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Universidad del Zulia
Facultad Experimental de Ciencias
Departamento de Ciencias Humanas
Maracaibo - Venezuela

The Integration Processes Impact within the EAEU on the Russian Economy*

Shkiotov S.V.¹

¹FSBEI of Higher Education «Yaroslavl State Technical University», 150999,
Russia, Yaroslavl, Moscow prospect, 88
Shkiotov.S@YSTU.ac.ru

Markin M.I.²

²FSBEI of Higher Education «Yaroslavl State Technical University», 150999,
Russia, Yaroslavl, Moscow prospect, 88
Markin.M@YSTU.ac.ru

Ugryumova M.A.³

³FSBEI of Higher Education «Yaroslavl State Technical University», 150999,
Russia, Yaroslavl, Moscow prospect, 88
Ugryumova.M@YSTU.ac.ru

Mayorova M.A.⁴

⁴FSBEI of Higher Education «Yaroslavl State Technical University», 150999,
Russia, Yaroslavl, Moscow prospect, 88
Mayorova.M@YSTU.ac.ru

Abstract

The purpose of this paper is to assess the impact of integration processes within the EEU on the Russian economy using the methods of economic and mathematical modeling. As a result of the research, it was established that the hypotheses stated in the research in the longterm

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time interval were not confirmed. In conclusion, there is a strong feedback between the dynamics of foreign trade turnover in the EEU countries and the level of competitiveness of the Russian economy, as well as the quality of life of the population.

Keywords: National, Competitiveness, World, Economic, EAEU.

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El impacto de los procesos de integración dentro de la EAEU en la economía rusa

Resumen

El propósito de este documento es evaluar el impacto de los procesos de integración dentro de la EEU en la economía rusa utilizando los métodos de modelado económico y matemático. Como resultado de la investigación, se estableció que las hipótesis establecidas en la investigación en el intervalo de tiempo a largo plazo no fueron confirmadas. En conclusión, existe una fuerte retroalimentación entre la dinámica de la rotación del comercio exterior en los países EEU y el nivel de competitividad de la economía rusa, así como la calidad de vida de la población.

Palabras clave: Nacional, Competitividad, Mundial, Económica, EAEU.

1. INTRODUCTION

In 2015 the creation of the Eurasian Economic Union (EAEU) can be seen as the most significant economic event in the post-Soviet space after its collapse. The new integration association accounts for about 84% of the economic potential of the former USSR: the aggregate GDP

of the five countries with more than 183 million inhabitants exceeds \$1.8 trillion. OSINGTON (2006) the total trade turnover is about 750 billion dollars. Moreover, the creation of the EEU has finalized the borders of post-Soviet integration: Moldova, Georgia, and Ukraine have formed a block of conditional opponents, choosing in favor of European integration; Tajikistan - a possible reserve for the growth of the union; Azerbaijan, Turkmenistan, and Uzbekistan still maintain neutrality, balancing between the centers of power in the East (China) and the West (COLLINS, 2009).

Now, during the trade confrontation between the two largest economies of the world, the idea of a Greater Eurasian Partnership (GEP) is taking on a special significance: a key role in the creation of a transcontinental logistics hub between Beijing and Brussels of the EAEU is assigned to it. The problem is that the objective difficulties of institutionalization of the new integration association are accompanied by exogenous shocks associated with the slowdown in global economic growth and the unstable situation of the world's commodity markets. Moreover, Russia, as the largest economy of the integration association, on the one hand, bears all the economic costs of the Union's functioning, and on the other hand, it retransmits the challenges of structural disproportions of the economy, recession and reduction of real disposable incomes of the population (against the background of the lack of growth drivers) to the Union's economies (VINER, 1950).

In these circumstances, the question of the balance between the benefits and losses for the Russian economy from participation in the integration processes in the post-Soviet economic space remains open. Underestimating the imputed costs of integration and the lack of a

balanced economic justification for the creation of such an integration association in practice results not only in an increase in prices and tariffs for the population or re-export of prohibited products but often also in political confrontation between the leaders of the union states, leading to political trade and economic blackmail.

By now, economic science has accumulated a large amount of data and fundamental works that allow us to take a more sober look at the relationship between the benefits and costs of creating an integration association, to foresee and thus minimize the negative effects of its creation and functioning. On the one hand, there is a certain consensus in the economic literature - integration associations generate both positive and negative effects for the participating countries (GLAZYEV, 2019). On the other hand, if we talk about economic studies directly related to the assessment of the effects of integration with respect to the EEU, we can be surprised to note the fact that the latter is clearly politically biased.

Thus, a significant part of Western researchers considers the creation of the EEU in line with the ideas of restoring Moscow's hegemony in the post-Soviet space as an exclusively geopolitical and even post-imperialist project of the Kremlin. Russian theorists, in their turn, appealing to the ideas dating back to the Slavophiles (KOKHNO, 2019), proclaim the creation of a new socio-cultural world economic order based on the common historical experience of the Eurasian peoples (BUGAJSKI, 2004).

The objective economic challenges now facing the new

integration association, as well as the need to assess the integration processes within the EEU, and updates the topic of this study. The purpose of this paper is to assess the impact of integration processes within the EEU on the Russian economy. The study verifies a number of scientific hypotheses (LUCAS, 2014):

1) There should be a direct (statistically significant) relationship between the dynamics of foreign trade turnover of the EEU countries and the level of competitiveness of the Russian economy since the expansion of trade turnover has a positive impact on the level of competitiveness of the economy;

2) There should be a direct (statistically significant) relationship between the dynamics of foreign trade turnover of the EEU countries and the quality of life of the population since the expansion of trade turnover has a positive impact on the growth of welfare of the population, income and employment;

3) There should be a direct (statistically significant) relationship between the dynamics of foreign trade turnover and mutual trade of the EEU countries and labor productivity since the expansion of trade turnover has a positive impact on the dynamics of production in the country;

4) There should be a direct (statistically significant) relationship between the dynamics of foreign trade turnover and mutual trade of the EEU countries and the rates of economic growth since the expansion of trade turnover has a positive impact on net exports and GDP (ALLISON, 2008).

It is necessary to make an important methodological reservation - the paper studies the 8-year time interval from the beginning of the

functioning of the Customs Union of Russia, Belarus and Kazakhstan (in fact, it is valid from 01.07.2011) to the present time. This solves the problem of the lack of accumulated foreign trade statistics on the new integration union; the Customs Union is the institutional core of the EEU; the share of new members of the integration union - Armenia and Kyrgyzstan - is less than 1% and does not have a significant impact on the dynamics of trade turnover of the EEU (GROSS, 2018).

2. METHODOLOGY

The research period is 8 years, long-term, Research indicators:

- Global Competitiveness Index (CGI), in points;
- Human Development Index (HDI), index;
- Economic growth rates (GDP), in % (compared to the previous year);
- Labor productivity per employee, in thousands of US dollars/person.
- Foreign trade turnover of mutual trade within the framework of the EEU, in billions of US dollars;
- The total volume of trade within the EAEU, in billions of US dollars;

List of countries: Russia.

Correlation analysis is used to test the hypothesis. Pearson's correlation coefficient values are important for studies where the index

value is close to normal. It takes on a value between -1 and +1. Negative values indicate the presence of feedback between the indicators, while positive values indicate a direct relationship. If the value of the correlation coefficient is equal to 0, there is no relationship between the indicators. The conclusion about the presence or absence of correlation between the studied indicators can be made only after checking the significance of the correlation coefficient. This is due to the fact that the reliability of the correlation coefficient depends on the volume of the sample - the situation when the value of the correlation coefficient will be entirely related to random changes in the sample is not excluded. In order to check the significance of the correlation coefficient, a significance level of 5% was set for this study (TKACHUK, 2018).

The R-Studio software product was used to perform correlation analysis in the study.

Data for correlation analysis are presented in Table 1.

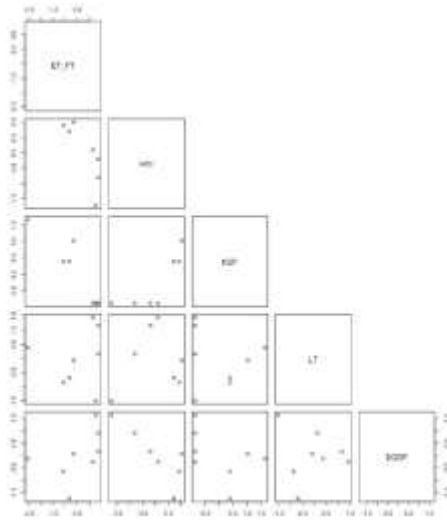
Table 1:

Years	2011	2012	2013	2014	2015	2016	2017	2018
Foreign trade turnover of foreign trade (amount of exports and imports),	907 231,2	934 586,0	932 960,8	868 696,6	579 382,5	509 372,7	634 193,8	753 525,4

billion dollars								
Foreign trade turnover of mutual trade (amount of exports and imports), billion dollars	126 149,9	135 633,1	128 892,0	116 942,5	91 269,9	85 387,5	108 524,1	119 993,9
CGI level, points	4.2	4.2	4.2	4.2	4.4	4.4	4.5	4.6
HDI, index	0.789	0.798	0.804	0.807	0.813	0.815	0.816	n/a

3. RESULTS

Таблица 1 – Исходные данные для проведения корреляционного анализа. Visual analysis of the data is presented in Figures 1-2.



Figures 1: Visual analysis of the data

Figure 1: Dispersion diagram between the External Turnover of the Foreign Trade within the EEU countries (ET_FT) and the level of competitiveness of the Russian economy (KSP), the Human Development Index (HDI), Labor Productivity (LP) and the Data for Gross Domestic Product (DGDP)

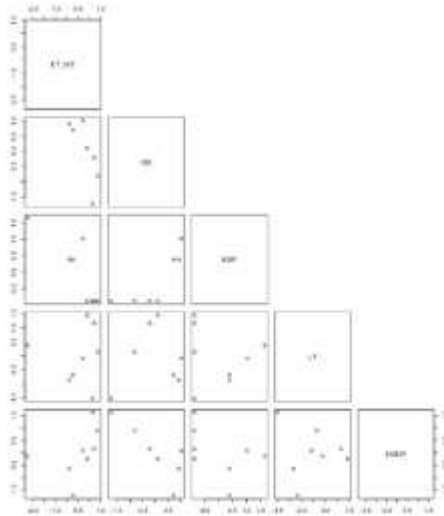


Figure 2: Dispersion diagram between the External Turnover of Mutual Trade

Figure 2: Dispersion diagram between the External Turnover of Mutual Trade within the EEU (ET_MT) and the level of competitiveness of the Russian economy (KSP), the Human Development Index (HDI), Labor Productivity (LP) and the Data for Gross Domestic Product (DGDP) Below are some examples of scripts that were used to calculate the correlation between the R language and R-Studio software product:

- External Turnover of the Foreign Trade within the EEU countries (ET_FT) and the quality of life of the population - the Human Development Index (HDI).

```
cor.test(ET_FT, HDI, na.rm=TRUE) Pearson's
product-moment correlation data: ET_FT and
HDI t = -3.1142, df = 5, p-value = 0.02642
```

alternative hypothesis: true correlation is not
equal to 0 95 percent confidence interval: -
0.9712407 -0.1525641 sample estimates:

cor

-0.8122976

• External Turnover of Mutual Trade within the EEU (ET_MT)
and the quality of life of the population - the Human Development Index
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estimates:

cor

-0.8122976

Since the analysis of scattering diagrams (Figures 1 and 2) did not
allow us to clearly identify the presence of any connection between the
studied parameters, so the next stage of the study was to build a
correlation matrix for the hypotheses under study, the results of the
analysis are presented in Table 2.

Table 2: Results of correlation analysis

	External trade turnover of foreign trade (sum of exports and imports)	External trade turnover of mutual trade (sum of export and import)
HDI, index	-0.8122976 (Strong feedback)	-0.7705047 (Strong feedback)
KSP level. Points	-0.9292503 (Strong feedback)	-0.8494337 (Strong feedback)
Labor productivity, thousands of US dollars/person	0.119111*	0.02922978 *
GDP growth rate, %	0.4571135*	0.4011953*

* Correlation coefficient is not significant at 5% significance level

4. CONCLUSIONS

1. The analysis of data on the Russian economy revealed the opposite dependencies to the hypotheses put forward in the study:

- There is a strong feedback between the dynamics of foreign trade turnover in the EEU countries and the level of competitiveness of the Russian economy, as well as the quality of life of the population, i.e. the expansion of trade turnover has a negative impact on the level of competitiveness of the economy and the quality of life in Russia;

- The same paradoxical dependence is observed in the case of the analysis of foreign trade turnover of mutual trade within the EEU.

2. Hypotheses that there is a direct (statistically significant) relationship between the dynamics of foreign trade turnover and mutual trade within the EEU and the growth rates of the Russian economy, as well as the dynamics of labor productivity in the country have not been confirmed by the Russian data.

It is necessary to make a reservation that the results of the research should be interpreted with extreme caution, on the one hand, due to the lack of sampling for correlation analysis, and on the other hand, due to exogenous shocks, the initial stage of the integration process within the EEU, and structural problems in the Russian economy. We hope that this work will stimulate a new wave of applied research on the effects of integration within the EEU.

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