

# Sectoral analysis of the possibility of strengthening the position of developing countries in the global financial market

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**Abstract.** The dollar-centric framework of the modern global monetary and financial system (GMFS) is the cause of increasing global imbalances. These imbalances formed both between individual actors of the world economy, and between groups of countries in the sphere of international monetary and financial relations and financial markets. The strengthening of the position of developing countries in the global economy raises the question of the need to strengthen the competitive position of their currencies. The aim of the research is to identify the key points, the impact on which can strengthen the position of developing countries in the global financial market. The authors' hypothesis was to substantiate the possibilities of strengthening the positions of developing countries in the global financial market (GFM) within the trend of currency polycentricity through targeted influence of interested actors on certain parameters of GFM sectoral development. The study objectives are to analyze trends in these segments of the international financial market and build an econometric model of its sectoral development. We aimed the analysis of peculiarities and trends of development of the main segments of the GFM at identifying factors of sectoral development capable of ensuring the strengthening of the position of currencies of developing countries in the existing macroeconomic conditions. As a result of the study, we define the key factors, the impact on which is able to ensure the growth of the international financial market and the expansion of the use of currencies of developing countries. Testing of the model showed the expected growth of 8% GFM. We revealed that the global financial market is the most sensitive to changes in the share of non-dealer financial institutions in the foreign exchange market, foreign exchange market turnover, and the share of technological innovation. The results of the study became especially relevant in conditions of Russia's isolation from the GMFS and may be in demand, given the need to develop the target sectors of regional and national financial markets.

**Keywords:** global financial market, sectoral development, developing countries, currency polycentrism.

**JEL codes:** G15, G17

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## Introduction

The loss of the U.S. leading positions in global exports and foreign direct investments indicates the unhealthy dominance of the U.S. dollar in various segments of the global financial market (GFM) in particular and in the GMFS in general (Eichengreen, 2013). Confidence in the U.S. currency is undermined by political manipulation in the financial sphere, disagreements with partners (Timofeev, 2019), a growing public debt (Timofeev, 2019). At the same time, emerging market policies have an unconditional stabilizing effect on the GMFS. For example, the expansion of China's fiscal and monetary policies has been the single largest source of growth in global output and trade since the collapse of Lehman Brothers (Temin & Vines, 2015). An empirical analysis (using a panel vector autoregression model) of the experience of emerging market countries proves the positive effect of capital controls on monetary and exchange rate policy and does not hinder the accumulation of international reserves (Zehri, 2020). The internationalization of the renminbi (RMB, ¥) generally reduces asymmetries in international trade and exchange rate volatility (Bénassy-Quéré & Forouheshfar, 2015). After the inclusion of the renminbi in the SDR basket, China's influence in the GMFS increased (Wang, 2018). In particular, this is confirmed by a new large-scale SDR distribution in August 2021 worth the equivalent of \$650 bn. (IMF, 2021). This decision was supported by the G20 in order to provide developing countries with international liquidity and prevent a pandemic-induced international debt market crisis (Lukash, 2021). According to former Bank of England Governor Mark Carney, a multipolar world economy needs a new GMFS to realize its full potential (Carney, 2019). However, the transformation of the GMFS in the direction of currency polycentrism and regionalization is extremely inert and largely dependent on changes in the global financial market. The integral model of sectoral development of the global financial market proposed in this study can serve as a tool for assessing these developments.

The authors' hypothesis is to justify the possibility of strengthening the position of developing countries in the GFM and in the international monetary and financial system within the trend of currency polycentricity through the targeted influence of interested actors on certain parameters of sectoral development of the GFM.

The purpose of the study was to identify key points in the major sectors of the GFM – foreign exchange, equity, credit, investment, and insurance. The impact on these sectors could strengthen the position of developing countries in the GFM. The objectives of the study were to analyze trends in these segments of the GFM and construct an econometric model of its sectoral development. The analysis of the characteristics and trends of the GFM main segments tends to identify sectoral development factors that can strengthen the position of developing country currencies in the current macroeconomic environment. The relevance of this study increases in the conditions of Russia's isolation from the global financial system. Russia needs to develop targeted sectors for regional and national financial markets. The analysis was conducted on statistics up to and including 2019 in order to avoid specific impacts on the results of the coronary crisis and geopolitics study.

## Methods

The study of financial markets using econometric models was conducted by M. Capinski and E. Kopp (2012) in the context of pricing and hedging in derivatives markets. H. Xie and S. Wang (2013) considered the use of price information to model financial markets. B. Betz (2016) studied the use of computer algorithms in the framework of fundamental models of financial transactions Keynes-Minsky, price disequilibrium state of the financial market, international capital flows, a number of other factors. A. Kryzanowski, L. Zhang and R. Zhong (2017) studied the relationships between bond markets, stock markets, and currency forwards in developed and developing countries during quantitative easing (QE) programmes launched by the US Federal Reserve. D. Kenourgios, I. Drakonaki, and D. Dimitriou (2019) used dynamic conditional correlation analysis and robustness tests to identify differences in correlations between bond, equity, and currency forward

markets in the context of the impact of unconventional monetary policy introduced by the European Central Bank. G. Gospodarchuk and E. Suchkova (2019) proposed a system of financial sustainability indicators to address inter-level and inter-sectoral equilibrium problems in the choice of monetary and prudential policy instruments.

Among Russian researchers, the issues of financial market modelling have been studied by E. V. Strelnikov (2017) in terms of probabilistic behavior of institutional market participants. Domestic literature mainly presents descriptive models of financial market development in institutional and functional terms, as well as forecasting models. But the development and substantiation of an integral model of sectoral development and the impact of major segments on the dynamics of the entire financial market is the scientific contribution of the authors of this study.

Econometric models quantify the mutual influence of global financial market factors using integral measures. The models of equilibrium random processes in the economy show the significance of factors in terms of the insufficient information.

To build a model of sectoral development of the global financial market under current conditions of polycentrism and regionalization of the GMFS, the following methods were used: expert assessments consisting of expert ranking, expert ranking of alternative factors, expert forecasting; a priori methods consisting of determining the integral indicator and its value, as well as signs and values of coefficients at fictitious variables based on theoretical hypotheses about the essence of the economic phenomenon or process under study; factor analysis, the application of which has been problematic, in particular the difficulty of accurately quantifying most of the factors affecting the GFM.

The application of such diverse methods of model building was based on a methodological concept (Zvonova, ed., 2018). The model developed has the formal application. It identifies impact reference points to strengthen the position of developing countries while quantifying the cumulative impact of integral indicators on the GFM.

The system of fictitious variables can be further expanded to provide a more accurate assessment of sectoral development. The model can also be supplemented with coefficients that characterize the specific features of each sector's development in terms of the regionalization of developing countries, as well as other external and internal factors that affect the sectoral development of the financial market.

#### *Trend analysis on key sectors of the GFM*

The development of the global foreign exchange market as a segment of the MFR in recent decades has been determined by a number of factors.

1. Rising international business volumes with a trend towards investing in riskier emerging market assets. It requires an increased focus on risk management, in particular diversification of currency portfolios and hedging.

2. The growing global importance of emerging market currencies. The share of key emerging market currencies in total turnover rose from 12% in 2007 up to 25% in 2019. Transaction costs in emerging market currencies, as measured by bid-ask spreads, have steadily declined and have reached developed country currency levels. The largest increase in foreign exchange turnover from 2016 to 2019 was observed with transactions in emerging market currencies such as the Indian and Indonesian rupiah, the Philippine peso and the Mexican peso (BIS, 2019a, 10).

3. Increased participation of non-dealer financial institutions (small banks, hedge funds, institutional investors, high-frequency traders) in the FX market through the use of execution platforms and services that can reduce trading costs, increase transaction speed and transparency. Dealers' trading with these financial institutions amounted to USD \$3.6 trillion in 2019, USD \$3.6 trillion per day, or 55% of global trading volume. Electronic trading in foreign exchange markets is playing an increasingly important role, accounting for up to 70% of daily foreign exchange market turnover compared to 30% a decade ago (BIS, 2019a, 6).

4. The growth in IFEM turnover associated with a widespread carry trade strategy, which is borrowing money in a low-yielding currency and investing in a high-yielding currency.

A characteristic feature of global stock market development is its following to the trend of regionalization. Among emerging markets, China is the new segment of business activity, with the high potential for stock market development.

At the end of 2020, global equity market capitalization surpassed USD \$109.21 trillion. This represents an increase of 19.7% compared with the end of 2019 (WFE, 2020). All regions recorded capitalization growth compared to 2019: 21.7% in the Americas, 24.3% in Asia Pacific and 9.7% in Europe, the Middle East and Africa.

The main reasons for the increase in capitalization and stock market turnover in recent years can be attributed to the following circumstances:

- pumping GMFS with foreign exchange liquidity as part of quantitative easing policies in various countries;
- the growing number of emerging market companies which shares are designed to attract a wide range of investors;
- liberalization of financial markets and removal of barriers to cross-border capital movements;
- an automation of stock market trading through the introduction of electronic trading systems on stock exchanges.

The main way to raise fixed-rate financial resources is through the issuance of bonds. The total amount of outstanding bonds in 2019 was USD \$105 trillion. The cumulative volume of outstanding bonds was USD \$105 trillion in 2019. The US bond market is the largest in the world, accounting for 38.9% of global volume, which is 1.9 times larger than the EU market (excluding the UK) (SIFMA, 2020; BIS, 2020).

Corporate bond markets are larger than the government securities markets in most developed countries, but they are almost identical in size in many emerging markets. The main bond issuers in the world are financial companies (BIS, 2019b, 62).

The global credit market continues to be dominated by developed countries due to the following factors. Firstly, the accumulation by developed countries of the most of the net national savings of both their own economies and those of developing countries serve as a source of international credit. Secondly, the formation of reserve currencies serves as the basis for international payments for goods and services, foreign investment and debt financing. Thirdly, the structure of the global credit market, with most institutions assuming international financial centres has (UK, Switzerland, US) to host them.

Developing countries in the debt finance market compensate for the acute shortage of national savings, particularly in the public sector, with external resources. As a result of their increasing external debt burden, they are shifting to the periphery of the global credit market, attracting resources on the least favourable terms and facing a permanent need for debt refinancing.

The external debt dynamics of developing countries have been stable over the period 2010-2020. Debt accumulation was most dynamic in South-East Asia. The Middle East showed a smaller increase. At the same time the debt of Latin American countries has been relatively stable, while the debt of emerging markets in Europe is virtually unchanged (WEO, 2020).

The model of debt financing based on the banking sector is the most characteristic of the European Economic and Monetary Union (EMU) countries, where the share of borrowings from banks in total debt is 30.1%, in France – 49.5%, in Germany – 33.1%. The involvement of banks as the main actors of external borrowing is due both to the dominance of the banking sector in European countries and their role as intermediaries in filling the channels of international monetary circulation with reserve currencies.

The share of bank borrowings in developing countries is lower: in India – 28.1%, in Brazil – 17.9%, in South Africa – 16.5%, and in Saudi Arabia – 19.6%. In Russia the share of bank liabilities in the structure of external debt is 13.9%. The main reason for this is underdevelopment of banking institutions and their inadequate creditworthiness. This prevents them from entering foreign markets with attractive terms and conditions of borrowings. The exception among the emerging markets is China with a share of bank borrowings of 46.6%.

In the currency structure of global debt, the national currencies of developing countries have a low



position. India's national currency share in total debt is 31.6%, Mexico's is 17.7%, Argentina's is 5.1% and Turkey's is 5.4%. Russia's share of the ruble in the debt structure is 29.9%.

The main market niche for direct investment in the global capital flows system is the construction of vertically and horizontally integrated production chains of TNC. Therefore, the main movement of direct investment occurs between developed countries, which are both major donors and recipients of global investment.

The second important area of direct investment flows is the investment of capital by the region's leading countries in dependent economies in order to gain additional control over the financial and physical assets of the recipient countries (North-South). Thus, excluding its main trading partners, the United States and the EMU (which each account for a third of total long-term investments), Japan's direct investment has been concentrated in the Asian region (Bank of Japan, 2005, 2009). Over the past decade, Germany has also channeled on average about 2/3 of its total direct investment into Central and Eastern Europe (Deutsche Bundesbank, 2020).

Indeed, developing countries received between USD \$500 bn and USD \$700 bn annually in direct investment over the past decade. The figure only dropped significantly during the pandemic in 2020 (World Bank, 2020).

The direct investment destinations of the major global banks coincide fairly closely with the borders of the former colonies, with the share of foreign-owned banking sector capital in the dependent countries reaching up to 50% or more.

A significant phenomenon of direct investment flows is the phenomenon of round tripping. Its essence is the export of national capital through legal and illegal channels abroad for subsequent investment at domestic, but on behalf of non-resident companies.

A relatively new feature of the direct investment movement is that it is increasingly less dependent on a country's role and place as a creditor to the rest of the world. The main private equity investors from developed countries are not using their own national savings to fund them, but the resources of other countries, conducting a kind of «global arbitrage», borrowing capital at low rates, and converting it into direct investment. It allows them to gain the control over investment-attractive foreign assets.

The neo-liberal doctrine of cross-border capital flows, according to which the removal of barriers to the movement of direct investment allows the efficient redistribution of savings in the global economy, providing capital to growing markets and thereby contributing to global economic growth, is also does not work.

As a result, a fundamental imbalance is deepening in the global marketplace: between countries that are oversaturated with capital that is not used in the reproductive process and leads to asset bubbles, and the so-called «investment ghettos» (small and least developed countries) where foreign capital hardly reaches.

The global insurance market (GIM) was over USD \$5.1 trillion in 2018, or 6.1% of global GDP. Although this is a historic high, growth has since slowed as a result of shrinking life insurance markets in China, Europe, and Latin America (IAIS, 2019). The largest market shares in OECD countries were held by US insurers (56.1%). As the insurance market expanded, the amount of claims paid also continued to grow. The Chinese insurance market grew by more than 20% in 2019, and China became the second-largest life insurance market after the US. It was accounting for more than 50% of premiums collected in emerging markets, or 11% of total premiums globally (OECD, 2020). The growth of the main indicator of insurance activity – premiums – has been a global trend in recent years.

The largest insurance market in the world in 2018, with more than USD \$2.8 trillion, or 28% of GDP premiums, was the US. The other largest markets among developed countries were the UK (USD \$500bn), Germany (USD \$203bn) and France (USD \$347bn).

The UK is the largest European insurance market and the second largest in the world. Emerging markets accounted for 43% of insurance industry growth between 2010 and 2017 (EY, 2019, p.6). Since the 2007-2008 global financial crisis, developing Asia, led by China, has been the biggest driver of growth in the GDP. Since its accession to the WTO, China has been forced to open its insurance market to foreign companies, which has brought leading multinational insurers such as AIG, Allianz, AXA, Aviva and others here.

Like other sectors in the GFM, the insurance market is in line with general macroeconomic trends. Volatile financial markets, low inflation, low interest rates, stagnant growth and the increasing likelihood of a global recession define a challenging economic reality for insurers around the world.

An important feature of the development of the GDP is its following the trend of regionalization. Thus, we can talk about the formation of a common insurance segment of the EU financial market through the harmonization of national insurance legislation, regulatory, and supervisory regimes. An example of the creation of a single insurance market in the EU is the implementation of insurance control within the framework of the EU methodology of supervision over solvency of insurers, named Solvency I and Solvency II. The processes of regionalization of the global insurance market are also taking place in other parts of the world.

## Results

Our model is based on the theory of equilibrium random processes in economics (Lichtenstein & Ross, 2015). The model is developed in accordance with the evolution-simulation methodology (ESM). The main ideas were proposed in (Lichtenstein, 1973; Lichtenstein, 1979). The model's integral indicators show the degree of a particular sector influence on the GFM as a whole. Its estimate is a weighted value that takes into account the impact of the entire set of the most significant factors on the sector under study. The degree of influence of each factor is assessed by an expert and the obtained values are ranked according to the level of significance.

The concept of expert assessment also allows us to predict a scenario analysis of sectoral development. We can assess the direction and degree of change in the impact factors on financial market sectors in a given direction according to the scenario and at the anticipated research horizon through the expert approach. This makes it possible to identify the most probable directions of changes in the GFM and substantiate the conditions for implementation of the optimal scenario of its development. Thus, this model has great potential for further research into the possibilities of strengthening the position of developing countries and their currencies in the global financial market and its individual sectors.

The optimization calculations are performed in the R environment using the Equilibrium programme. The following ESM structural designations are used in the models:

PL is the expected impact of factors on the international financial market, hereafter referred to as the plan;

Fa is the actual influence of the factors, hereafter referred to as the fact;

$R_1$  is the size of the cost of overestimating the plan arising when  $PL > Fa$ ;

$R_2$  is the size of the underestimation cost of the plan arising when  $PL < Fa$ .

The value of PL is set before the plan period and remains unchanged throughout the plan period. At the same time, the actual impact of Fa as well as the costs  $R_1$ ,  $R_2$  are unknown at the time of making the plan. They depend on random factors and are therefore random variables whose values can only be estimated probabilistically. Thus, the risk of overestimating (underestimating) the plan is the expected size of the costs arising from the mismatch between the PL plan and the Fa fact.

The expected sizes  $R_1$  and  $R_2$  can be estimated using the expectation measures  $M[R_1]$  and  $M[R_2]$ , respectively. In Equilibrium these measures are calculated based on the statistical testing method (Lichtenstein and Ross, 2008).

The following must be taken into account when drawing up an optimization planning model:

1. At the end of the planning period, i.e. after the adopted plan PL has been implemented and the actual impact of Fa is known; comparing PL with Fa will result in only one of the expected risks being actually realised: either the risk of overestimating the plan  $\bar{R}_1$ , or the risk of underestimating the plan  $\bar{R}_2$ . But not both risks together. In such cases the theory of decision making in conditions of uncertainty recommends to apply minimax strategy of behavior. To act so that at the worst concourse of circumstances to incur the least losses. It should minimize the greatest of the risks. The optimal plan is that balances the risk of overestimating and the risk of underestimating the plan.

2. In calculating the optimal plan,  $PL_{opt}$  the values of the random variable  $Fa$ , as well as the random costs  $R_1$  and  $R_2$ , depending on the difference  $|PL - Fa|$ . They are generated using a random number sensor and simulation models (hereinafter IM).

In Equilibrium, three simulation models are used for this purpose –  $IM_0, IM_1, IM_2$ . By these models,  $IM_0$  the random values of the actual influence of the factors on the GFM are generated  $Fa_i$ . The models  $IM_1$  and  $IM_2$  are used to calculate the random costs  $R_1$  and  $R_2$ , respectively:  $IM_1$  is used in the case of  $PL > Fa_i$ ,  $IM_2$  – in the case of  $PL < Fa_i$ . In this case, the random values generated from the whole series of statistical tests  $R_1$  and  $R_2$  form two non-overlapping sets:

$$\{R_1\} \cap \{R_2\} = \emptyset$$

The risk of overestimating the plan  $R_1$  is calculated by averaging the random costs over the set  $\{R_1\}$ ; the risk of underestimating the plan  $R_2$  by averaging over the set  $\{R_2\}$ .

3. Whatever the PL plan, if it is realistic, it must be comparable with the generated random facts  $Fa_i$ , i.e. the condition must be met

$$PL \in \{Fa_i\},$$

where  $\{Fa_i\}$  is the set of all generated random values of  $Fa$ .

The model of sectoral development of the international financial market can be represented in general terms by the following system of relations:

$$\begin{aligned} \bar{f} &= f_1, f_2, \dots, f_n, \\ \bar{p} &= p_1, p_2, \dots, p_m, \\ Fa &= IM_0(\bar{f}, \bar{p}), \\ R_1 &= IM_1(PL, Fa, \bar{f}, \bar{p}), \\ R_2 &= IM_2(PL, Fa, \bar{f}, \bar{p}), \\ S(PL, Fa) &= \begin{cases} R_1, & \text{если } PL > Fa \\ R_2, & \text{если } PL < Fa \end{cases}, \\ \min_{PL} \{ \max_i \{ M[S(PL, Fa_i)] \} \} & \end{aligned}$$

For each factor  $f_k \in \bar{f}$ , specify the minimum and maximum value within which its value varies when generating random facts  $Fa_i$ :  $f_k \in [f_k^{min}; f_k^{max}]$ . Unlike factors, each indicator  $p_k \in \bar{p}$  has only one defined value that remains constant (fixed) throughout the calculation  $PL_{opt}$  for a given set of inputs  $\bar{f}, \bar{p}$ .

The actual value of  $Fa$  depends on random factors  $\bar{f}$  and fixed values  $\bar{p}$ . Predicted (random) values  $Fa_i$  are obtained using a simulation model  $IM_0$ .

The magnitude of the overestimation cost  $R_1$  and the underestimation cost  $R_2$  depends on the plan  $PL$ , the actual influence of factors on the international financial market  $Fa$ , random factors  $\bar{f}$ , the fixed values of the input indicators  $\bar{p}$ .  $R_1$  and  $R_2$  are calculated using simulation models  $IM_1$  and  $IM_2$ , respectively.

The last condition is an optimality criterion for the plan, expressing a minimax strategy for market behavior. It amounts to a condition that the risks of over- and underestimating the plan are equal.

In Equilibrium optimization calculations of the influence of factors on the MFR performed by the Equilibrium programme an unacceptably large initial error  $\Delta Fa_{out}$  is repeatedly reduced to a given permissible error  $\Delta F_{add}$ . As a result, the optimal plan calculated by the package has 1-2 orders of magnitude less error (Orlova et al., 2019) than the initial one. To calculate the GFM sectoral development model, a system of factors that, according to experts, have the most significant impact on the development of each of the sectors was determined. We note, the impact of a particular factor on the studied segment can be both positive (with a «+» sign) and negative (with a «-» sign). The significance of a factor is determined by its specific weight in the range from 0 to 1, the sum of the specific weights of all the selected factors equals 1. The factors are ranked by the intensity of influence.

The results of the expert assessment of the factors affecting the financial market sectors studied and their possible deviations are shown in Tables 1-5.

**Table 1** – Importance Factors of Currencies of Developing Countries

Factors that increase the importance of currencies of developing countries in the GMF	Significance level of the factor	Minimum deviation, %	Maximum deviation, %
Volume of investments in international assets requiring more hedging of currency risks	+ 0.29	5	15
Share of key currencies of emerging markets in the total turnover on the world foreign exchange market	+0.2125	0	10
Share of participation of non-dealer financial institutions in the foreign exchange market	+ 0.1875	5	10
Share of technological innovation in the market	+0.185	10	20
Currency market turnover	0.125	20	30

Source: composed by authors

**Table 2** – Factors of the international stock market during the COVID-19 pandemic

Factors affecting the international stock market during the COVID-19 pandemic	Significance level of the factor	Minimum deviation, %	Maximum deviation, %
Global stock market capitalization	+0.55	25	75
Volume of outstanding bonds in circulation	+0.45	0	0

Source: composed by authors

**Table 3** – Factors of domination of developed countries in the international credit market

Factors influencing the dominance of developed countries in the international credit market	Significance level of the factor	Minimum deviation, %	Maximum deviation, %
Share of loans provided by banks of developed countries	- 0.1875	5	10
The share of the U.S. dollar on the international market of credit resources	- 0.1125	0	5
Share of the euro on the international market of credit resources	- 0.0775	0	5
Share of the yen in the international loan market	- 0.0215	without deviation	without deviation
Share of the pound on the international market of credit resources	-0.0185	without deviation	without deviation
Share of the non-banking sector in debt financing	+ 0.152	0	10
Share of external borrowing in the form of debt securities	+ 0.1515	0	5
Share of cash currency and deposits	+ 0.15	10	20
Share of loans as an instrument of external debt	-0.05	without deviation	without deviation

Source: composed by authors



**Table 4** – Factors of persistence of interregional imbalances in the international investment market

Factors of interregional imbalances in the international investment market	Significance level of the factor	Minimum deviation, %	Maximum deviation, %
Volume of accumulated direct investments of major donor countries	-0.308	5	10
Capital investment by the region's leading countries in dependent economies	+ 0.3125	0	5
Direct Investment from developed to developing countries	+ 0.2895	without deviation	without deviation
Direct investment through roundtripping	+0.09	15	25

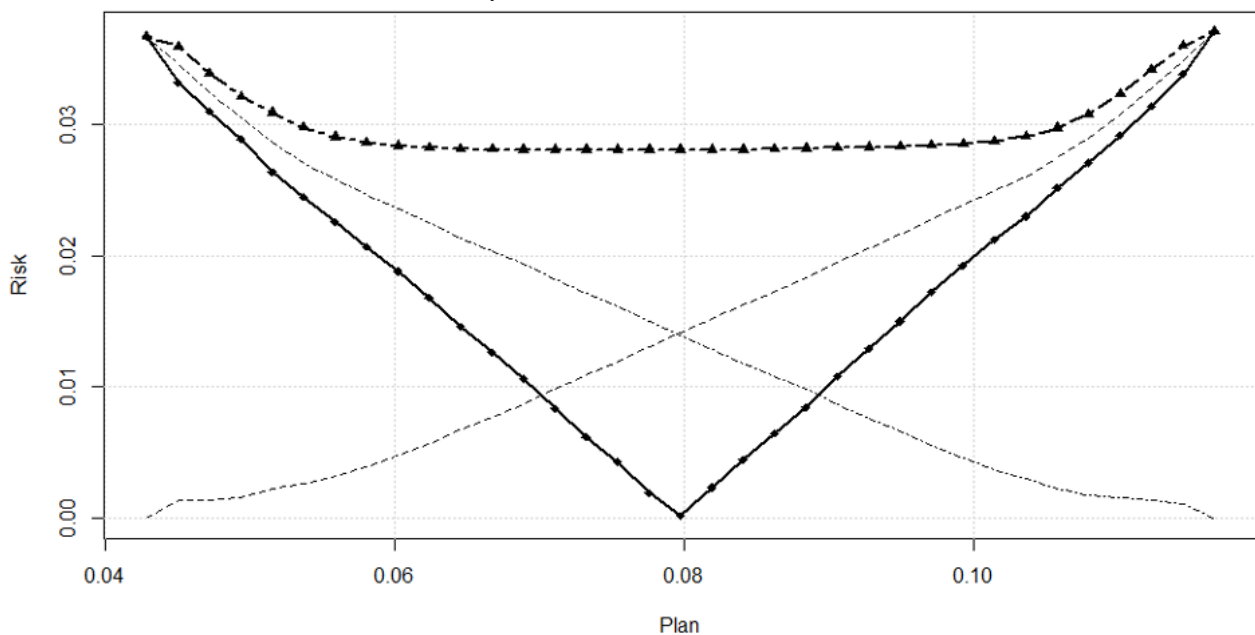
Source: composed by authors

**Table 5** – Factors affecting the development of the international insurance market

Factors in the international insurance market	Significance level of the factor	Minimum deviation, %	Maximum deviation, %
Volume of the global insurance market	+0.29	0	5
Global insurance premiums	-0.2125	5	10
Share of emerging markets in the insurance industry	+0.1875	without deviation	without deviation
General macroeconomic trends	-0.185	0	5
Demographic changes	-0.125	0	5

Source: composed by authors

Model: (SectorMFM)  
 value  
 Plan (optimum) 0.07975  
 Norm (optimum) 0.07325  
 --- Calculated indicators  
 value  
 Expected influence, % 7.975113



**Figure 1.** Chart Risks

Source: composed by authors

## Conclusion

An analysis of the main developments in the GFM sectors under the influence of the development of monetary polycentrism and regionalization has highlighted a number of factors constraining the internationalization of developing country currencies. Testing of the model based on expert estimates of the sectoral development factors of the GFM under a currency polycentric environment showed an expected growth rate of 8%. The GFM is most sensitive to changes in: (1) the share of non-dealer financial institutions in the FX market; (2) FX market turnover; and (3) the share of technological innovation in the IFEM.

Not all of the factors identified can be changed quickly through targeted interventions to strengthen the position of developing countries or the development of key sectors of the national financial market. However, the results of the research enable them to be differentiated into manageable and unmanageable (objective). Thus, developing and adopting measures at the level of international organizations – G20, IFEM – managed by the controlling and regulating capital movements. Also, they are encouraging the increased use of developing country currencies in the various sectors of the GFM which is the relevant challenge. Further research in this area will help us to concretize existing proposals (Golovnin, 2021; Krylova, 2021) and develop new measures to reduce currency volatility and stabilize and develop financial markets in Russia and emerging countries.

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