
The Role of the BRICS Countries in the Geographical Distribution of the World Trade

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Abstract

Today there are changes in the models of the world economy, the increased role of developing countries on global arena and within international organizations, power shifts to developing world. The recent growth of emerging economies, mainly represented by BRICS has established a new path for international economic relations, by creating a solid counterweight to the global economic players, such as US and EU. This article provides some clues how BRICS countries influence upon international trade and what role do they possess in the global distribution of trade flows.

Keywords: International trade, BRICS, World Economy, Influence, International Relations

JEL classification: F10, F50

1. Introduction

The world economy and mainly the patterns of international trade are changing. The recent rise of emerging economies created a new path for international economic relations by creating a solid counterweight for existing global players such as US, Japan and European Union. The actuality of the topic is expressed in the *recent rise of emerging economies, influence and economic might of the researched countries; the global need for more coherent and multilateral dialog within international organizations (in the given case the World Trade Organization) and the strengthening of effective international cooperation in terms of trade.*

The aim of the research is to analyze the BRICS countries' goods and services trade in as much detail as possible. Furthermore among the main goals of this scientific publication there are following questions:

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- How BRICS trading block of emerging economies influence the world trade distribution?
- Does the trend of power shifting from major economic players (namely Triad cluster) to BRICS is actually happening?
- Does the intra-BRICS trade is self-sufficient to reduce dependence from US and EU?

In order to carry out this research project and implement set goals the study of theoretical approaches to world economy, international trade, and BRICS would be evaluated. Moreover there will be carried out statistical analysis of key indicators of BRICS trade, as well as an econometric analysis in software application in E-views 7. The given article is divided into five compartments: 1. Introduction, 2. Literature review of selected topic, 3. Basic findings of performed research, 4. Case study presentation and 5. Conclusions.

2. Literature review of selected topic

According to the scientific literature BRICS is an informal grouping of five emerging economies that constitute more than one third of global population, have a vast number of natural resources, and are situated in five different continents that also contribute to group's competitive advantage in terms of land area (25 percent of world). BRICS account for 32% of global GDP and it approximately covers the GDP of G7 which amounts \$33.93 trillion or 39 percent of the world total. The whole system of cooperation consists of annual scheduled summits, leaders' meetings on the sidelines of global summits (e.g. G20; UN General Assembly Session and etc.) and other meetings between higher representatives for national security and foreign affairs ministers, ministers of finance, governors of central banks and so on. The BRICS system presupposes the mechanism of multilateral cooperation in vast strategic dimensions: commercial, political and cultural. It is worth mentioning that first manifestation of influence and mutual support was revealed during the Doha round of negotiations in WTO in 2001. The main point of discussion was trade barriers and infringement of rights of developing countries. Therefore, the group, which included China, India, Brazil and South Africa, expressed their continued support for liberalization of international trade under WTO rules, but also drew attention to the significant imbalances between rights and obligations under the WTO as well as in conditions of market access.

Today BRICS promotes its position in the world economy by fully participating into international trade relations. Despite the fact that "Triad" is still the global power player and accounts for largest share in international trade, BRICS' area, population and natural reserves give boost to their economies as well. Thus, combining forces of country members will allow for BRICS to gain significant competitive advantage and account for larger share in distribution of world trade.

For ten years BRICS economies (Brazil, Russia, India, China, South Africa) have been strengthening their position on the global market and managed to do it with success. With more than 40 percent of world's population, extensive demand and production capacity they are projected to become "engines of future global trade and economic growth" (Tereza de Castro, 2013, p.132) BRICS

members achieved mutual understanding in strategic goals, developed a path towards regional trade agreement, established New Development Bank and together implemented more than eleven infrastructure projects.

To understand and analyze BRICS as a group, it is necessary to understand how these five emerging giants spread across four continents are situated in the global context. The BRICS together accounted for USD 40.55 trillion (2018) or 32 percent of world's GDP (in PPP terms) and about 43 percent of the global population in 2015. In terms of landmass, Russia is by far the largest in the group (it is also the largest country in the world). In terms of demographics, China closely followed by India, are the two most populous nations in the world. Together these two countries account for over one third of the world's population, according to Table 1.1. Moreover, it is projected that by 2050, China will become the largest economy in the world in terms of output and India the third, with Russia and Brazil ranking fifth and sixth respectively behind Japan.

Table 1. General statistical overview of BRICS economies

Million US dollars and %, 2017

Countries						
Indicators	Brazil	Russia	India	China	South Africa	BRICS total
GDP (current US\$)	2 055 512	1 577 524	2 575 667	12 237 782	348 872	18 795 357
GDP per capita	0.016 112	0.011 441	0.001963	0.007329	0.007524	0.044,369
Population	209.3	144.0	1,339.2	1,409.5	56.7	3,158.7
Area	8.5	17.125	3.287	9.598	1.22	39.733
Unemployment rate (%)	11.7	4.8	6.10	3.8	27.5	53.9
GDP growth rate³ (%)	1.1	1.5	6.6	6.9	1.1	16.7
Import	150 749	228 217	447 003	1 843 792	83 031	2 780 247
Export	217 739	353 548	299 163	2 263 371	88 267	3 221.919

Source: Elaborated by author on base of UNCTADSTAT 2017 and UN COMTRADE, available at www.unctadstat.unctad.org and <https://comtrade.un.org/data/> (accessed on 12.02.2019)

BRICS countries are committed to the development path which leads to solutions of global problems such as poverty, social and income inequality, economic growth acceleration and environment. In order to keep on this path emerging economies may use their potential in international trade, foreign direct investment cooperation and strengthening the ties between the members of BRICS.

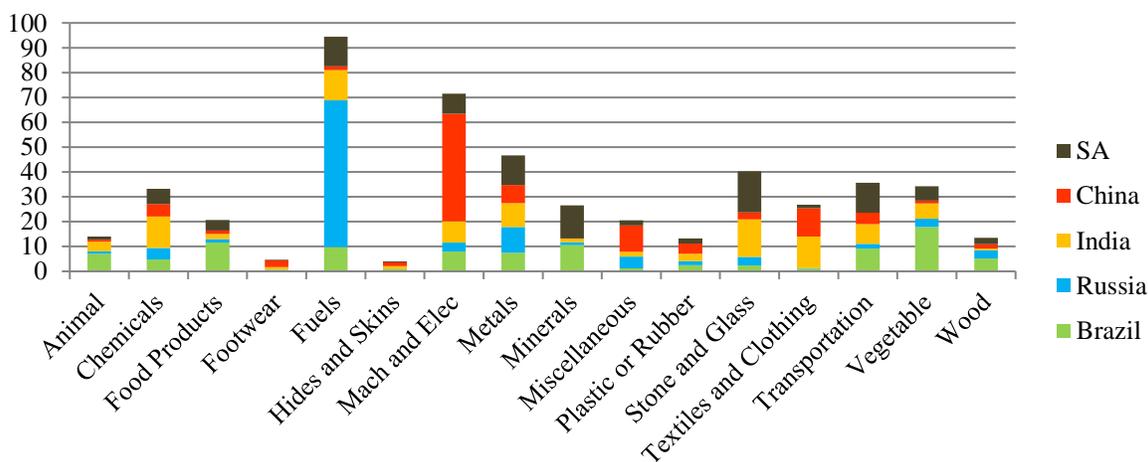
Moreover, moving to global trade perspective, intra-BRICS trade accounted for only 9 percent in terms of export and 17 percent in terms of imports in 2017. The greatest trading partner for all

³ The data is collected for year 2019 for all countries

member states is China with the share of 70-85 percent in each country trade performance for export as well as for import. It is followed by India and Russia in terms of supplying markets with the shares of 30 and 20 percent. Moreover, on base of the results South Africa is dependent on imports and exports of BRICS, especially China; however, it plays insignificant role in other members' trade.

Furthermore, answering to the question about self-sufficiency of intra-BRICS trade, the following assumption can be stated. Yes, it is considered that BRICS has a potential to reduce the dependency from global north and not only because China is the world's first exporter. Analyzing comparative advantages, which are presented in the Figure 1 of each BRICS member it may be stated that BRICS trading block is running on the principle of mutual complementarity. Each of the country disposes of resources and technical capacity that other country lacks of. However, with availability of favorable conditions for concluding preferential trade agreement, there is no agreement. There is no call for a negotiation of a free trade agreement between all BRICS countries. The strategy of the BRICS has rather been to allocate public resources to infrastructure or other projects in BRICS and developing countries in order to create demand for their own corporations, and to obtain access to more natural resources for their industries.

Figure 1. Export structure by commodity group, %, 2017

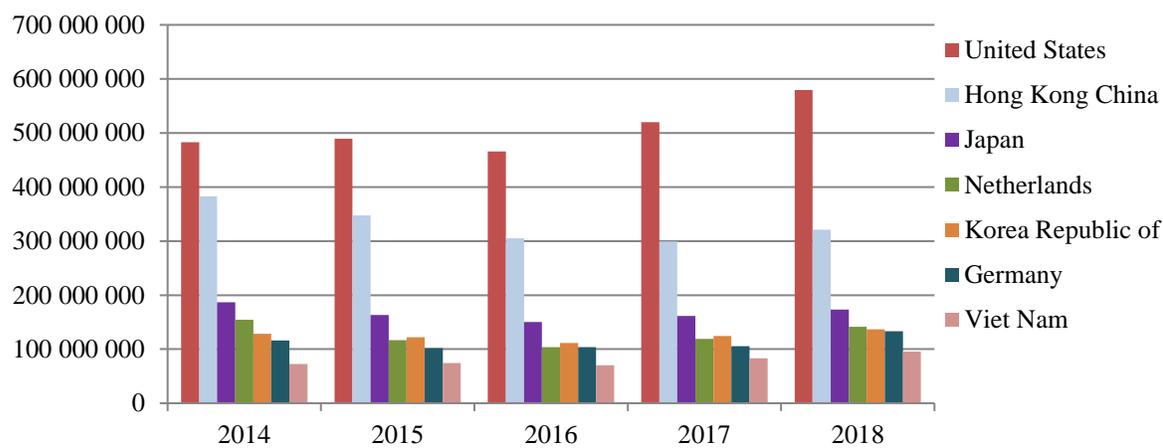


Source: Calculated by author on base of WITS-world integrated trade solution-world bank; available at www.wits.worldbankgroup.org

BRICS trade with “Triad” plays an important role in US and EU economies. Thus the major consumer market for BRICS export represents European Union with total value of USD 737 million in 2018. The second largest market is United States with the total value of BRICS export USD 560 million in 2018. Regarding the import from “Triad” main supplier is EU and import value does not exceed USD 477 million. Import values from US and Japan are approximately the same within the

range of USD 210-230 million. Moreover among strategic trade partners there can be distinguished United States, Hong Kong, Japan and Korea, republic of. According to the Figure 2 in 2018 BRICS countries profited from exports as product value of importers registered an increase. Moreover 2016 have brought downturn in BRICS export due to crisis, political instability in Europe and military conflicts that involved attention of many countries, notably of US and Russia.

Figure 2. BRICS exports destination



Source: Elaborated by author on base of ITC-international trade statistics; available at: www.trademap.org, (accessed on 19.02.2019)

3. Basic findings of the research

In this section there will be analyzed specifically effect of foreign direct investment inflows to five BRICS economies upon trade. As it is well-known emerging economies harbor a vast number of multinational corporations (hereinafter MNCs) which bring a large amount of investments into respective economy. Therefore, it was decided to construct the econometric model which will test this dependence. In the given research the gravity model was used as a blueprint. Basing on the Newton law Tinbergen assumed that bilateral trade flows directly depend on the size of two economies and indirectly depend on the distance between them. Furthermore, studying related literature specific effects of FDI inflows upon trade were discovered:

- Foreign Direct Investment plays a role of indirect stimuli of exports; “labor-intensive products manufactured in developing countries return to FDI’s country of origin” (Kiyoshi Kojima,1982)
- MNCs are more oriented to exports rather than internal markets and this occurs mainly due to availability of company’s internalization of the subsidiary to the parent company
- FDI is a driver to export structure reorientation. With the presence of FDI inflows in the economy new businesses may appear or new directions for economic activity begin to be available.

Multinational firms expand and integrate production networks, while delivering technologies necessary for the growth of a given industry

To conclude the above research of FDI's influence on the host country's trade there are inconclusive answers in that regard. Many factors are responsible for distortion of image of FDI's positive or negative relationship with international trade. The only way to assess the impact is through empirical studies. Thus, relying on the analysis of theoretical framework the following hypotheses were advanced:

- *Hypothesis 1:* There can be observed positive relationship between economic size expressed in terms of GDP and Trade expressed as a sum of import plus export of each member of BRICS
- *Hypothesis 2:* There is positive effect upon trade caused by foreign direct investment inflows by major donor economies within the BRICS countries.

In order to test the above-mentioned hypothesis, the econometric model was elaborated. Therefore, in order to perform econometric estimation of the model the secondary cross-sectional data of import, export, gross domestic product, population, foreign direct investment was collected from the on-line statistical bank, namely World Development Indicators, World Bank, for the period of 17 years duration, namely from 2000 till 2017. The estimation for the model was performed with the support of E-views 7 software. The data represents economic variables of 5 BRICS countries with number of observations equals 90. The research investigates relationship of trade, GDP and FDI.

The analysis was carried out with the application of OLS panel estimation. BRICS represents the group of emerging economies, so the data was pooled together as balanced panel data. Panel data presupposes the number of observations that are pooled together over a specific time period on a cross-section. (Baltagi, 2005)

The construction of econometric model presupposed to measure the volume of bilateral trade and analyze the factors that cause its reduction or increase in certain conditions. Following the approach of gravity model the model of author's own elaboration was developed. According to the goals of the research the author applies slight variation of the classic gravity model proposed by Tinbergen. It is different from the classic one, namely because instead of measuring the impact of trade costs or distance the model of the research will demonstrate the impact of foreign direct investment inflows in BRICS countries. Therefore, there will be introduced one dependent variable and two independent ones.

The dependent variable which is denoted as "TRADE" presents data of annual external trade of five BRICS countries which is calculated by author as sum of total imports and exports of the respective country. The data is presented in absolute values for the period of 17 years. Moreover, the trade demonstrates each country potential not only to export but also the amount of imports in regard of intra-BRICS trade.

The first independent variable or regressor is gross domestic product and in the equation, it is denoted as "GDP". As was mentioned earlier GDP measures economic size and is predicted to favorably influence upon trade flows. Indeed, when economy obtains significant value of GDP it

means that the capability of spending of consumers is also raising, making it the fruitful ground for the promotion of international trade. Data for gross domestic product was obtained from World Bank and is presented in absolute value for the period of 17 years.

The second independent variable is “FDI” that states for foreign direct investment. The data is presented in absolute value for the period of 17 years. Data for foreign investment is partially obtained from World Bank and the data on major investors is acquired from the annual reports of each of the five BRICS country’s central bank. Moreover, in the study foreign direct investment inflows are namely taken into account. Therefore, FDI inflows are predicted to stimulate trade with such economies that are the largest donors for one of the BRICS countries.

After composing the econometric model, the equation was obtained in non-linear form. Therefore, to simplify the interpretation of equation and to increase its quality the model was transformed into linear form by applying logarithms from both sides of the equation. The “gravity model” of the given study is estimated in the logarithmic form as follows in Formula 1.1.

$$\log(\text{TRADE}) = \beta_0 + \beta_1 \log(\text{GDP}) + \beta_2 \log(\text{FDI}) \quad (1.1)$$

Where:

- Log “TRADE” is a logarithm value of dependent variable that denotes the sum of exports and imports;
- Log “GDP” –logarithm value of gross domestic product and independent variable in the model;
- Log “FDI” –logarithm of foreign direct investment, the second independent variable;
- “ β_0 ”- is a constant coefficient or estimated intercept; β_0 measures predicted (or expected) value of dependent variable for independent variable equal to “0”.
- “ β_1, β_2 ”-are coefficients; estimated slopes β_1, β_2 measure the change in the dependent variable resulting from a one-unit increase in the independent variable

In conclusion empirical study was carried out with the aim to demonstrate the increased intensity of trade flows among BRICS countries by studying the dependence of trade upon size of the economy and foreign direct investment inflows. Today international trade attracts more and more attention of many researchers namely due to shifts of power to emerging economies, crises and other factors. The main points of interest are to study the effects of different factors and macroeconomic variables upon international trade. Thus, using in the given study gravity model as a blueprint the econometric model of author’s elaboration was produced. The empirical study included 90 observations for five countries over 17-year period. The estimation was carried out on the base of E-views 7 using panel data. The several trials proved that the final one with implication of FDI in the model was to be considered as successful due to results that proved the set hypotheses. As a conclusion foreign direct investment and size of the economy which is represented by gross domestic product

have influence upon trade of BRICS countries.

Moreover, it may be concluded that due to intense concentration of multinational corporations in most of developing countries (in the given case BRICS) there is a favorable tendency of export increase. Domestic companies may reorient to new sectors due to availability of new technology and competition stimuli. Furthermore, MNCs have already established their own ways of distribution which can help in reduction of transportation costs. Through their branches exported products can reach new markets with little costs on marketing and feasibility studies. It also may be concluded that FDI inflows stimulate the development of global value chains that allow for developing and emerging economies better integrate in the world trade.

4. Case study presentation

Due to the fact that China is important actor on the global arena it is wise to study the Moldova-China relations in details. It is also very important to analyze the Moldova-China cooperation in areas as trade, and investment. As a case study carried out to understand economic relations between Republic of Moldova and China it may be stated that Moldova and China are on the path toward establishing more intensive and sustainable trade relations. Thus, the total value of external trade with China in 2018 accounted for USD 619 million. There has been a trend of growth as this indicator increased by USD 94.8 million or by 15 percent compared to 2017. The favorable evolution is mainly caused by friendly relationship between these two states and promotion of more advanced economic cooperation, namely the negotiations of FTA between Moldova and China.

Moreover, according to the survey carried out by the think-tank “Expert Group” the export potential of Moldova products to Chinese markets is almost limited to a single product, namely grapes and wine, followed by sunflower seed oil and sunflower seeds. Based on the results exposed by International Trade Centre in the Figure 3 the greatest export potential of Moldovan products toward Chinese market are Parts of seats, Crude sunflower-seeds or sunflower oil and Wine of fresh grapes. Moldova has the highest supply capacity in Sunflower seeds.

But there can be observed some disparities. First, in the Figure 3 mentioned earlier there are number of products with higher export potential, but these commodities are produced in the lohn operations. This is applicable to such product groups as car seats, wiring, car covers and etc. Thus, the given export potential cannot be included in estimation of the results of the survey. Second, disparity appears between demand and supply, as the most demanded products on Chinese market are soya beans, raw hides and wines. Today Moldova manages to satisfy Chinese demand only in export of wines with the total export potential of USD 3.5 million. It is worth noticing that actual export of wine exceeded the mentioned potential and amounted USD 7.8 million. Moreover, to analyze the patterns of wine market it should be mentioned that in 2017 China's total wine imports or more than USD 2.6 billion, and the estimated potential of this market is about USD 3.7 billion. The main competitors on that market are France with the highest export potential of USD 978 million, Italy with USD 798

Secondly, liberalization of trade presupposed by signing FTA with China can generate a range of benefits in an economy: access to new market, presence of foreign direct investment and MNCs that generate employment, transfer of technologies, development of national industries and many more. Moreover, Moldova can benefit from imports of raw materials at a lower cost which in its turn influence significantly on the final price and competitiveness on domestic market. This is the main argument for introduction of preferential trade agreement between Moldova and China.

However free trade agreement may also cause some serious damage to economy. For instance, as was shown in the analysis of trade evolution and export potential, Moldovan exports flows cannot compete equally with Chinese imports. It would negatively influence on domestic suppliers and presence of foreign investors would possibly drive out of competition small and medium local enterprises. Therefore, it can be affirmed that not having sustainable trade flows can impede signing such complex document as free trade agreement.

5. Conclusion

To conclude the paper, it is worth mentioning that the main scope of the given research was to find out about growing significance of emerging economies on the world trade which are mainly represented by BRICS. During the study the following questions were answered: the contribution of BRICS to world trade flows; the impact of foreign direct investment upon international trade of these countries; and the BRICS global influence, analyzed through the perspective of Moldova-BRICS relations.

First of all, due to increase weight of emerging economies, namely BRICS it may be concluded BRICS assumed the role of counterweight to major global players such as United States, European Union and Japan. Indeed, in terms of trade BRICS assume the 23 percent of world trade flows which registered a significant increase in the last decade. Moreover, it can be concluded that BRICS grouping has a strategic character as they express the common attitude towards world events in terms of trade and geo-economics. Thus, the fact demonstrates that BRICS countries can develop the system of trade complementarity. However, BRICS still does not have free trade agreement. As a recommendation it may be concluded that with free trade agreement among these countries intra-BRICS trade will increase and reduce dependence of global North.

Second, after conducting an empirical study several conclusions can be made. It can be affirmed that overall the final econometric model is to be considered as successful due to results that proved the set hypotheses. The sample was consisted from 90 observations for the 17 years period. The data was pooled together for five countries in panel. During the research it came into light that proved the influence of foreign direct investment upon international trade of the economy. As a conclusion foreign direct investment and size of the economy which is represented by gross domestic product have influence upon trade of BRICS countries. Moreover, due to enormous economic growth these countries represent vast opportunities for foreign investors. Thus, approximately in all BRICS

countries there was identified the beneficial aspects of presence of multinational corporations in BRICS economies that facilitated trade and inclusion of developing economies in global value chains.

BRICS countries represent an interesting and beneficial opportunity for republic of Moldova. The diverse specialization of these five countries ensures supply of products on complementarity basis. Regarding the free trade agreement between Moldova and China it can be concluded that liberalization of trade brings benefits as well as negative aspects to Moldovan economy. On one hand it promotes employment, transfer of technology, expertise and economic development. On the other hand, the rate of import coverage by Moldova exports is very low and not having sustainable trade flows can generate complications. Therefore, the results of beneficial character of free trade agreement with China are still inconclusive. Therefore, it is recommended to continue the feasibility study of terms of the agreement and further negotiations.

Overall in conclusion of all mentioned above, it can be stated BRICS are committed to improving the international trade and investment environment through a multilateral, less protectionist, comprehensive and balanced outcomes. Additionally, due to their economic and territorial size, abundance of natural and human resources, trade policy, favorable investments' climate BRICS poised itself as leader representatives of voice and promoters of role of emerging economies on global arena.

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