufficient reserves, the structure of external assets and liabilities, dependence on external financing, and currency revaluation. Therefore, to analyse global imbalances, we need to assess the deviation of the current account (CA) and supplement it with financial and structural diagnostics.

In our opinion, it is advisable to use a methodology for assessing global imbalances in terms of their potential danger to the economy. Its objective determines a current account deficit or surplus as a source of macroeconomic, debt, currency, or financial vulnerability. The considered causes of global imbalances are proposed to be used as a basis for the development of the author's methodology for their diagnosis. The methodology is based on a consistent assessment of the country's external position. First, the result of the action of these factors is recorded through the CA/GDP indicator – the ratio of the current account to GDP, as the current deviation in terms of future economic growth. As a result, the consequences and possible macroeconomic risks are analysed. The individual causes of global imbalances are transformed into a system of criteria and indicators to assess the scale of external deviation and degree of its negative impact on the national economy (Figure 2).

At the first stage, the presence of a stable external gap is defined. The economy systematically attracts resources or, on the contrary, generate an excess of them and transit the national savings abroad. However, deficit or surplus themselves do not ensure the stability of the external position. A deficit can be a result of the expansion of investments and the formation of future production potential; a surplus shows the rational

accumulation of external assets. In this regard, the assessment of an external imbalance concerns with its scale mechanical interpretation.

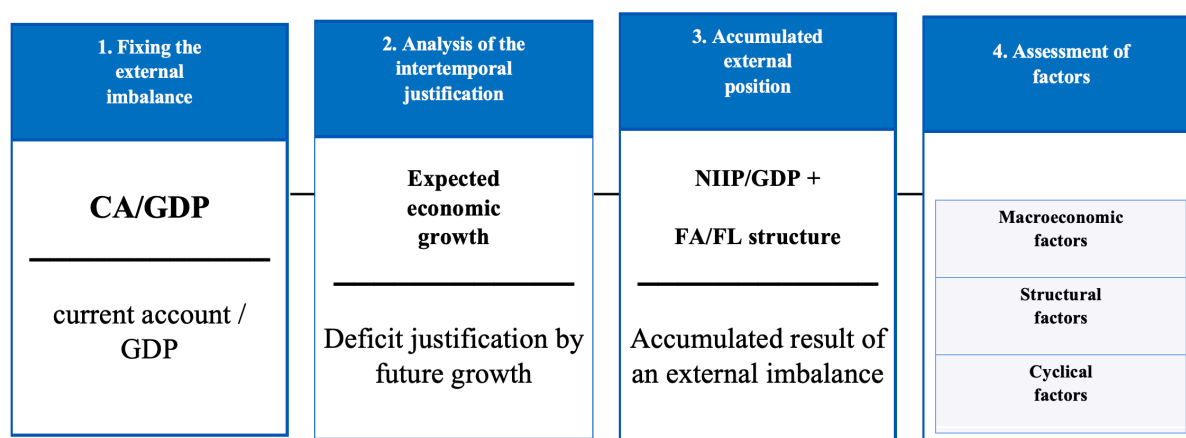


Figure 2. Assessment of global imbalance danger

Source: Authors

At the second stage, the current imbalance and its intertemporal justification are determined. This analysis is based on comparing the current attraction of external resources with the prospects for further expansion of output and income. A temporary deficit is economically justified, if the economy uses external financing for investments ensuring sustainable growth in the future. Moreover, the external gap gradually becomes more complicated, if the attraction of resources is not accompanied by the formation of a future revenue base. Therefore, the country increases its obligations without source of their subsequent service.

At the third stage, the analysis is transferred from the current flows to the accumulated results of foreign economic activity. The long-term persistence of deficits and surpluses is gradually changing the ratio of a country's requirements to the outside world and its obligations to non-residents. Therefore, both the size and the structure of the formed external position are essential. Long-term investments, short-term borrowings, portfolio capital, reserve assets, etc. have varying effects on the sustainability of the economy. The risks may vary significantly depending on the maturity dates, currency structure, and nature of the financing involved in terms of a comparable volume of external liabilities.

At the final stage, the ability of the economy to withstand the deterioration of external conditions is assessed. It is important to have a sufficient reserve of liquid external resources to service short-term liabilities in terms of the capital outflow or limited access to new borrowings. The state budget condition is an additional source of risk. The combination of an external deficit with a budget deficit mutual intensify the imbalances: a lack of government savings increases the economy's need for external financing. An external vulnerability includes private sector investment decisions, government fiscal policy, etc.

The real strengthening of the national currency with a stable external deficit may be accompanied by a decrease in price competitiveness, an increase in the attractiveness of imports, and an increased risk of subsequent adjustments. A stable surplus, on the contrary, can ensure a weak exchange rate and the economy's dependence on the export growth model. Therefore, we consider the state of the external sector in terms of the changes in relative prices and the specifics of monetary policy.>

A point-based assessment system can be used to systematise the results of a study. Each indicator gets from 0 to 2 points: 0 points is low risk, 1 point – moderate risk, 2 points – high risk. The quantitative criteria for classifying individual indicators as low, moderate, or high risk are subject to refinement depending on the type of economy, currency regime, depth of the financial market, reserve currency status, and availability of external financing. It is especially important in terms of developed countries, emerging markets, and commodity exporters (Table 2).

Table 2 – Step-by-step point scale for assessing foreign economic balance

Indicator	Economic sense	Score
1. External imbalance		
Current account/GDP	It shows the scale of the current account deficit or surplus relative to the size of the economy.	0 points – low risk 1 point – moderate risk. 2 points – high risk
2. Intertemporal validity		
Expected real GDP growth	It shows the formation of the future revenue base to service external obligations and provide sustainable growth.	0 points – low risk 1 point – moderate risk. 2 points – high risk
3. Balance and structural assessment of the external position		
CHIP/GDP	It shows the country position in terms of a net external creditor or debtor.	0 points – low risk 1 point – moderate risk. 2 points – high risk
(foreign assets + foreign liabilities)/GDP	It shows the gross scale of international financial integration and sensitivity to revaluation of assets and liabilities.	0 points – low risk 1 point – moderate risk. 2 points – high risk
Structure of foreign assets and liabilities	It allows ones to assess the quality of external assets, liabilities, and the sustainability of external financing.	0 points – low risk 1 point – moderate risk. 2 points – high risk
External debt/GDP	It shows the extent of external imbalance transformation into an external debt.	0 points – low risk 1 point – moderate risk. 2 points – high risk
Short-term external debt / external debt	It shows the country's dependence on constant refinancing of external obligations.	0 points – low risk 1 point – moderate risk. 2 points – high risk
Share of liabilities in foreign currency	It shows the sensitivity of the external position to changes in the exchange rate and currency risk.	0 points – low risk 1 point – moderate risk. 2 points – high risk
Reserves/short-term external debt	It shows the economy's ability to withstand capital outflows and the closure of foreign borrowing markets.	0 points – low risk 1 point – moderate risk. 2 points – high risk
4. Factors of increasing external economic vulnerability		
Budget balance/GDP	It shows the external imbalance in terms of a lack of government savings.	0 points – low risk 1 point – moderate risk. 2 points – high risk
REER	It reflects the currency and price imbalance and the risk of loss of competitiveness.	0 points – low risk 1 point – moderate risk. 2 points – high risk

Indicator	Economic sense	Score
Population age	It shows the impact of population aging on savings, investments, budget expenditures, and future output.	0 points – low risk 1 point – moderate risk. 2 points – high risk
Dependence on the commodity market	It allows ones to determine dependence of country's external position on changes in world prices for oil and other raw materials.	0 points – low risk 1 point – moderate risk. 2 points – high risk
Global financial conditions	It shows the sensitivity of the external position to the cost of global capital, global liquidity, and investors' risk appetite.	0 points – low risk 1 point – moderate risk. 2 points – high risk

Source: Authors

The presented system of indicators can be considered as a basis for further development of the methodology for assessing the potential danger of global imbalances. It allows ones to perform a fragmented analysis of individual characteristics of the external sector to a more consistent diagnosis. The development of the methodology involves clarifying thresholds and scoring criteria based on comparable cross-country data. Adapting the scale for different groups of economies - developed countries, emerging markets, and commodity exporters is a relevant issue.

The final score for each block is calculated as follows:

$$R_j = \frac{\sum_{i=1}^{n_j} B_{ij}}{2n_j} \times 100\%, \quad (13)$$

where R_j is the final risk assessment for block j ;

B_{ij} – score of the i -th indicator included in the analytical block j (the indicator has the value 0, 1, or 2 points);

i is the ordinal number of the indicator within the corresponding analytical block;

j is the number of the analytical block;

n_j – number of indicators included in the analytical block j ;

$\sum B_{ij}$ – sum of the scores of all indicators included in the analytical block j ;

2 – the maximum possible score for one indicator.

The blocks have different analytical significance. Therefore, we can construct an integral assessment of the riskiness of the imbalance based on a weighted sum of estimates for individual analytical blocks. In general, such an assessment can be presented as follows:

$$R = w_1 R_1 + w_2 R_2 + w_3 R_3 + w_4 R_4$$

$$w_1 + w_2 + w_3 + w_4 = 1, w_j \geq 0, \quad (14)$$

where R is the integral assessment of the riskiness of the imbalance;

R_1, R_2, R_3, R_4 – scores on the separate analytical units;

w_1, w_2, w_3, w_4 – weights of the corresponding blocks.

We do not give specific values of the weighting coefficients in this article, since their definition requires additional theoretical justification and empirical verification.

To interpret the diagnostic results, an enlarged scale of risk levels can be used. Indeed, the boundaries of the levels are as indicative ones. It is shown in Table 3. Those correlates the assessment of the external

imbalance with the possible consequences for the macroeconomic and financial stability of the country.

Table 3 – Interpretation of the final assessment of the riskiness of the imbalance

Final assessment	Risk level	Interpretation
$0 \leq R < 33,3\%$	Low risk	The imbalance is limited or economically justified; no vulnerability.
$33,3\% \leq R < 66,7\%$	Moderate risk	There are problems; monitoring of assets, liabilities, reserves, budget and exchange rate is required.
$66,7\% \leq R \leq 100\%$	High risk	There is a high probability of debt, currency, fiscal or financial vulnerability; adjustment measures are needed.

Source: Authors

The proposed methodology does not contradict the IMF approach, but rather expands it. The IMF's approach primarily considers the current account in terms of an excessiveness. The developed methodology evaluates formed imbalance and its transformation to debt, currency, fiscal or financial vulnerability, future growth, accumulated external position, the structure of assets and liabilities, etc.

The study considers the reasons in the first part, if the imbalance is recognized problematic one. It is impossible to eliminate the imbalance through fixing its statistical features. Hence, it requires solving the initial causes.

Conclusion

According to the analysis, the concepts of global imbalances have several stages of development. It evolutionated from a monetary explanation of external imbalances through internal credit expansion. Later, it changes in reserves to an intertemporal analysis of the current account, a global macroeconomic interpretation of interrelated deficits and surpluses. Finally, it includes a financial and structural approach considering gross capital flows, international investment position, and global financial the cycle.

Hence, current account deficit or surplus is not a sufficient basis for assessing the potential danger of a global imbalance. External disequilibrium is economically justified as an effective intertemporal redistribution of resources and the formation of a future revenue base. A moderate imbalance provides vulnerability accompanied by a deterioration in the international investment position, an increase in short-term external debt, currency imbalances, a shortage of reserves, fiscal stress, or dependence on global financial conditions.

The proposed methodology ensures a comprehensive assessment of the risks. Its advantage combines the scale of the current external imbalance, intertemporal validity, the accumulated external position, structure of assets and liabilities, and macroeconomic drivers of external vulnerability. The limitation of the methodology involves the indicative thresholds. They should be specified in terms of the type of economy, the currency regime, the structure of the financial market, and the availability of external financing. In addition, full empirical testing requires the formation of a comparable database by country and verification of the results obtained in crises. A prospects of our further research are the application of the methodology to groups of developed countries, emerging markets, and commodity exporters, with subsequent comparison of the results with changes in external sustainability.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR'S CONTRIBUTIONS

Irina G. Perelomova – conceptualization; supervision.

Daniil V. Kornov – writing – original draft.

References

1. Aizenman, J., & Lee, J. (2005). *International reserves: Precautionary versus mercantilist views, theory and evidence* (NBER Working Paper No. 11366). National Bureau of Economic Research. <https://doi.org/10.3386/w11366>
2. Allen, C., Casas, C., Ganelli, G., Juvenal, L., Leigh, D., Rabanal, P., Rebillard, C., Rodriguez, J., & Jalles, J. T. (2023). *2022 update of the External Balance Assessment methodology* (IMF Working Paper No. 2023/047). International Monetary Fund. <https://doi.org/10.5089/9798400234934.001>
3. Auclert, A., Malmberg, H., Martenet, F., & Rognlie, M. (2021). *Demographics, wealth, and global imbalances in the twenty-first century* (NBER Working Paper No. 29161). National Bureau of Economic Research. <https://doi.org/10.3386/w29161>
4. Borio, C., & Disyatat, P. (2011). *Global imbalances and the financial crisis: Link or no link?* (BIS Working Paper No. 346). Bank for International Settlements. <https://doi.org/10.2139/ssrn.1859410>
5. Burlachkov, V. K. (2022). Global imbalances: Causes and consequences of manifestations in the modern economy. *Ekonomicheskii analiz: Teoriya i praktika*, 21(1), 4–22. <https://doi.org/10.24891/ea.21.1.4>
6. Chinn, M. D., & Ito, H. (2008). A new measure of financial openness. *Journal of Comparative Policy Analysis: Research and Practice*, 10(3), 309–322. <https://doi.org/10.1080/13876980802231123>
7. Chinn, M. D., & Ito, H. (2019). *A requiem for “Blame it on Beijing”: Interpreting rotating global current account surpluses* (NBER Working Paper No. 26226). National Bureau of Economic Research. <https://doi.org/10.3386/w26226>
8. Dooley, M. P., Folkerts-Landau, D., & Garber, P. M. (2003). *An essay on the revived Bretton Woods system* (NBER Working Paper No. 9971). National Bureau of Economic Research. <https://doi.org/10.3386/w9971>
9. Kholopov, A. V. (2022). Global'nye disbalansy: Evolyutsiya podkhodov [Global imbalances: Evolution of approaches]. *Mirovaya ekonomika i mezhdunarodnye otnosheniya*, 66(9), 19–28. <https://doi.org/10.20542/0131-2227-2022-66-9-19-28>
10. Kilmetova, A. R., & Noskov, V. A. (2017). Global imbalances in the world economy: Causes and ways to overcome them. *Problemy sovershenstvovaniya organizatsii proizvodstva i upravleniya promyshlennymi predpriyatiyami: Mezhhvuzovskiy sbornik nauchnykh trudov*, (1), 246–250. – EDN YLKALX
11. Lane, P. R., & Milesi-Ferretti, G. M. (2006). *The external wealth of nations mark II: Revised and extended estimates of foreign assets and liabilities, 1970–2004* (IMF Working Paper No. WP/06/69). International Monetary Fund. <https://doi.org/10.5089/9781451863291.001>
12. Mahhouk, A., & Drees, F. (1964). Domestic policies and payments problems of the Sudan, 1947–62. *IMF Staff Papers*, 11(1), 150–176. <https://doi.org/10.2307/3866061>
13. Meade, J. E. (1951). *The theory of international economic policy: Vol. 1. The balance of payments*. Oxford University Press.
14. Meredith, G. M. (2007). *Debt dynamics and global imbalances: Some conventional views reconsidered* (IMF Working Paper No. WP/07/4). International Monetary Fund. <https://doi.org/10.5089/9781451865684.001>
15. Obstfeld, M. (2012). Does the current account still matter? *American Economic Review*, 102(3), 1–23. <https://doi.org/10.1257/aer.102.3.1>
16. Polak, J. J. (1957). Monetary analysis of income formation and payments problems. *IMF Staff Papers*, 6(1), 1–50. <https://doi.org/10.2307/3866128>
17. Rey, H. (2015). *Dilemma not trilemma: The global financial cycle and monetary policy independence* (NBER Working Paper No. 21162). National Bureau of Economic Research. <https://doi.org/10.3386/w21162>
18. Rumyantseva, O. I., & Zhao, L. (2023). Global financial imbalances: Their structure and causes. *Vestnik Belorusskogo gosudarstvennogo ekonomicheskogo universiteta*, (3), 67–75. Source: <http://edoc.bseu.by>

by:8080/handle/edoc/99191

19. Sachs, J. D. (1981). The current account and macroeconomic adjustment in the 1970s. *Brookings Papers on Economic Activity*, 1981(1), 201–282. <https://doi.org/10.2307/2534399>

20. Sposi, M. (2019). *Demographics and the evolution of global imbalances* (Globalization Institute Working Paper No. 332, revised version). Federal Reserve Bank of Dallas. <https://doi.org/10.24149/gwp332r1>