Supplementary Notebook (RTEP - Brazilian academic journal, ISSN 2316-1493)

REGIONAL TRADE AGREEMENTS AND GLOBAL VALUE CHAINS: IS THERE ANY CONNECTION BETWEEN THESE BACKBONE TRENDS OF WORLD ECONOMY?

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Abstract: *World economy transformations related to backbone trends such as global value chains (hereinafter – "GVCs") and the intensification of regional trade contribute to an active change in economic geography. However, there is no common approach to assess the relationship between the Regional Trade Agreements (hereinafter – "RTAs") and GVCs. Some researchers suggest that the inclusion of companies in the stages of production is determined by economic expediency only and does not depend on the integration policy of countries. Nevertheless, theoretical background and empirical analysis make it possible to come up with a hypothesis that the elimination of barriers to the movement of goods, services and factors of production, provided by regional integration, contributes to the inclusion of countries in regional and global value chains. In the present article, quantitative analysis based on the Gravity model of trade was used, which evaluates the relationship between regionalization and the participation of countries in value chains on the example of the EU, to support this statement. Calculations show that European integration facilitates the development of regional industrial cooperation, while non-tariff restrictions adversely affect the development of GVCs. At the same time, the analysis of actors with economic asymmetries, such as Eurasian Economic Union and MERCOSUR, shows that in some cases the conclusion of RTA is not enough and wider cooperation in economic integration is needed for the purpose of GVCs promotion. Thus, this study illustrates that regional economic integration supported by RTAs can be a tool for integrating economies into the transnational production system.*

Keywords: *Global value chains, economic integration, regional trade agreements, production fragmentation, European Union, gravity model.*

INTRODUCTION

Despite the current intensification of protectionism worldwide, the growing interdependence of national economies goes on and remains one of the distinctive features of international economic relations. The development of new technologies has led to a significant reduction in transport, labor, logistic and administrative costs, thereby becoming a driving force for an increase in the international factors of production mobility. Companies have more opportunities for diversifying the geographical structure of their activities by placing different stages of production in different countries, offshoring and re-shoring non-key functions and that is the basis for the spread of the global value chains (GVCs). At the macro level, countries are also looking for the best ways to participate in the international production system as the involvement of national industries in the GVCs offers ample opportunities for maximizing the benefits for a country's comparative advantages and enhancing its competitiveness on the global arena.

Another significant global trend is an increase in the number and quality of regional trade agreements (RTAs). They are becoming deeper, covering a wider range of subject areas in addition to reducing trade barriers, namely investment policy, intellectual property rights, trade in services, public procurement and many others. Thereby, the issue of correlation between the two systemic trends - the development of the GVCs and the multiplication of RTAs - becomes of significant importance both from practical and theoretical perspectives.

Academics worldwide have no single answer to the question whether the development of GVCs and regionalization process are connected and whether RTAs can be considered as a tool to increase the countries' involvement in GVCs. In this article, the authors set forward the following hypothesis: regionalism together with the multiplication of the RTAs eliminating barriers to free movement of goods and factors of production contributes to the countries' inclusion in both regional and global value chains. To assess this influence in the study, the authors conducted a quantitative evaluation of trade patterns linked to the GVCs development in the EU, Mercosur and Eurasian Economic Union.

LITERATURE REVIEW ON THEORETICAL ASPECTS OF THE ADDED VALUE CONCEPTS

International production fragmentation and global value chains (GVCs) development represent the backbone trends that determine the direction of the world economy nowadays. An overview of theoretical literature on production fragmentation suggests several concepts of international production systems, namely: global commodity chains, global supply chains, global value chains. Even though all these concepts describe interaction among economic agents during different stages of the production process, there are significant differences between them that need to be taken into consideration. The concept of global commodity chains focuses on the role of the leading firm and refers to the interaction between this firm and other economic agents in the process of production and distribution of products. Thereby, commodity flows can be formed by the producer (producer-led) or by the buyer (buyer-led) (Gereffi, Korzeniewicz, 1994). The concept of global supply chains is very similar to that of commodity chains, with the difference that it focuses on the interaction among the firm,

suppliers and the final buyer in the process of components and finished products delivery aimed at costs minimizing (Christopher, 2011).

The concept of value chains became a logical continuation of commodity chains concept development. In 1985, an American economist M. Porter in his book "The Competitive Advantage of Nations" defined the value chain as a set of stages that a product goes through starting from concept development and production to its final consumption. M. Porter showed that a value chain also includes non-production activities (development, marketing, logistics, after-sales service) which, along with production, create the value of the final product.

According to Porter's theory, the optimal strategy for gaining competitive advantage is to identify and focus on the most profitable in terms of value and cost elements of the value chain and to outsource other functions. In the same period the theory of value creation at the level of individual firms was studied by an economist Bruce Kogut. In his definition of the value chain, he stated that a firm can be included in the value chain only at one stage or it can be vertically integrated (Kogut, 1985).

Global value chains are international production networks that bring firms together integrating tangible and intangible assets in order to create final consumption goods (Todeva, Rakhmatullin, 2016). Such value chains are seen as complex structures involving non-linear interaction of economic agents located in several countries. It is considered that for the first time the concept of GVCs in its modern sense, including cross-border cooperation of companies, was described in the research paper of G.Gereffi, J.Humphrey and T. Sturgeon (Gereffi, Humphrey, 2005). The concepts describing commodity flows accompanying cross-border production are summarized in Table 1.

Table 1. Major theoretical approaches to the analysis of commodity flows in the international production phase

Concept	**Research subject**	**Researchers**
Global commodity chains	Interaction between the leading company and other agents that determine commodity flows chain configuration	Gereffi G., Korzeniewicz M
Global Supply chains	Coordination of commodity flows among suppliers, firms and consumers aimed at costs minimization	Christopher M.
Global value chains	Sequence of production and non-production stages creating the final value of the goods	Porter M., Kogut B., Gereffi G.,HumphreyJ., and Sturgeon T.

Source: compiled by authors.

Furthermore, trade in components became a subject of study for such economists like B. Balassa, P. Krugman, D. Hummels, and R. Baldwin. In their research papers, they laid the foundations for the theory of production fragmentation developed by R. Jones and H. Kierzkowski, which became a starting point for further theoretical analysis of GVCs. The theory of production fragmentation stays that a firm can have a comparative advantage (a cost advantage) only in one or several stages of the production of goods, in which it is more profitable for the firm to specialize. Production fragmentation can be organized as a vertical integration (when the various stages of value creation are

transferred to the branches of the enterprise) or outsourcing (when the functions are performed by third firms) (Jones, Kierzkowski, 1990).

Value chain elements can also be classified as upstream and downstream by their proximity to the extraction and processing of primary materials or to marketing and after-sales services, respectively. Taking into account the increased importance of the technological component for most industries, the upstream flows in the value chain today include such functions as research and development, as well as design.

S. Shi, the founder of the «Acer» corporation, proposed the most integrated approach to the analysis of final value added stages of the product creation. In a visual form, it is a graph, where on the horizontal axis are the stages of the product production, and on the vertical axis is the value added at each stage. Due to the shape of the curve, this graph is named «smile curve» (see fig. 1). R. Baldwin's study demonstrated that as the importance of the information and technological component increased, this curve became steeper.

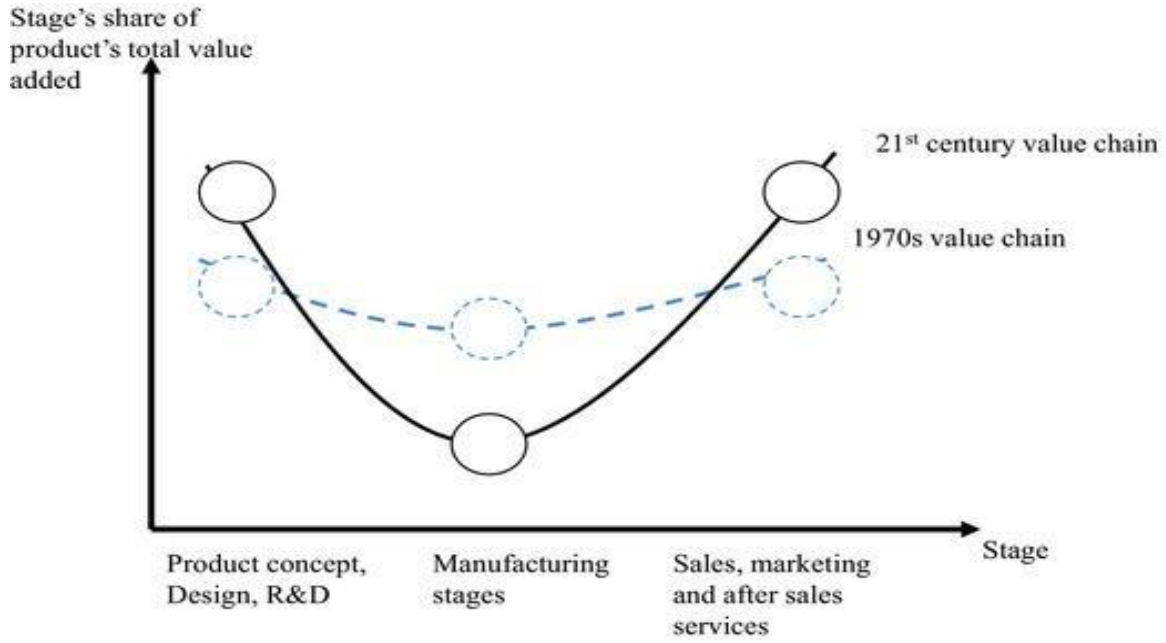

Figure 1. «Smile curve».
Source: Baldwin, R., Evenett, S. J. (2014). Value creation and Trade in 21st Century Manufacturing. Journal of Regional Science, 55 (1), 90.

Finally, it is important to note that the degree of production fragmentation is finite and is determined by the balance between reduced production and increased transaction and coordination costs. Since companies are motivated to maximize profits, changes in the cost structure along the value chain inevitably lead to their operational modification. Recent research papers provide empirical evidence of the participation in RTAs being a driver that promotes a deeper engagement in GVCs. For instance, a study of Dr. Axel Berger, German Development Institute, demonstrates a strong positive impact of preferential trade agreements on Vietnamese firms upgrade in GVCs both in direct and indirect ways, which makes PTAs a crucial element of GVCs development puzzle (Berger A. et al., 2016). Consequently, a complex study of the influence of the regional integration effects accompanied by changes in international trade and economic relations on the development of the GVCs is of particular interest.

CORRELATION OF VALUE CHAINS DEVELOPMENT WITH REGIONAL TRADE AGREEMENTS AS IN THE CASE OF THE EUROPEAN UNION

The intensification of regional integration has become a characteristic feature of recent decades. However, the scope of the majority of agreements remains relatively superficial. In this regard, the European Union (EU), which is an economic and monetary union nowadays, occupies a special place. As an organization with a solid history of integration development, the EU is one of the most active associations in terms of the number of regional trade agreements (RTAs) with other countries of the world that is why it is a good example for researching the impact of RTAs on the participation of European countries in value chains. According to the WTO, there are 40 RTAs with EU participation (excluding the EU expansion) and more than two dozens of new agreements are under negotiation or have already been signed but have not entered into force yet. Among the RTAs that are under negotiation at the moment, the most significant are the ones with Japan, Malaysia, India, Australia, New Zealand and a number of others (Overview of FTA and other trade negotiations, n.d.).

At the same time, the European Union follows the global trend of enlarging the scope of RTAs. More than half of the agreements concluded over the past 20 years contain provisions on trade in both goods and services while earlier RTAs were limited only to trade in goods. Provisions relating to services were later added to several agreements, such as those with Norway and Iceland, which initially concerned only trade in goods (Poluektov, 2015). Among the provisions most frequently included in the RTAs by the European Union are tariff and non-tariff restrictions, trade in services, customs procedures, standardization policies, public procurement, and export duties (Poluektov, 2015). The dynamics of regional trade agreements and their scope is shown in Figure 2.

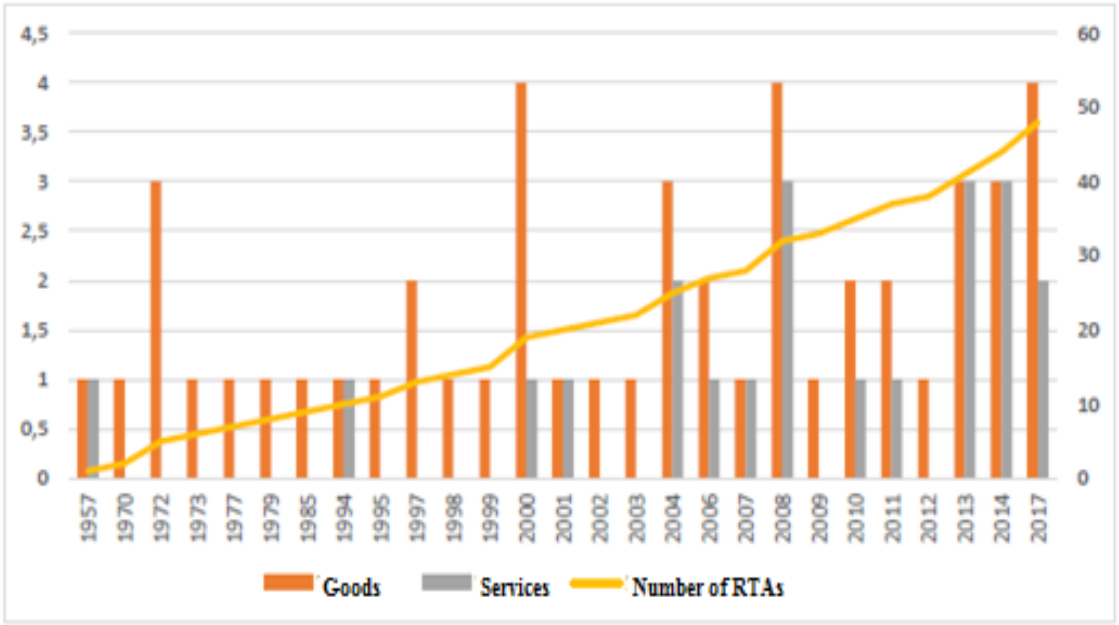

Figure 2. Dynamics of the number and scope of the EU RTAs between 1957 and 2017.
Source: compiled by the author based on WTO RTAs Database (access date 20.09.2018).

Thus, it can be concluded that the RTAs conclusion by the EU is not just the creation of a free trade area, but a deeper integration in the FTA+ format. That is why we can consider the EU RTAs as a tool of interregional integration with other countries or

economic blocs. However, at the same time the EU is characterized by active intraregional trade which can be justified by the functioning of a single domestic market. In fact, trade volumes have increased in recent years and surpassed the pre-crisis level of 2009, amounting to 291 billion Euros in 2017 against 155 billion in 2002.

At the same time, the main exporters of goods within the EU are Germany, the Netherlands, France, Belgium, and Italy. These countries account for about 60% of all intraregional trade (Eurostat, n.d.). The level of inclusion in intermediate goods and components trade reflects the participation of countries in transnational production. This type of trade accounts for more than half of the EU's domestic turnover. In foreign trade flows, the share of intermediate goods in imports is higher than in exports: 57% against 47%. The dynamics of the share of components in the EU trade structure is shown in Figure 3.

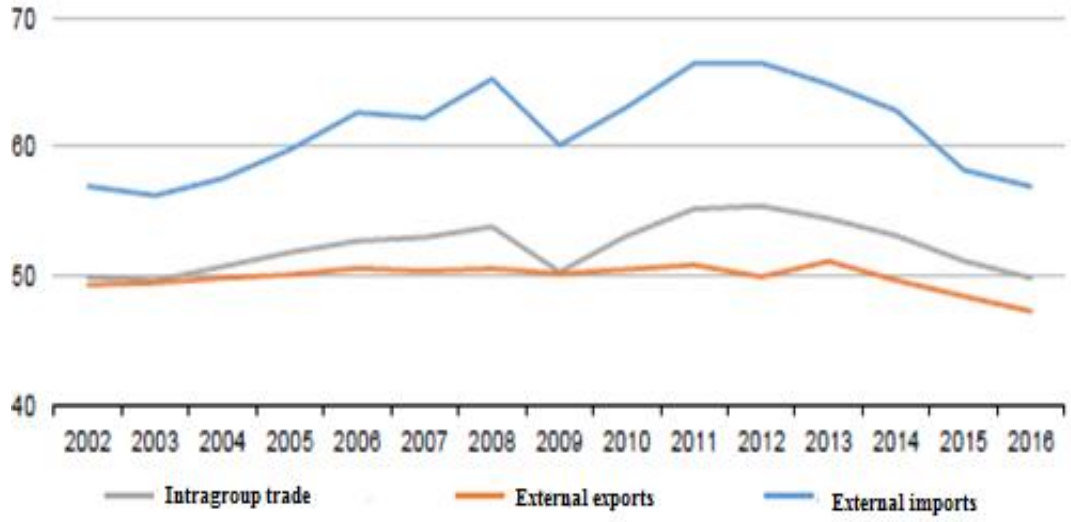

Figure 3. The share of intermediate goods in EU trade, 2002-2016.
Source: Eurostat: www.appsso.eurostat.ec.europa.eu (date of access: 24.09.18).

The industries most actively involved in transnational production are automotive, chemical, and metallurgical ones, as well as services sector (OECD TiVA Database, n.d.). Indeed it can be noted that in recent years the share of components in the trade structure has been decreasing largely due to the change of the position of European economies in the global value chains and their re-orientation to the services sector, research and development and technology industries. Thus, in the period from 2010 to 2016 the share of services directly related to the GVCs participation in export and import of EU value added grew most actively. The largest growth was in business services (including research and development, consulting, and technical services), as well as in the services related to the use of intellectual property rights (+2.7 p. p.), telecommunications and IT (+2.1 p. p.) (Eurostat, n.d.).

Describing the structure of EU exports by value-added sources, it can be mentioned that the European component significantly exceeds the foreign one, which distinguishes Europe from other regions of GVCs concentration. However, over time, the process of globalization leads to an increase in the share of foreign value in European exports (see Figure 4).On this basis, some OECD experts conclude that, despite the increase in the number of RTAs, companies are increasingly diversifying the geographical structure of purchases on a global scale, and therefore regional integration

does not influence the development of global value chains in any way (OECD. Trade Policy Implications of Global Value Chains, 2015).

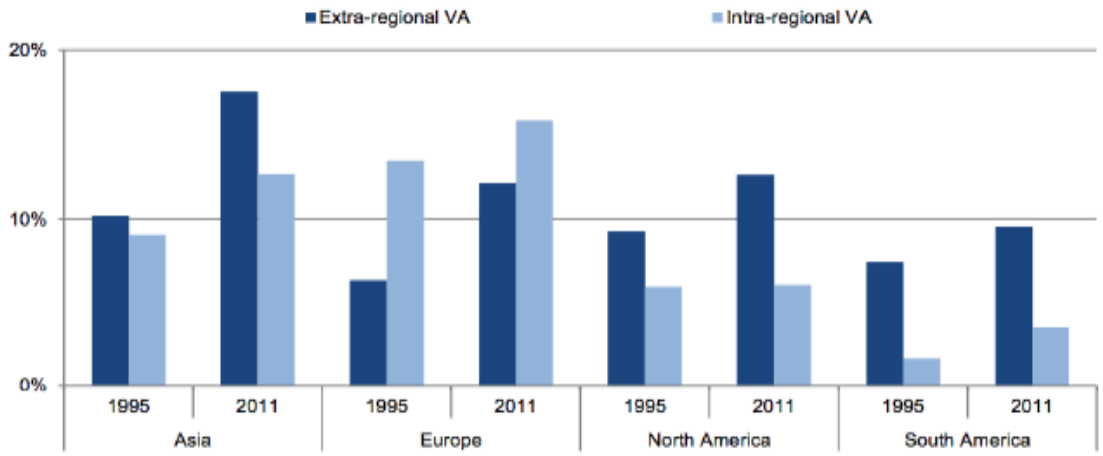

Figure 4. The share of intraregional and extraregional value added in exports, 1995-2011.

Source: OECD. Trade Policy Implications of Global Value Chains.2015. P. 2.

Nevertheless the analysis of theoretical background and empirical studies establishing the interconnection between the RTAs conclusion and trade intensification suggests that regional integration, involving the liberalization of trade in goods and services, the simplification of rules of origin, the elimination of non-tariff restrictions and barriers to trade, has a positive impact on the involvement of participating countries in both intraregional and extraregional GVCs. To test the hypothesis of the positive impact of European integration on the countries participation in the GVCs, the impact of the European integration expansion on intraregional value chains was modeled in this study. The basic model was the gravity model of international trade proposed by Jan Tinbergen in 1962 (Tinbergen, 1962). Its effectiveness was shown in several theoretical works, among which are studies of Noguera G. (2012) and Miroudot S. (2014).

Modeling of the impact of the free trade area conclusion on the trade intensity on the example of the European Union was considered in the work of S. Bayer and J. Bergstrand, where the optimal specification of such kind of model was determined for working with panel data. Thus, according to the results of the study, the most effective way is to evaluate the model using fixed effects for the partner countries and the considered time periods, that allows solving the problem of possible endogeneity of the parameters measured, in particular, the dummy variable responsible for the country's participation in the EU (Baier, Bergstrand). Nowadays there are two main sources of information about trade in terms of value added: the international OECD ICIO tables, covering 63 countries from 1995 to 2011, and the WIOD, calculated for 43 countries from 2000 to 2014. Due to the different calculation methodology the data from these two sources is not comparable. In order to better estimate the impact of the liberalization of the markets of new European countries that joined the EU in 2004, as well as to take into account the effect of the introduction of a single currency, the OECD-WTO TiVA Database, containing information on trade indicators in terms of value added calculated on the basis of OECD ICIO tables, was selected.

To test the authors' hypothesis, bilateral trade among 27 EU countries was assessed (examined period from 1995 to 2011). The sample is divided into two

subgroups: the countries that form the core of European integration and the new European countries that joined the EU in 2004 and 2007. Based on the analysis of the theoretical literature, as well as on the analysis of formation and functioning of the internal European market such indicators as the country's membership in the EU, the level of custom duties, the number of non-tariff restrictions (namely, technical barriers to trade) and the introduction of a single Euro currency were chosen as indicators reflecting regional integration development process. Two indicators were chosen as proxies for measuring the intensity of value added flows within regional value chains: the export of national value added and the export of components to the partner country. This methodology is widely used in the empirical work on the GVCs because the use of the index as a dependent variable may lead to inaccurate estimates of the model. Thus, such a combination of trade flows in terms of value added and gross value allows assessing the countries' involvement in the value chain in the most accurate way.

Thereby, the estimated equation is the following:

$$\ln(X)_{ijt} = \alpha + \beta_1 \ln DGP_{it} + \beta_2 \ln DGP_{jt} + \beta_3 \ln dist_{ij} + \beta_4 eu +$$

$$\beta_5 euro + \beta_6 \ln(1 + tbt_{it}) + \beta_7 \ln(1 + tbt_{jt}) + \beta_8 \ln(1 + tariff_{ijt}) + fe + \varepsilon_{ijt},$$ где

- X_{ijt} – variable, taking the value of national value added exports (EXP_DVA) or components (EXP_INT) from country to country *j* in year *t*
- GDP_{it}, GDP_{jt} – GDP of the country *i* and *j* in the year *t*
- $dist_{ij}$ – the distance between the capitals of the countries
- eu – a dummy variable that takes a value of 1 if both countries are members of the EU
- euro – a dummy variable that takes a value of 1 if both countries are members of the Eurozone
- tbt_{it}, tbt_{jt} – number of technical barriers to trade applied by countries *i* and *j* in year *t*, calculated as the difference between the number of technical requirements introduced and discontinued in the year *t*
- fe – fixed effects.

The model coefficients were estimated by calculating standard errors resistant to autocorrelation and heteroscedasticity, which, as shown by the corresponding tests, take place for the considered data structure.

Table 2. Regression evaluation results.

	(1)	(2)	(3)	(4)
	EXP_DVA	EXP_INT	EXP_DVA	EXP_INT
GDP_i	0.638*** (0.020)	0.725*** (0.021)	0.431*** (0.031)	0.518*** (0.032)
GDP_j	0.830*** (0.005)	0.830*** (0.005)	0.895*** (0.008)	0.898*** (0.008)
dis_{ij}	-0.847*** (0.013)	-0.866*** (0.013)	-0.877*** (0.013)	-0.897*** (0.013)
eu			0.317*** (0.037)	0.303*** (0.038)
euro			0.058** (0.026)	0.088** (0.027)
tbt_i			0.021 (0.013)	0.010 (0.013)
tbt_j			-0.128*** (0.010)	-0.135*** (0.010)
$tariff_{ij}$			0.006 (0.019)	-0.015 (0.019)
constant	-26.005*** (0.522)	-28.272*** (0.541)	-22.127*** (0.795)	-24.379*** (0.832)
R^2	0.776	0.767	0.780	0.771
Number of observations	11 934	11 934	11 934	11 934

The model assessed is an adequate one with R^2 ranging from 0.77 to 0.78. The parameter indicating the participation of both countries-members in the EU is statistically significant and has a positive impact on the export of value added and components. Thus, joining the EU, the country increases the exports of value added, in particular, in the form of components. Single currency among trading countries also contributes to more value chains intensification. Technical requirements and tariffs rate of the importing country expectedly influence trade in a negative way. However, the coefficient for the variable indicating the value of customs tariffs was statistically insignificant. It can be explained by the fact that by the beginning of the period under review, the customs tariffs levels of most new European countries were already at a low level, so their further reduction did not have a significant impact on the intensification of trade with EU member States (see Table 2).

Thus, the results of the model evaluation suggest that intraregional European integration contributes to production fragmentation within the region and to the inclusion of countries joining the integration into regional value chains. However, it is important to bear in mind that the EU is one of the most deeply integrated economic units in the world. Thereby, it may be suggested that the positive effect of trade agreements can only be seen from a certain depth level of contracts.

LATIN AMERICAN COUNTRIES' PROSPECTS IN GVCS

Cooperation of Latin American countries with EU member states in the area of mutual trade and investment changed significantly in the post-crisis period. Previously, only European countries (mainly Spain and Portugal) used to act as investors in this cooperation model. However, currently Latin American MNEs are widely presented at the European market and a mutual bilateral partnership in the field of foreign direct investment can be declared (see Figure 3). Furthermore, mutual trade structure of Latin American countries with some EU member states was also influenced by changes in this investment cooperation (Ostrovskaya, Tsarik, 2018). Thereby, the intensification of Latin American participation in investment projects (both intraregional and extraregional) offers a good basis for research of the impact of their joint projects on the bilateral trade in terms of value added development.

Due to historical circumstances, in general, Latin America states have developed strong economic relations with each other, which serve as a basis for deep regional integration processes. One of the most noticeable examples in terms of scale and economic power of its Member States is the Common Market of the Southern Cone – Mercosur, which includes Brazil, Argentina, Uruguay and Paraguay, while Venezuela is suspended and Bolivia is passing the stage of accession. Goods trade within Mercosur has a strong potential in terms of value adding, as its Member States possess all the necessary economic resources for deep participation in regional value chains. The abundance of energy and material components, relatively low labor costs and convenient geographical location of the states provide them with opportunities to create effective production clusters, which could bring the economic partnership to the new level of international competitiveness.

The States encounter nonetheless a number of barriers of both economic and political nature on the way to this objective. One is that the infrastructure needed for the facilitation of intermediate goods circulation and the promotion of further manufacturing has a lot of room for improvement. This issue is inter alia addressed through the development of infrastructure projects such as the cross-border

electrification, communication interconnection or railway and road construction. According to the South American Council of Infrastructure and Planning (COSIPLAN), Mercosur States account for approximately 400 projects with the investment amount of more than 168bn USD, of which 119 projects (48.5bn USD) are currently passing the stage of implementation (Sistema de información de la cartera de proyectos del COSIPLAN, n.d.). The institute that partially grants such an intense activity in this field is FOCEM – the Fund for the Structural Convergence of Mercosur, which primarily focuses on the areas of electricity interconnection and road infrastructure.

Nevertheless, the extent of production interconnectedness among Mercosur states remains lower than it could be, which is indirectly supported by the information of OECD TiVA database. Due to technical reasons, this database provides figures as of 2015 for the first two major economies of the Common Market only – Brazil and Argentina, – but it is still possible to derive the general perspective by analyzing these countries' trade balances. A look at the Figure 5 describing Brazilian trade relations with main partner states tells that out of all Mercosur member states only Argentina is present in the top-5 ranking, while the USA and China are occupying leading places in both imports and exports. When making conclusions one should bear in mind the volume of relevant economies, however the presence of the Dutch and Japanese markets in this ranking and their percentages definitely push forward the idea that Argentina-Brazil cooperation potential is not leveraged to the limit. For instance, Brazil's value added content is only 5.2% of total exports for Argentina, whereas China and the USA import 18.4% and 17%, respectively. The same situation can be observed in the imports section. With only about 4% of value added, Argentina also gives way to the Netherlands and Germany.

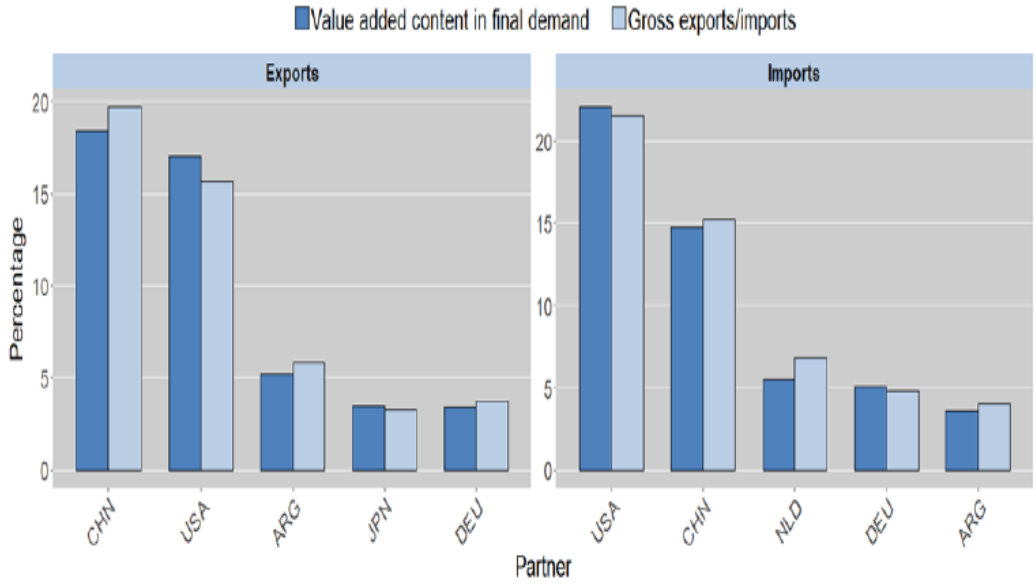

Figure 5. Brazil's exports to and imports from main partner countries; as a percentage of total gross and value added exports and imports, 2015.
Source: TiVA Database, OECD.

A closer analysis of the Argentina's trade partners ranking (Figure 6) reflects a slightly different picture. As in the previous case, Brazil is the only Mercosur member in top-5 partners, but its significance is much higher. For exports in value added terms, Brazil presents the major destination for both value added (12.9%) and gross exports

(14.8%) with China and the USA following. The first three positions are occupied by the same states in imports statistics, but in different order. However, it could be noted in this regard that Brazil is a leader among gross imports origin countries (17.8%), but is only third in value added terms (14,9%).

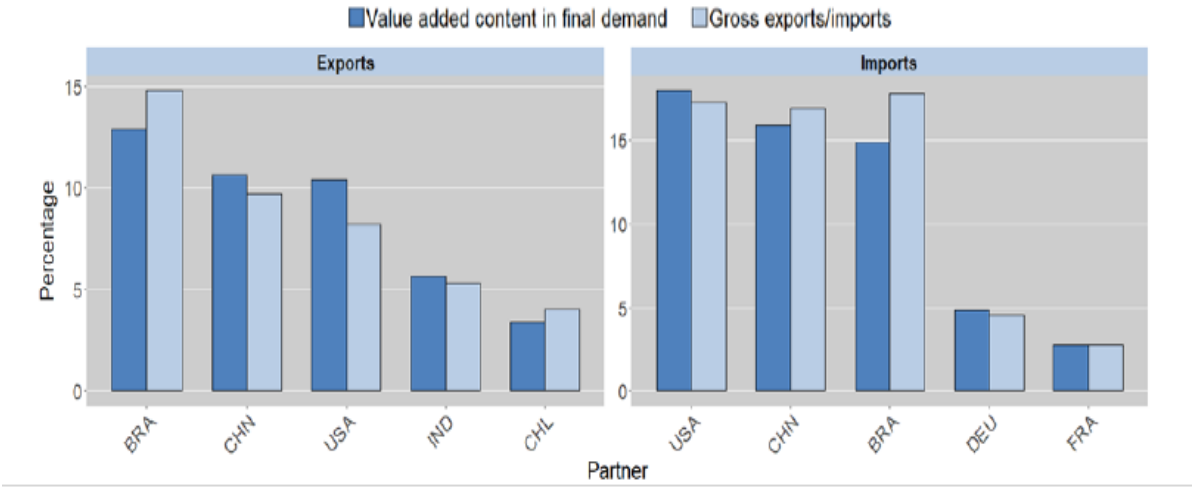

Figure 6. Argentina's exports to and imports from main partner countries; as a percentage of total gross and value added exports and imports, 2015.
Source: TiVA Database, OECD.

As the data shows, intraregional value chains have not reached their full potential, as two major markets of Mercosur tend to have as high influence on each other as some distant trade partners, except the USA and China, have. This also brings us to the political side of the question that resides in the lack of proper cooperation between Mercosur Members States. Such obstacles as political turbulence in Brazil, macroeconomic shocks in Argentina and severe instability in suspended Venezuela hamper effective communication and sustainable movement towards the further diffusion of economies. Despite a partial success in constructing a Common Market, especially in the spheres of social and cultural integrity, Mercosur finds itself unprepared to coordinate economically (Viola, Lima, 2017). Hence, institutional asymmetries within and outside its Member States are among the first issues to be addressed for regional and global value chains development in the South American group

SPECIFICITY OF THE EURASIAN ECONOMIC UNION VALUE CHAINS

In the context of value chains development, global community attention is getting each day more attracted by the Eurasian Economic Union (EAEU) – one of the most rapidly developing regional integration blocs. Created in 2015 and comprising Armenia, Belarus, Kazakhstan, Kyrgyz Republic and Russia, EAEU, similarly to Mercosur, has a considerable potential of obtaining a global power in goods manufacturing and services supply. Its Member States' cultural and historic unity is also a strong factor that contributes to the convergence of these economies. Nevertheless, the Union encounters such barriers as economic heterogeneity and political reluctance to integrate deeply – the aspects playing significant role in hindering almost any integration process, including that of Mercosur.

The Union foundation became the logical step of the post-Soviet integration process that accelerated after the establishment of Eurasian Customs Union in 2010 and

Eurasian Economic Space in 2012 comprising Russia, Belarus and Kazakhstan. Given the prospects of the further broadening and deepening of the Eurasian integration, the EAEU functioning creates the necessary preconditions of its Member States inclusion in regional and global value chains. The Russian Federation tends to expand its participation in the GVCs due to the need to diversify the structure of Russian exports, which consists mainly of raw material nowadays. Regionalization issues are also relevant for Russia in the context of its participation in the Eurasian Economic Union.

Currently, out of the EAEU Member States, only Russia is present in the OECD TiVA Database, which puts certain limitations to the analysis. According to this source, as of 2011, Russia's participation index was at the level of 52.5%, which is 4.1% higher than the OECD average (Trade in Value Added… n.d.). Nevertheless, according to the NRUHSE experts' estimation based on 2013 OECD data, the compound rate of the EAEU participation in GVCs is 47%, of which 35% belong to forward participation, while only 12% are backward. However, these figures are mostly supported by the high exports of raw materials and primary products. Given this scheme of operating, Russian economy must import more expensive goods of a deeper level of manufacturing (Cooperation of EAEU Member States with OECD…n.d.). Moreover, this trade behavior prevents Russia from the FDIs attraction, technology and expertise transfer. The same trend is slightly less disadvantageous but still fair for other EAEU economies primarily functioning as raw materials providers.

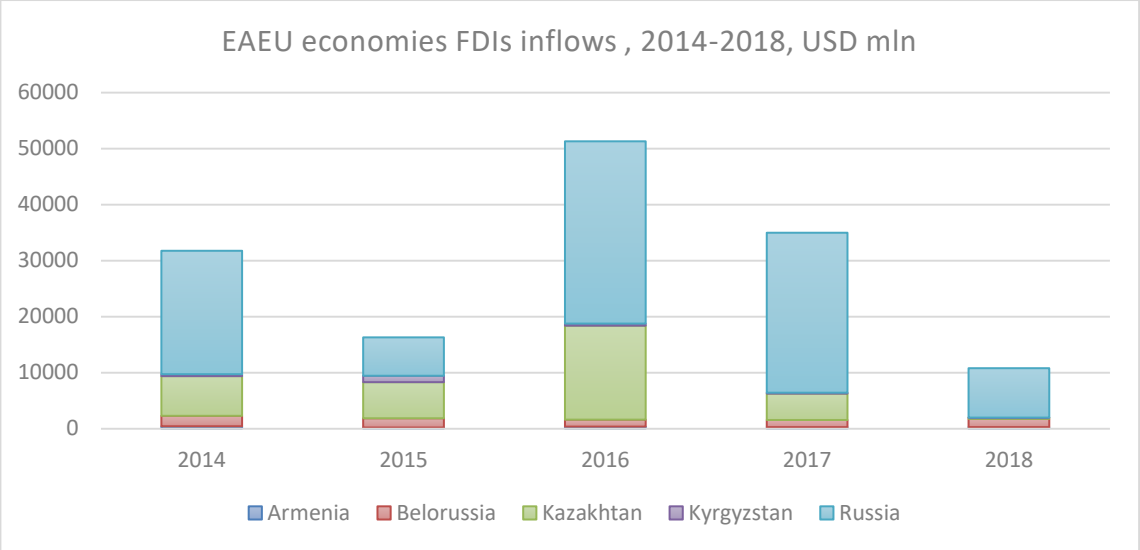

Figure 7. EAEU economies FDIs inflows in USD mln, 2014-2018.

*Source: compiled by the authors on the basis of EEC data (*Balance of payments…n.d.*).*

The policy of economic isolation and imports substitution chosen by the Russian Federation may be one of the most tangible barriers on the way to GVCs development. Some experts claim that this approach is unfavorable for innovation technologies promotion as the companies lack resources necessary for it (Kudrov, 2015). This situation is likely to deteriorate as in several sectors, foreign corporations are given limited access to the Russian market. Vice versa, an active improvement of investment climate and FDIs attraction may result in a better outcome (Zuev, Ostrovskaya, Belousov, 2015). Figure7 presents FDIs inflows into the EAEU states, while Figure 8 illustrates the outflows. In both cases, Russia holds leadership with Kazakhstan following it. At the same time, the percentage of other EAEU Member States is rather

modest. This fact however demonstrates the existence of opportunities for these countries to increase capital investment volumes that would allow bringing MNCs to the global and regional value chains expansion.

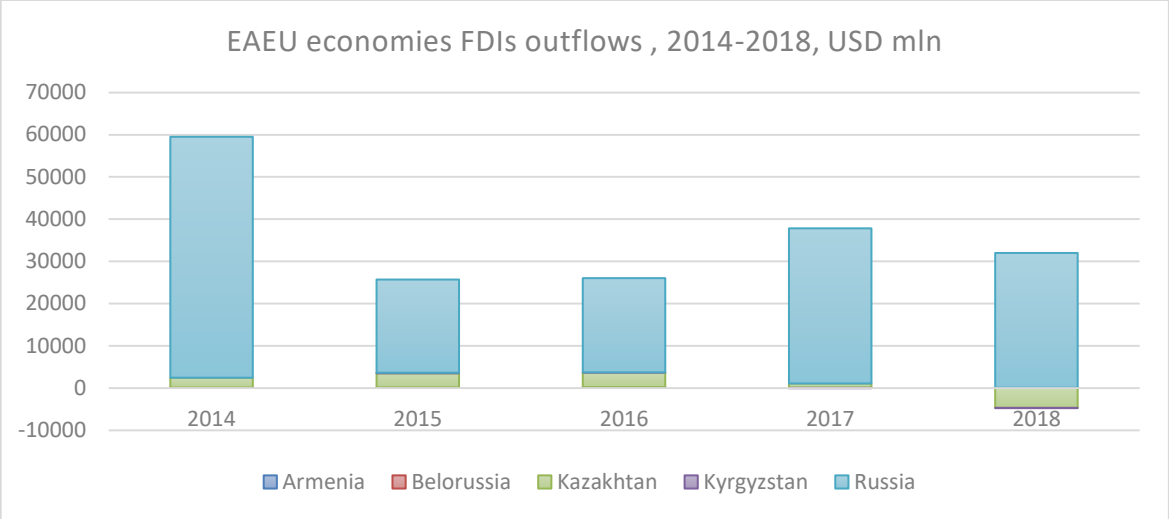

Figure 8. EAEU economies FDIs outflows in USD mln, 2014-2018.

*Source: compiled by the authors on the basis of EEC data (*Balance of payments…n.d.*).*

When analyzing trade statistics of the EAEU, the heterogeneity of Member States economies should be mentioned. For instance, Russia accounts for about 95% of internal exports of the Union and 84% of the external one (Table 3). The volume of trade within the Union grew between 2010 and 2012, which was partially caused by the positive effects of the integration initiation. However, due to the sharp fall of oil prices and ruble devaluation, this trend obtained a downward direction in real figures, which was a reality until 2017 when the macroeconomic conjuncture improved. It is important to underline the rise of intraregional trade share, but the statistics also provides evidence that trade with third countries still plays a major role for the EAEU members.

Table 3. Internal and external EAEU* trade dynamics, USD mln, 2011-2018.

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
External trade	934 586	932 961	868 697	579 383	509 373	633 797	753 417
Internal trade	67 856	64 520	58 511	45 615	42 960	54 157	59 721
Share of internal trade, %	6.7	6.4	6.3	7.2	7.7	7.8	7.3

* Before 2015 – Customs Union and Eurasian Economic Space (Russia, Belorussia and Kazakhstan).

*Source: compiled by the authors on the basis of EEC data (*Statistical Tables…n.d.*).*

In terms of intermediate goods, intraregional trade accounts only for 7% of total volume. If we exclude energy components, this percentage decreases to 5% (Table 4). Nonetheless, despite modest figures of the trade within the Union, its structure is less

dependent on raw materials which creates prospects for the further development of regional production clusters.

Table 4. EAEU trade of intermediate goods dynamics, USD mln, 2012-2018.

Internal trade	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Intermediate goods, incl.:	46 206	42 833	36 538	29 817	26 370	33 990	38 255
Energy goods	22 223	18 427	15 237	13 905	9 967	12 832	14 885
Other goods	23 983	24 406	21 301	15 912	16 403	21 159	23 399
External trade							
Intermediate goods, incl.:	610 115	604 424	632 127	419 229	348 219	437 574	554 202
Energy goods	364 107	366 808	402 982	243 766	184 280	234 730	318 564
Other goods	247 668	237 617	229 145	175 463	163 939	202 843	235 638

*Source: compiled by the authors on the basis of EEC data (*Statistical Tables…n.d.*)*.

Delving into the features of the EAEU Common Market, it must be noticed that in spite of its de-jure establishment in 2015 there exist certain trade barriers in the form of restrictions and exceptions to the free movement of goods, services and factors of production. Geopolitical tensions outside Russia have also negatively influenced the EAEU internal market establishment. Mostly, the political crisis of 2015 has led to customs-related discrepancies.

As a response to the actions of the EU and the USA, the imports of several categories of goods to the territory of Russia was restricted. However, the lack of customs control on the EAEU internal borders resulted in the escalation of re-export and multiple entries of prohibited goods on the Russian market. The highest rate of these violations was registered from Belarus side. Consequently, the Russian Government re-established customs at the Belorussian border making a step back in the integration. Many barriers remain operating in services sectors as well; at the same time, services are what makes GVCs function. During the transition period, 21 services sectors are included in the exceptions list. All these factors restrict the free movement of services and capital on the territory of the EAEU and present an obstacle to the regional cooperation in production processes.

Non-tariff barriers (NTB) also affect economic cooperation within the EAEU. The most “popular” measures in this regard are SPS. For instance, up to 2016 Kazakhstan kept veterinary-sanitary control on internal borders that violated the Treaty on the EAEU. A similar example could be found in Russia that refused to accept Armenian SPS certification until 2016. According to a survey, Russian, Belorussian and Kazakh companies stated that NTB increase export costs by 15-30%, which hampers regional value chains (Vinokurov, Tsukarev, 2015).

Work force movement restrictions are not favorable for RVCs either. The monitoring revealed certain violations related to non-recognition of qualifications and unequal access to medical services for EAEU migrants. As of today, Russia leads in the number of restrictive measures, followed by Kazakhstan and Belarus, while the least amount of these are registered in Armenia and Kyrgyz Republic. The EAEU internal

market therefore encounters the same problems as the EU had in the first stages of its integration, which makes possible the implementation of European experience in the EAEU economic reality.

The fact that deserves mentioning is that EAEU authorities are determined to secure the "four freedoms" on the Union territory by 2025. For instance, the Eurasian Economic Commission (EEC) developed and implemented a system of trade limitations monitoring. Similarly to the EU, the Eurasian Economic Union launched an information portal that provides the opportunity of prompt reporting about barriers emergence (Portal of General Information Resources…n.d.). Additionally, the Customs Code of the EAEU entered into force on January 1, 2018 is expected to facilitate customs procedures. The document made electronic customs declarations mandatory, thus accelerating the process.

In overall, the 2030 EAEU Strategy builds ambitious plans. It presupposes total integration of energy and financial markets and the adoption of aligned macroeconomic and social policies in 12 years. In terms of GVCs, stakeholders consider re-evaluation of tariff rates, namely their reduction for raw materials and components and escalation for final products.

The conditions of successful GVCs development within the framework of regional integration are well-known. Primarily, these are trade infrastructure modification and expansion, and the reduction of trade barriers between countries. Regarding the EAEU, there exists a list of problems to resolve, the most acute of which are external and internal political tensions, unfavorable investment climate provoked by them and relatively low rate of intraregional trade caused by the Common Market rules violations and economic asymmetries. As practice shows, the EAEU market is sensitive to external factors even without deep inclusion in GVCs.

One of the ways out of this situation is to make the Union's economy more resilient by forging intraregional trade relations diversifying thus RVCs, leveraging partnership relations and geographical location. This action sometimes requires rigid measures to stimulate mutual trade by eliminating NTBs, developing customs infrastructure and attracting FDI through the implementation of international financial standards. Given the reluctance of Member States authorities to give up economic sovereignty, the EEC has to put efforts in negotiations in order to reach tangible results that would enhance economic strength of the bloc and each member individually.

CONCLUSION

The development of the GVCs has become a major trend of the global economy in recent decades. The changes in global production patterns are primarily triggered by technological advances that are constantly decreasing the costs related to the transportation of goods, the labor, the access to information and the processing of financial operations. Since the expenses for logistics are going down, the producers tend to target foreign markets, especially the neighboring ones. Another factor that favors the value chains expansion is the acceleration of regional and cross-regional trade deals. RTAs mean cutting tariffs and facilitating trade procedures that opens up markets. In spite of the current trade conjuncture and the rise of protectionism, many states still seek trade liberalization. The example is the European Union that has succeeded in diminishing barriers not alone between its Member States but between the EU and outer partners, such as Canada, South Korea, Japan and many others. A model provided in this article shows that the accession to the EU, results in the growth of country's value added

exports, in particular, in the form of components, that are exactly the basics of the GVCs. At the same time, the global concern relating to technical barriers in trade was proved fair as the impact of TBTs dilutes more than a third of the positive effect of being a member of the EU. Thereby, the results of the model evaluation confirm the idea that the European integration fosters production expansion within the region and promotes the inclusion of member countries into regional value chains.

However, a look at the Latin American states provides evidence that the existence of an RTA per se is insufficient when the aim is to expand value chains. For instance, unlike in the EU, political tensions and institutional asymmetries frequently prevent the Member States of Mercosur from reaping the benefits of the Common Market. Nevertheless, the initiatives like the development of transport and energy infrastructure are starting to improve the situation. Economic asymmetries are also typical to the Eurasian Economic Union. The fact that the EAEU is a young institution and that Russia is under economic sanctions makes it impossible to have accurate correlations. However, it can be derived from the statistics that there are visible trends for the deepening of trade relations within the Member States. The volume of internal trade in intermediate goods has been increasing since the establishment of the Union, while the share of non-energy components has been growing as well. Along with the policies of adaptation to the sanctions, the EAEU has gradually implemented new trade facilitation regulation and eliminated existing trade barriers. Further efforts in this direction are needed though as the EAEU still encounters reluctance of the Member States to effectively cooperate in certain spheres.

In conclusion, the provided statistics and evidence confirm the hypothesis that participation in RTAs facilitates the inclusion in global and regional value chains. However, the dynamics of GVCs and RVCs creation requires further consideration taking into account additional economic and political factors as the reduction in tariff rates is not sufficient enough in the absence of proper trade infrastructure (legal and logistic) and a strong political will.

ACKNOWLEDGEMENTS

Support from the research program at the School of World Economy and International Affairs of the National Research University – Higher School of Economics is gratefully acknowledged.

HIGHLIGHTS

Technologies advances lead GVC to become one of the major trends in world economy. Increase in number of RTAs stimulates companies' involvement in GVCs. Economic integration can be effective in GVC promotion even in case of economic asymmetries.

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