

# BRICS Currencies' Internationalization

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**Abstract**—The purpose of writing this article is to analyze the positions of the BRICS currencies in the contemporary world system of currencies (WSC) and to work out theoretical, methodological and practical approaches to their internationalization. The results of the research are based on the hypothesis that expanding the BRICS currencies' use in the WSC and ensuring their status as extra or parallel international currencies are going to be major drivers in reinforcing financial stability and transforming the WSC by means of their internationalization at the micro-, medium, macro- and mega-levels through direct international settlements as well as purchasing them via currency instruments at the national foreign exchange markets. Theoretical significance of the paper lies in developing approaches to the BRICS currencies' internationalization as a multi-dimensional process. The article is also theoretically significant because its major outcomes and conclusions deepen and enrich the theory of the currency internationalization by means of analyzing the BRICS currencies' circulation and use in the contemporary WSC. The practical significance of the article is that its recommendations can be used by the international corporations of the BRICS which can optimize the value of foreign trade contracts in case of direct settlements on the basis of the derivative instruments to trade in the currency pair ruble/yuan at the Moscow Exchange.

**Keywords**—BRICS; world system of currencies; multi-dimensional approach to currency internationalization; horizontal and vertical currency internationalization

## I. INTRODUCTION

The problem of trying to find ways and financial instruments to minimize foreign exchange risks is becoming more and more acute. One of the approaches to deal with them is currency internationalization. The interest in the research on the currency internationalization can be explained by the fact that it finds itself in the intersection of several scientific areas, including world economics, macroeconomic policy, international and national finance, international debt, currency circulation, banking and stock exchange activities. However, at the present, among the BRICS currencies only the yuan has good chances for being internationalized [7]. The real, ruble, rupee and rand may only claim for a regional currency status within the integration agreements. A major factor of their internationalization (or regionalization) is the role the BRICS play in the global economy and in particular areas. Currency regionalization is part of currency internationalization, with the only difference that it stands on a lower level and is bounded by a certain territory.

The essence of the BRICS' approach to participating in the world system of currencies (WSC) can also be expressed in establishing extra financial institutions and funds and diversifying world liquidity, mostly in yuan. As a result there emerges a need to analyze the BRICS currencies' circulation abroad, identify the stages and directions of their internationalization, and consider the role they may play in the future, their cooperation in mutual trade, investment flows, technology exchange, R&D, energy, financial stability and economic security. A special interest lies in the question: How may the yuan (as a potential world reserve currency) change the structure and the mechanism of the WSC and what kind of transformations can be expected in the international financial architecture (IFA) as a result of yuan's vigorous rise?

## II. LITERATURE OVERVIEW

Most scientific works on the BRICS currencies' internationalization, including those of A.I. Binder [4], L.S. Goldberg and T. Cédric [9], J. van den Heever [11] and J. Johnson [13], contain the analysis of their status and role in the WSC, international settlements, foreign exchange and monetary policies, the specifics of foreign exchange rate regimes, dependence of the monetary policy on the situation in the international foreign exchange market, estimates of the currencies' values and effective foreign exchange rates, as well as costs and benefits of their becoming international currencies. The major purpose of the WSC's reform, according to Burlachkov V.K., is to make it stable and manageable [5].

The reform of the WSC has a multidimensional character and can be considered from different points of view. For example, Russian economists such as Y.F. Avdokushin [2], A.I. Bazhan [3], O.V. Butorina [6] as well as Chinese researchers including Y. Yu [25], Indians like H. Kadayan [15] and South African scientists L. Kasekende, Z. Brixova, and L. Ndikumana [17], think that the most important objective of the WSC's reform is the regulation of the over-the-counter market and the derivative market in order to limit and control speculative capital flows, reach the equilibrium between saving and consumption as well as fully normalize the financial systems of the developed nations which turn out to be an everlasting source of financial crises, and to stabilize exchange rates and world reserve currency supply.

Other scientists such as Ò. Jordà, M. Schularick, and A.M. Taylor [14], E. Helleiner and J. Kirshner [12] and J.M.

Griesgraber [10] in the US and B.A. Kheifets [19], N.G. Khmelevskaya [20] and Y.S. Nagovitsina and S.N. Suyetin [22] in Russia have concentrated on developing institutional reform projects of the WSC, namely strengthening the position of the emerging economies in the international financial market and solving the problem of their being under-represented in the WSC, which requires to reconsider the quotas and voting rights at the International Monetary Fund (IMF) and the World Bank as well as to establish the sustainable networks of financial stability.

Yet another block of the WSC's reforms under development by economists like D.W. Arner [1], G.G. Kaufman [18], etc., concerns international banking and requires more oversight of the global systemically important financial institutions, the creation of new rating agencies to estimate the activities of the WSC's institutions, the adoption of Basel III standards in which a special position is devoted to the optimal level of capital in the banks and the existing system of rewards which creates distorted stimuli for the workforce, as well as deeper development of national financial systems in the developing countries in order not to let the financial crises in the advanced economies spread across the globe.

Finally, a notable group of scientists like M.V. Dmitriyeva [8], P.R. Lane and G.M. Milesi-Ferretti [21], M. Schindler [23] and R. Wade [24] try to measure global imbalances occurring as a result of financial crises. These writings also reveal the necessity of a wider use of the BRICS' currencies.

The above scientific studies, though, leave behind quite serious issues such as the analysis of the BRICS currencies' internationalization process at different levels of their circulation in the WSC and the analysis of indicators showing the scale of the BRICS currencies' use in the international trade. These indicators may include exports/imports values measured at different exchange rates of the BRICS currencies to find an optimal exchange rate to conclude foreign transactions. The economists mentioned earlier do not also take into account linkages between exports/imports dynamics within the BRICS and their neighboring countries and the trade volume of their national currencies at the foreign exchange markets. In addition these writings exclude estimates of the benefits which may be generated by the BRICS' exporters and importers from direct transactions. The existing research on the BRICS currencies' internationalization does not contain discussions on the possibility of creating the BRICS currencies' offshore centers. Finally, there is no research on trying to work out optimal contracts expressed in the BRICS currencies to do export/import operations and no research on the coverage of the BRICS' mutual trade by their currencies as units of denomination. It is precisely these issues that are being taken into consideration in this paper.

### III. METHODS

The author has found that the major mechanism of the currency internationalization at the macro level is the establishment of the appropriate infrastructure. This includes the creation of special niches in the foreign exchange markets

to trade in a given currency. This is done on the basis of the mutual trade analysis in the Mercado Commune del Sur (MERCOSUR), Eurasian Economic Union (EEU), South Asian Association of Regional Cooperation (SAARC), Association of South East Asian Nations (ASEAN) and South African Common Currency Union/Zone (SACCU/Z). The author has concluded that direct settlements in BRICS' national currencies will not bring a positive effect without the backing by trading in these currencies in the foreign exchange markets of the member states. An incentive to make direct settlements using the BRICS' national currencies may include providing favorable conditions of trading in the foreign exchange markets contrary to the terms offered by the national central banks.

A very serious restraint in the real's, ruble's and rand's internationalization is the domination of natural resources in their exports which are usually denominated in US dollars. To this end in order to internationalize, say, the ruble at the macro level it is necessary to diversify the Russian economy and transform it on a higher technological basis [16].

Major conditions for the BRICS currencies' internationalization include free convertibility and free floating exchange rate regime. To ensure the efficiency of this regime's performance in free economic conditions, a further and deeper development of the BRICS' financial centers is needed that often involves diversifying the portfolio of foreign exchange markets' instruments. The greatest share in the foreign exchange trading in the BRICS' foreign exchange markets is taken by currency pair the US dollar/national currency. Therefore it is necessary to expand the supply of the derivatives in which an obligatory condition would be to trade in currency pairs with the BRICS currencies' participation.

In case of the BRICS currencies' internationalization it is also very important to understand at which level and in which sequence their circulation and use abroad are occurring. The author believes that the macro level of the currency internationalization precedes entering the international markets, whereas the micro and medium levels require a deeper integration of currencies within the regional economic agreements by means of creating special niches to trade in the national currencies in the local or domestic foreign exchange markets.

### IV. THE RESEARCH

Since the BRICS' currencies find themselves at different stages of becoming international units of account, the author maintains a multi-dimensional approach to analyzing the currency internationalization. According to the author's conclusions the currency internationalization starts with increasing volumes of their use in foreign exchange transactions at the level of regional integration agreements, i.e. at the macro level of the currency internationalization.

The wider circulation of the BRICS currencies at the macro level occurs within the boundaries of MERCOSUR, SAARC, EEU and SACCU, as well as during the emission and sale of the government bonds denominated in BRICS' currencies to the member states, for there emerges and develops special infrastructure needed to stimulate the

currency use in external economic or cross-border transactions. This happens thanks to the territorial proximity of the member states and various other links. This results in the process of territorial or horizontal internationalization of the BRICS currencies.

The examples include rupee which is used as a common currency in Bhutan and Nepal within the SAARC, and rand that is a common currency for South Africa, Lesotho, Namibia and Swaziland which are the member states of the SACCZ. The rationality of keeping independent currencies by the member states of the integration groupings with the BRICS' participation is determined by a significant difference in the level of their economic development. And in case of crisis, weak countries using a common currency will not be able to turn to conventional macroeconomic instruments and policies such as currency devaluation and default. For the time being, the BRICS' currencies can be used as units of account in those member states.

The ruble had been for a long time the national currency of the Soviet Union. It also circulated in foreign countries of the Socialist bloc as international or regional means of payment. However, the ruble lost its international position and reputation when the Soviet Union collapsed. In the beginning of the 21<sup>st</sup> century Russia is again taking steps to push the ruble on to the foreign markets, first of all in the member states of the EEU.

What the BRICS' currencies have in common is that their internationalization at the macro level occurs largely in the weak countries that are economically dependent on the BRICS. For the BRICS themselves the dependent economies are not really important foreign trade partners. Therefore, to talk them into using the currencies of the BRICS, the latter should make concessions undercutting their own competitive advantages in the foreign trade by means of commercial exchange rates.

This mechanism is actively used by India. The existence of such a commercial exchange rate is confirmed by the fact that the rupee value of Indian exports and imports recalculated in dollar terms at the official exchange rate is not equal to the same exports and imports initially expressed in dollars. The commercial exchange rate is determined as a ratio of the exports/imports' rupee value divided by the exports/imports' dollar value over the same time period.

The spread between the commercial and official exchange rates of the rupee proves the author's hypothesis about the dual nature of the currency's exchange rate.

India's expertise in setting commercial exchange rates can be used by the other BRICS in their foreign trade policy. The essence of this policy is that in case of imports the commercial exchange rate of the rupee to the dollar is higher than in case of exports. This is done in order to slow down the pace of foreign enterprises entering the Indian market and to stimulate the national exporters. It means that a lower commercial exchange rate of a BRICS currency is an implicit subsidy for domestic corporations.

Another group of issues under consideration encompasses the research of the BRICS currencies' internationalization at

the micro and medium levels. According to the analysis it has been identified that among the BRICS' currencies only the ruble and the yuan are currently undergoing the process of internationalization at the micro and medium levels. The basis for their internationalization at the micro level is constituted of their trading in the domestic foreign exchange markets in the segment of immediate and deterred currency delivery. The medium level presupposes conducting settlements via cross-border trade contracts, particularly between China and Russia in the Far East.

The micro and medium levels of ruble's and yuan's internationalization are deeper stages in the process of their becoming international currencies compared to the macro level, for they provide an opportunity to open bank accounts to do foreign trade transactions. The general public is also allowed to hold deposits both in rubles and yuan.

The author proves the hypothesis according to which the BRICS currencies' internationalization at the micro level seriously differs from the macro level internationalization. The difference is that in addition to the existence of the commercial exchange rates at the macro level there emerge contractual exchange rates at the micro level. It is the contractual exchange rates at which the trading in respective currency pairs occurs. According to the author's calculations in some cases the contractual exchange rates are more suitable to carry out mutual foreign trade deals within the BRICS. The ruble-to-yuan contractual exchange rate, for example, can be calculated as a ratio of the ruble-denominated currency vehicle being traded (on a daily, monthly, quarterly or yearly basis) divided by the value of the same currency vehicles denominated in the yuan. The result is an indicator showing how many rubles on average are required to purchase a yuan at the Moscow Exchange or in the Chinese Foreign Exchange Trading System (CFETS).

Choosing an optimal contract to purchase yuan at the Moscow Exchange is a complex process which according to the author requires using the method of Japanese candlesticks to forecast the ruble-to-yuan exchange rate in case of the respective currency vehicles in the short or super-short time frames as well as the correlation and regression analysis to determine the tightness of correlation between the value of exports from China to Russia recalculated in yuan at a certain currency vehicle's exchange rate (or contractual exchange rate of a currency) and the volume of trading in currency pair ruble/yuan at the Moscow Exchange.

The author of the article proves that thanks to the existence of a niche to trade in yuan at the Moscow Exchange fluctuations in ruble-to-yuan exchange rates have almost no influence on Russia's current-account balance unlike other BRICS where such a niche has not been created. The author of the article comes to a conclusion that a more significant effect on the Russian current-account balance with China is exercised by the volume of yuan as traded at the Moscow Exchange. For instance, the more currency vehicles to trade in currency pair ruble/yuan are purchased at the Moscow Exchange, the bigger is the volume of exports from China to Russia, the higher is the pressure on the ruble's exchange rate making it drop, and vice versa.

The process of the vertical internationalization of the BRICS currencies comes to an end at the micro and medium levels. It is at this point when the mega level currency internationalization begins. China is most active among the BRICS in making attempts to push its national currency to internationalize at the mega level where the yuan's circulation goes beyond the borders of certain regions, regional integration groupings and offshore currency zones and involves many countries of the world. According to the hypothesis which is discussed in the paper, in order to go over to the mega level of the currency internationalization, foreign trade settlements between a working international financial center or offshore currency center and non-residents ought to be intensified.

A final group of issues unveils the current state and prospects of the BRICS currencies' internationalization at the mega level, mainly the internationalization of the yuan. According to the approach which is being discussed in the paper the yuan's internationalization at the mega level which among the BRICS is true only for the China's case is the highest stage of horizontal expansion in the foreign markets on the basis of commercial settlements conducted in the national currency. The currency internationalization at the mega level requires the creation of the appropriate infrastructure which is working through the international financial center or offshore currency center (e.g. Hong Kong, Taiwan, Singapore, London and Luxembourg), on the one side, and the corresponding banks of Greater China, on the other side.

The author of the article suggests that the expertise in creating the infrastructure to carry out foreign trade deals in the yuan between the Greater China and Hong Kong should be spread to include the other BRICS. In this infrastructure a leading place will be taken by the clearing centers of the BRICS, i.e. central banks and foreign exchange markets, and the authorized commercial banks that are to be allowed to open special accounts to carry out foreign trade deals in yuan. A coordinating center in the form of the BRICS Development Bank ought to be placed at the top of this infrastructure. The coordinating center will be responsible for controlling and monitoring the movement of money and capital.

The mechanism of direct settlements of the BRICS in yuan at the mega level means the emergence of new risks, problems and opportunities. On the one hand, there will be an increase in yuan's circulation and use in international transactions and the pace of its internationalization. On the other hand, rising volumes of the BRICS' mutual trade may cause additional demand for the yuan and make it more expensive which is going to result in decreasing competitiveness of the Chinese exports. However, this may also create the conditions to purchase raw materials abroad less expensively. Expanding yuan's circulation abroad may also stimulate its use in foreign exchange speculations and destabilize its exchange rate, to equilibrate it monetary policy instruments will be required. Apart from that, in order to more actively use the yuan in the mutual trade settlements of the BRICS respective financial reforms in China are needed. These reforms may include full currency convertibility, the development of the national market to trade in government and private corporate bonds, extending the possibilities to purchase the shares of Chinese

enterprises for foreign investors, the establishment and functioning of free liquid funds, creating the common channels of the national payment system in cooperation with the payment systems of the other BRICS and the SWIFT system. Further problems and prospects of yuan's becoming an international currency are closely connected with its inclusion into the currency basket of special drawing rights or SDRs. This is a very important driver of yuan's internationalization at the mega level. However, since SDRs take only a small share in international liquidity, there will not be any significant changes in the yuan's position in the WSC.

As for the ruble's internationalization at the mega level, this process is characterized of uneven development. A major point in the currency internationalization is to ensure the consistency and sustainability of a country's economic growth. For example, when the Russian economy grows, the ruble appreciates, becomes stronger and goes abroad. However, falling world oil prices and various crises and devaluations freeze this process. According to the author's conclusions the ruble's internationalization is potentially possible, for it is used at several levels of the currency internationalization, namely: it is a currency to conduct commercial settlements, money transfers and open deposits at the macro level of the currency internationalization in the EEU. The ruble is also used at the medium level of the currency internationalization in the cross-border trade with China. And at the micro level the ruble's internationalization is carried out by means of a special niche to trade in the currency pair ruble/yuan. Besides, in case ruble the basic conditions of currency internationalization are observed. They include full convertibility and free floating foreign exchange regime. An extra element of the ruble's internationalization is a swap agreement between the central banks of Russia and China.

In the long run, the creation and effective performance of yuan's offshore center in Moscow may become a factor that can intensify the ruble's internationalization. To do this the diversification of the currency vehicles to purchase yuan are required at the Moscow Exchange. According to the conclusions which were made on the basis of the correlation analysis, most optimal currency vehicles at the Moscow Exchange for Indian and South African countries to trade in currency pair ruble/yuan are usually swaps, whereas for Russian companies this is done both in the spot market and the market of swap vehicles. And vice versa, when exporting to China, Brazilian and Russian companies should buy yuan at the Moscow Exchange by means of spot market vehicles, whereas Indian and South African firms should do this in the swap market.

Ruble's internationalization at the mega level may also be helped by establishing a ruble's offshore center in Shanghai. To this end, the trading in rubles should be increased in the CFETS. The expansion of ruble's use abroad via the CFETS can be accomplished on the basis of direct trade between Russia and China in national currencies. A factor preventing an increase in ruble's trading volumes in the CFETS is a resource-based nature of Russian exports and a small share of high tech products in them.

In the paper there are estimates of creating a yuan's offshore center in Moscow in comparison with London as an existing yuan's offshore center. As a result it has been identified that Moscow has a potential to catch up with London in terms of yuan's trading volumes in the spot and swap markets and the volume of foreign trade transactions done in yuan under the condition that Russia, Brazil, India and South Africa would express a certain amount of foreign trade turnover with China in yuan purchased by means of the respective optimal currency vehicle at the Moscow Exchange.

The ruble's internationalization at the mega level as a result of setting up a yuan's offshore center in Moscow may be helped by factors such as:

a) *growing demand for rubles in the CFETS* as a result of increasing the share of rubles in the mutual foreign trade settlements of Russia and China;

b) *growing demand for yuan at the Moscow Exchange* in case of increasing the mutual trade volumes in yuan between Brazil, Russia, India and South Africa, on the one side, and China, on the other side. In this situation, the ruble will become a substitute currency in yuan's trading, and to purchase a required amount of the yuan, India, Brazil and South Africa will have to buy rubles in exchange for dollars or their national currencies and yuan in exchange for the rubles. In the former instance Russia will continue to accumulate reserves in the dollars. And in the latter example it will do it in reals, rupees and rand.

## V. CONCLUSION

As a result of the research which has been carried out to produce this paper the major conclusions may be summed up as follows:

1. The BRICS currencies' internationalization proceeds in the following spheres and directions:

a) the issuance of international government bonds and private corporate bonds denominated in the currencies of the BRICS;

b) opening deposits in the BRICS' currencies abroad;

c) establishing and developing offshore centers of the BRICS' currencies;

d) making export and import settlements in the currencies of the BRICS;

e) accumulating of the BRICS' currencies in the official reserves by the countries of the rest of the world;

f) making direct and portfolio investments in the national currencies by the BRICS' corporations;

g) providing loans to foreign countries in the BRICS's currencies;

h) concluding bilateral swaps with the central banks of other countries in the BRICS' currencies;

i) trading in the BRICS' currencies in the foreign exchange markets abroad;

j) establishing international financial funds in the BRICS' currencies.

2. The BRICS' currencies may become the international ones on the basis of the multidimensional approach to the currency internationalization which essence lies in sticking to the sequence of the following stages:

a) the BRICS' currencies internationalization is born at the level of a regional integration grouping involving the countries of the core in terms of border proximity, which is called the horizontal currency internationalization;

b) then the currency internationalization process deepens at the medium level as a result of settling foreign trade transactions between the BRICS in the national currencies within the border region;

c) when the expertise acquired by circulating of the BRICS' currencies in the border region spreads to the entire territory of the BRICS, the currency internationalization process deepens even further and leads to the establishment of a niche in the foreign exchange market to trade in currency pairs of the BRICS (which is done at the micro level of the currency internationalization). When the volume of trading in the BRICS currencies comes to a certain height, it will result in a currency's offshore center;

d) with the vertical currency internationalization coming to an end, there starts a new period of territorial or horizontal expansion of the BRICS currencies' circulation at the scope of the WSC, i.e. at the mega level of the currency internationalization which will involve far distant countries of the world.

The author of the article has identified that each of the BRICS creates the foundation of gradual transition from the dollar to the national currencies in the foreign trade settlements which occur at the regional level. The author's research contains the calculations saying that in certain periods exporters and importers may get profited when settling foreign trade deals in the national currencies. The author proves that the basic factors to get or gain such a profit are the favorable conditions of purchasing the national currencies in the foreign exchange markets of the BRICS, as well as the appropriate infrastructure and the mechanism of setting commercial and contractual exchange rates. In the mutual trade of the BRICS it is possible to use a common currency, for example the yuan, for settling foreign trade deals. However, since Brazil, Russia and South Africa do not have highly diversified manufacture, the transition to a common currency is irrational for them due to unsustainability and high volatility of exchange rates as well as necessity to pursue independent monetary and foreign exchange rate policies in case of a financial crisis or defaulting on foreign debt.

3. The author puts forth and proves the hypothesis according to which the creation of offshore centers, for example the offshore center of the yuan as the most stable currency among the BRICS, can become a driver for their further internationalization. On the basis of this hypothesis and the respective calculations given in the paper the author concludes that establishing the yuan's offshore center in Moscow can be done by means of an optimal use of the city's

advantages as one of the biggest financial centers among the BRICS. And since there are no niches to trade in yuan in Brazil, India and South Africa, the author suggests that the Moscow Exchange may become a foreign exchange market for them to purchase the yuan. Attracting investors to the Moscow Exchange from Brazil, India and South Africa to trade in yuan by means of providing flexible conditions would help stabilize the ruble's exchange rate and the national system of currency, because the ruble would be an immediate substitute currency to buy the yuan at the Moscow Exchange, and increasing demand for it could strengthen its exchange rate.

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