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Russia's Intra-Industry Trade in Agricultural Products

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Abstract: This research studies specialization of Russia's foreign trade in agricultural products and foodstuffs in terms of inter-and intra-industry trade. The objective of this study is to consider the extent of intra-industry trade in Russia's foreign trade in agricultural products and to identify significant changes in trade patterns at the industry level over the transition period. Thereby in this study, researchers provide a systematic decomposition of Russia's foreign trade into 3 trade types: Inter-and intra-industry in horizontally and vertically differentiated products, over the period 1996-2012. The analysis is performed in relation to individual regions. The analysis is performed using the methodology proposed by Fontagne and Freudenberg and the method of Greenaway. Results show that the extent of Russia's intra-industry trade varies significantly depending on the geographical region. The lowest level of intra-industry trade is observed in relation to Africa and South America, the highest in relation to CIS countries. Intra-industry trade growth simultaneously with the process of trade liberalization occurred only in relation to the CIS countries. Therefore, the empirical results support recent trade theory which predicts, an increasing level of intra-industry trade with liberalization processes between neighboring countries with a similar level of economic development.

Key words: Agricultural products, inter-industry trade, vertical and horizontal intra-industry trade, empirical results, Russia

INTRODUCTION

The process of economic transformation and trade liberalization in Russia that started with the collapse of the Soviet Union continues to this day. Currently, Russia has the foreign trade surplus mainly based on the advantages of possessing natural resources (natural fuel and metals). The raw materials orientation of Russia's export overshadows the development of exports of other sectors, such as manufacturing and agriculture. Russia plays a significant role in the international market of agricultural products, as importer rather than as an exporter. Nevertheless from the point of view of food security and long-term development (taking into account the exhaustibility of fuel resources) agriculture is of great importance for Russian economy. Unfortunately from the beginning of the 90's, Russian agriculture has experienced a recession in all sectors.

The process of economic transformation is characterized, among other things by significant changes of food consumption, as well as foreign trade patterns. This study is focused on the changes in the patterns of Russian foreign trade in agricultural products and foodstuffs during the transitional period. Specifically, researchers aimed to investigate in detail the specifics of intra-and inter-industry trade. Intra-industry trade can be defined, as the existence of simultaneous export and import flows within industries. It can be either associated with a specialization along quality ranges or associated with a specialization in varieties (Amador and Cabral, 2009).

The concept of intra-industry trade was developed by Helpman and Krugman (1985), associating this phenomenon with factor endowments, product differentiation and increasing returns of scale. Afterwards, intra-industry trade has been divided by Falvey (1981) into 2 types: Horizontal and vertical.

Horizontal IIT refers to homogenous products with the same quality but with different characteristics while vertical IIT means products traded with different quality and price. Horizontal differentiation is more likely between countries with similar factor endowments while vertically differentiated goods occurs because of factor endowment differences across countries (Jambor, 2013). The analysis of intra-industry trade is important because it reflects the level and the nature of economic integration between countries. Having conducted the review of previous researches on the intra-industry trade in Russia, researchers found following results.

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Using the Aquino and Grubel-Lloyd indices, Algieri (2004) examined the developments in the trade specialization patterns at the national level in post-Soviet Russia. The analyzed period was from 1993-2002. The results of his researches showed that Russia exhibits mainly specialized intra-industry trade, a tendency that appears to have increased over time. Russia's exports highlights that exports are biased toward natural resources and at the same time the traded goods show a slight labour intensity and R&D intensity.

Gusev (2007) has found that the highest intensity level of intra-industry trade is characteristic of Russia's foreign trade exchange with the CIS countries and China. He also argues that despite the fact that the intensity of Russia's intra-industry trade with the CIS countries and China is the highest, compared to other countries, this factor under the period in question remains low. However, this study (as well as previous one) was carried out in relation to the whole foreign trade of Russia without focusing on agricultural products and foodstuffs. The analyzed period was from 1995-2005.

However, there are a very limited number of studies conducted in relation to Russian trade in agricultural products and foodstuffs. This study presents one such analysis.

MATERIALS AND METHODS

The objective of this study is to consider the extent of intra-industry trade in Russia's foreign trade in agricultural products and to identify significant changes in trade patterns at the industry level over the transition period.

Thereby in this study, researchers provide a systematic decomposition of Russia's foreign trade in agricultural products into 3 trade types: Inter-and intra-industry in horizontally and vertically differentiated products, over the period 1996-2012. There were selected 2 regions with highest share on import and 2 with the highest share on export in 2012 for analyses. The analysis is performed in relation to individual regions (European Union, Commonwealth of Independent States, Asia and South America, although the importance of Africa significantly increased in recent years).

Disaggregated Russian and worldwide trade data have been collected from the UN comtrade database. Researchers used 4-digit level data classified, according to the Harmonized System classification (HS). The classification includes about 200 commodity groups. The study adopts a range of methods for broader and more comprehensive analysis of the subject.

Researchers applied the Fontagne and Freudenberg (1997) methodology, as well as Greenaway *et al.* (1994)'s for the analysis of the bilateral trade with individual regions and countries. This methodology allows elementary trade flows to be broken down into 3 categories, according to similarity in unit values and trade overlap: Inter-industry trade (insignificant overlap between exports and imports); horizontal intra-industry trade (significant overlap and limited differences in unit values); vertical intra-industry trade (significant overlap and large differences in unit values). The results of these methods are compared.

Fontagne and Freudenberg Method: There is another method in the literature to distinguish inter-and intra-industry trade. Fontagne and Freudenberg (1997) categorized trade flows and computed the share of each category in total trade. They defined trade to be intra-industry when the value of the minority flow represents at least 10% of the majority flow. Formally:

$$\frac{\text{Min}\left(X_j, M_j\right)}{\text{Max}\left(X_j, M_j\right)} \geq 10\% \quad (1)$$

If the value of the minor flow is after 10%, trade is classified as inter-industry in nature. If the opposite is true, the FF index comes formally as:

$$FF_k^p = \frac{\Sigma_j\left(X_{jk}^p + M_{jk}^p\right)}{\Sigma_j\left(X_{jk}^u + M_{jk}^u\right)} \quad (2)$$

Where:

X and M = Export and import
p = Distinguishes intra-industry trade
j = No. of product groups
k = No. of trading partners (Wang *et al.*, 2010)

According to Fontagne and Freudenberg (1997) and Fontagne *et al.* (2006), the FF index tendentiously provides higher values compared to GL-type indices.

Horizontal and vertical intra-industry trade: Greenaway's Method: Intra-industry trade can take 2 forms: Horizontal (HIIT) and Vertical (VIIT). The latter considers the exchange of similar goods of different quality while the former comprises exchange of similar commodities differentiated by characteristics instead of quality (Algieri, 2004).

Abd-El-Rahman (1991) and Greenaway *et al.* (1994) argue that making such a distinction is important, as the determinants of each type of IIT differ: Vertical IIT is more likely to be driven by differences in endowments while

horizontal IIT is more likely to be driven by scale economies and imperfect competition. Several applied economists have demonstrated that most IIT is vertical (Aturupane *et al*., 1999; Kaitila, 1999; Blanes and Martin, 2000). As a result, it is usually assumed that the level of quality is positively associated with the intensity of capital used in production (Algieri, 2004).

The literature on intra-industry trade increasingly emphasizes the importance of differentiating between horizontal and vertical intra-industry trade. As far as, the GL index is given by the joint treatment of trade flows, researchers can not use it to separate horizontal and vertical intra-industry trade. Literature suggests several possibilities for solving this problem. According to the method of Greenaway *et al*. (1994), a product is horizontally differentiated if the unit value of export compared to the unit value of import lies within a certain range. Formally, this is expressed for bilateral trade of horizontally differentiated products as follows:

$$1 - a \leq \frac{UV_{ijt}^{X}}{UV_{ijt}^{M}} \leq 1 + a \quad (3)$$

Where:

UV = Unit Values
X and M = Exports and imports for goods i

The most of studies use a unit value dispersion of 15%, i.e., $\alpha = 0.15$ (Abd-El-Rahman, 1991; Greenaway *et al*., 1994; Aturupane *et al*., 1999; Blanes and Martin, 2000; Algieri, 2004)

It should be noted that the coefficient is initially applied to 5-digit SITC classification. It seems possible to apply this coefficient value for the calculations with the 4-digit HS classification, as it does not contradict the aims of the study and will not distort the results.

Thereby, horizontal intra-industry trade is defined when the Unit Value index (UV) was inside the range of ±15%. If this is not true, the method is talking about vertically differentiated products (Jambor, 2013).

Unit value indexes are considered as a proxy for prices, assuming that prices properly reflect quality differences. Thus, vertical IIT is defined as two-way trade of item whose per kilogram unit value of exports relative to its per kilogram unit value of imports falls outside a specific range of $\pm\alpha$.

RESULTS AND DISCUSSION

Before start analyzing intra-industry trade, it is necessary to say a few words about the current situation in Russia's foreign trade in agricultural products and food. Food and agricultural products amount about only 2% of Russian agricultural export. The share of agricultural products in Russian import is more significant and amounts to 14%. However in 2000's, there is the significant growth of foreign trade turnover due to the expansion of both imports and exports.

In the early 2000's, Russia became one of the major suppliers of wheat in the world market. Since, then Russia holds its position in this market. According to the food and agriculture organization in 2010, the value of wheat exported by Russian Federation was $2.069 billion that is 35.4% of total exports of the country and a 5th position in the world export of wheat. Besides, traditional items of Russia's food export are fish, sea products, alcoholic beverages, etc.

Briefly describing the territorial structure of Russian foreign trade in agricultural products, following can be said. At the end of the 90's most of the country's agri-food exports went to EU countries. However in the last years, the largest importers of Russian agricultural products and foodstuffs are Asian and CIS countries (25.3 and 36.6% of total agri-food exports, respectively). In terms of imports, EU countries are the largest suppliers of agricultural and food products to Russia throughout the whole period. Imports from EU amount more than a 3rd of total imports. Then, it is followed by countries of North and South Americas.

A more detailed development of trade relations with these partners will be described in the course of the study. According to the methodology proposed by Greenaway *et al*. (1994), researchers divided trade flows into 3 trade types: one-way, inter-and intra-industry trade.

Next, following the method adopted by Abd-El-Rahman (1991), Greenaway *et al*. (1994), Fontagne and Freudenberg (1997), researchers distinguish 3 trade types: Inter-industry, intra-industry trade in horizontally and vertically differentiated products.

As can be seen in Table 1, inter-industry trade dominates in Russian foreign trade in agricultural and food products. Intra-industry trade accounts for about a 3rd of all trade flows. The results for Russia show that intra-industry trade increased from 25.46% in 1996 to 40.5% in 2006 and decreased during the following years. Researchers can observe a growth of the share of HIIT relative to VIIT. Fluctuations in the level of intra-industry trade are primarily related to changes in the structure of exports, as well as changes in unit values of individual products. For better visibility, it will better to depict the results in Fig. 1.

Table 1: Evolution of intra-industry trade in Russian foreign trade in agricultural products and foodstuffs (as a percentage of total trade)

Variables	1996	1998	2000	2002	2004	2006	2008	2010	2012
Inter-industry	74.54	79.35	69.00	72.23	64.38	59.49	68.61	72.85	63.55
One-way trade	0.01	0.04	1.22	1.61	0.90	0.80	0.64	1.24	0.37
Intra-industry	25.46	20.65	31.00	27.77	35.62	40.50	31.39	27.14	36.45
Horizontal IIT	7.34	6.57	14.12	7.67	12.90	19.44	16.33	16.12	17.16
Vertical IIT	18.12	14.08	16.89	20.10	22.72	21.06	15.06	11.03	19.29

Table 2: Fontagne and Freudenberg index of intra-industry trade in relations to individual regions

Countries	1996	1998	2000	2002	2004	2006	2008	2010	2012
CIS	0.528	0.375	0.476	0.436	0.497	0.636	0.564	0.542	0.684
EU	0.478	0.152	0.606	0.365	0.197	0.437	0.724	0.550	0.161
Asia	0.366	0.239	0.296	0.282	0.345	0.344	0.224	0.183	0.210
North America	0.019	0.055	0.044	0.043	0.110	0.061	0.058	0.077	0.074
South America	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Africa	0.015	0.001	0.000	0.002	0.000	0.001	0.002	0.002	0.012

Table 3: Territorial structure of the Russian agricultural export (%)

Countries	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
North America	4.5	4.1	4.5	5.4	1.9	2.4	1.3	1.1	1.3	0.9	0.9	0.9	0.8	0.6	1.0	0.6	0.4
CIS	28.7	26.1	26.7	32.8	32.1	32.7	25.1	35.1	43.0	40.5	41.4	35.1	41.7	31.2	23.3	20.6	27.0
EU	25.6	20.7	18.8	16.1	18.7	15.9	21.4	13.0	12.3	10.5	12.4	10.1	10.8	7.7	10.3	11.7	10.3
Asia	25.4	30.6	37.7	35.5	35.5	35.3	31.2	33.6	25.5	27.0	28.6	28.5	29.8	42.9	45.6	41.5	41.3
South America	0.3	0.4	0.1	0.1	0.0	0.1	0.1	0.5	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.4	0.3
Africa	0.4	0.6	0.8	0.6	3.3	4.0	13.7	7.2	10.2	14.4	10.1	20.1	12.0	13.3	14.8	18.5	15.2
Others	15.0	17.6	11.4	9.5	8.6	9.6	7.2	9.5	7.6	6.6	6.6	5.3	4.7	3.9	4.8	6.7	5.5

UN Commodity Trade Statistics Database, researcher's calculations (2013)

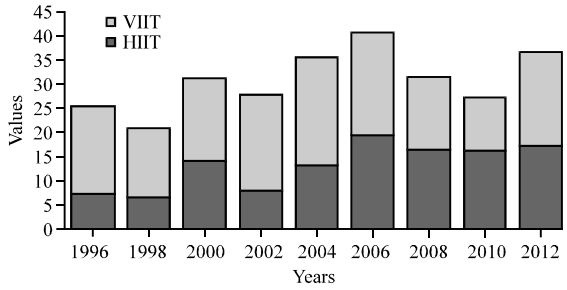

Fig. 1: The intra-industry trade in Russian foreign trade in agricultural products and foodstuffs with the world rest (as a percentage of total trade); UN Commodity Trade Statistics Database, researchers calculations (2013)

Table 1 and Fig. 1 display the evolution of the share of IIT in total Russian trade flows in agricultural products and foodstuffs. In Russian foreign trade in agricultural and food inter-industry trade dominates. Vertical IIT is greater than horizontal IIT in Russia over the analyzed period. Mainly, fluctuations in the level of intra-industry trade due to variations of horizontal intra-industry trade while vertical type of intra-industry trade is quite stable.

Fontagne and Freudenberg index (FF) showed a significant and growing share of intra-industry trade with the CIS countries. The largest fluctuations were observed in relation to the EU countries. For the countries of South America and Africa, the index is close to zero.

From 1996-2012, there was an increase of the share of IIT in Russian international trade from 52.8-68.4%, according to the FF in relation to CIS countries. Next, researchers consider the issue of intra-industry trade by individual regions in more detail (Table 2).

Individual regions: Before analyzing Russia's intra-industry trade with individual regions, researchers must say a few words in general about the development of trade in agricultural products and foodstuffs in relation to these regions.

As can be seen in Table 3, at the end of 90's, most of Russian agricultural exports went to EU countries. However by 2010, CIS country had become the largest partner of Russia in terms of exports. They are followed by Asian and African countries.

The territorial structure of exports has changed significantly during the period. If at the end of the 90's most of the country's agri-food exports went to EU countries in the last years the largest importers of Russian agricultural products and foodstuffs are Asian and CIS countries. However, it should be noted that absolute value of export flows to EU was increasing during the whole period (in USD in current prices). Its share declined due to the growth of exports to other regions.

The share of export to Africa in the total export value has increased extremely from 2.2% in 1998 to 20.3% in 2010. This was due to the growth of exports of wheat and barley, mainly to Egypt and some other African countries.

Table 4: Territorial structure of the Russian agricultural import (%)

Countries	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
North America	10.7	12.5	12.6	11.1	11.0	11.8	8.1	6.4	6.3	6.0	6.5	6.5	8.1	7.5	5.3	5.9	7.3
CIS	30.3	20.6	15.8	17.7	23.9	16.9	12.4	16.4	19.2	16.8	11.3	10.9	10.8	10.0	10.1	8.4	12.6
EU	26.2	30.1	28.4	28.2	26.4	27.5	29.7	27.5	27.1	24.9	27.9	28.7	27.8	26.9	29.9	30.6	28.8
Asia	11.3	11.2	12.5	12.6	12.2	11.0	14.1	14.0	13.4	14.4	15.3	15.8	16.5	17.0	17.5	18.2	16.7
South America	3.4	6.2	8.6	12.7	9.8	14.3	17.6	17.7	16.7	21.6	23.4	23.1	21.5	22.0	20.2	19.1	17.1
Africa	1.5	1.5	2.0	2.3	3.0	3.2	3.9	3.9	3.7	3.5	3.6	3.9	3.7	4.2	4.1	4.4	4.0
Others	16.5	18.0	20.2	15.5	13.7	15.4	14.1	14.0	13.6	12.7	11.9	11.1	11.7	12.4	12.9	13.4	13.6

Table 5: Evolution of intra-industry trade in Russian foreign trade in agricultural products and foodstuffs in relation to CIS countries (as a percentage of total trade)

Variables	1996	1998	2000	2002	2004	2006	2008	2010	2012
Inter-industry	47.22	62.52	52.36	56.37	50.28	36.44	43.55	45.81	31.64
One-way trade	0.35	1.85	0.29	2.19	3.80	0.56	0.53	2.88	0.24
Intra-industry	52.78	37.48	47.64	43.64	49.71	63.56	56.45	54.18	68.36
Horizontal IIT	46.71	27.18	30.97	21.63	21.44	34.78	24.27	29.69	34.48
Vertical IIT	6.08	10.30	16.67	22.01	28.28	28.78	32.18	24.49	33.89

UN Commodity Trade Statistics Database, researchher's calculations (2013)

If we compare the growth rate of Russian agricultural exports with the world growth, we can see that average growth of the world agricultural export is only 8% and 2 times lower than in Russia. Next we consider agricultural imports of the Russian Federation by regions. The largest supplier of food in Russia is the EU.

During the analyzed period, there were no significant changes in the structure of Russian agricultural import. Agricultural and food imports from EU are still more than a 3rd of total imports. The share of Asia countries in the total Russian agri-food import is slowly increasing.

During the analyzed period, the largest increase in the value of Russian agricultural import was observed in relation to African countries (just as in the case of export), the lowest-in relation to CIS countries.

According to the calculation of geometric means of chain indexes, the highest import growth rate was observed in relation to the African countries, the lowest-in relation to CIS and other countries. During the analyzed period, there are also some fluctuations of import values due to government policies, tariff and quota rates, import restrictions for sanitary reasons and other factors. As compared with the world agricultural imports growth rate, average growth of the Russia's agricultural import is slightly higher (10% in Russia, 8% global rate). During the period 1999-2010, the average export growth was higher than average import growth (Table 4).

CIS countries: CIS countries are important trading partners of Russia in terms of both exports and imports. Economic relations between Russia and these countries evolved over time of USSR. These facts, as well as their geographical location determine their significant share in Russian foreign trade. CIS country had become the largest partner of Russia in terms of exports. For example in 2010, export to CIS countries accounted 36.6% of Russia's agricultural exports and 11.3% of agricultural imports.

As we can see in Table 5, intra-industry trade prevails in relation to this region. The share of one-way trade in the structure of Russian trade with CIS countries is extremely low.

In order to illustrate the situation, let us give several examples of the most important items included in the trade flows of the horizontally and vertically differentiated commodities.

In 2012, the following items were classified, as horizontal IIT: Meat and edible offal of the poultry, fresh, chilled or frozen; chocolate and other food preparations containing cocoa; bread, pastry, cakes, biscuits and other bakers wares whether or not containing cocoa. Examples of vertical IIT are milk and cream, concentrated or containing added sugar or other sweetening matter; cheese and curd; undenatured ethyl alcohol of an alcoholic strength by volume of <80% vol., etc.

The share of inter-industry trade is declining; the share of intra-industry trade is increasing. Thus at the beginning of the period, horizontal type of intra-industry trade was dominated but by the end of the period the levels of horizontal and vertical trade equalized.

Besides the geographical location, Russia and the CIS countries share similar processes of economic transformation and liberalization, the transition from a planned to a market economy are still ongoing since the collapse of the Soviet Union. This determines the similar level of agricultural production development, similar standards of living, diet patterns (which determine the demand for food products), etc.

Asian countries: Asian countries are also important trade partners for Russian Federation in term of trade in agricultural products and foodstuffs. Intra-industry trade,

Table 6: Evolution of intra-industry trade in Russian foreign trade in agricultural products and foodstuffs in relation to Asian countries (as a percentage of total trade)

Variables	1996	1998	2000	2002	2004	2006	2008	2010	2012
Inter-industry	63.40	76.07	70.44	71.79	65.47	65.61	77.60	81.69	78.97
One-way trade	0.77	1.22	9.43	2.75	1.19	0.66	1.79	11.29	0.65
Intra-industry	36.59	23.92	29.56	28.21	34.53	34.39	22.40	18.30	21.04
Horizontal IIT	23.86	4.67	16.73	16.04	9.96	19.97	11.49	9.56	8.80
Vertical IIT	12.73	19.25	12.83	12.16	24.57	14.42	10.90	8.75	12.24

Table 7: Evolution of intra-industry trade in Russian foreign trade in agricultural products and foodstuffs in relation to European Union (as a percentage of total trade)

Variables	1996	1998	2000	2002	2004	2006	2008	2010	2012
Inter-industry	84.35	93.37	86.71	86.18	93.18	92.66	93.50	92.90	94.96
One-way trade	32.74	43.47	21.93	37.84	34.57	16.83	8.98	12.89	31.31
Intra-industry	15.65	6.63	13.29	13.83	6.82	7.35	6.50	7.10	5.04
Horizontal IIT	0.47	2.68	0.46	0.31	0.14	0.22	1.65	3.19	1.86
Vertical IIT	15.19	3.94	12.83	13.51	6.68	7.13	4.84	3.90	3.18

Table 8: Evolution of intra-industry trade in Russian foreign trade in agricultural products and foodstuffs in relation to the countries of South America (as a percentage of total trade)

Variables	1996	1998	2000	2002	2004	2006	2008	2010	2012
Inter-industry	99.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9
One-way trade	94.4	100.0	99.9	92.8	93.6	95.4	61.5	94.7	93.7
Intra-industry	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Horizontal IIT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vertical IIT	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UN Commodity Trade Statistics Database, researcher's calculations (2013)

measured with the Fontagne and Freudenberg Method, accounts for around 36.59% of total trade in 1996 and 21.04% in 2012 (Table 6).

There was observed a reduction in the level of intra-industry trade. The decrease mostly resulted from the reduction of trade in horizontally differentiated goods (i.e., homogenous products with the same quality but with different characteristics). These trends are caused by changes in the trade patterns in relation to individual commodity groups, such as reduction in imports of milk and milk products from Asian countries in recent years compared with the end of the 90's, etc.

European Union: In the late 90's, exports to the EU amounted to more than a 3rd of the total agricultural exports of the country. Over time, its share has declined from 44.2% of the total agricultural exports in 1998 to 11.9% in 2009. As regards the import from EU, it is still more than a 3rd (30-35%) of total import of agricultural products.

In Table 7, we can see a tendency to decrease the share of intra-industry trade in the structure of Russia's foreign trade with EU countries. During the analyzed period it declined from 15.65-5.04% of the total trade flows.

Intra-industry trade reduction corresponds to vertically differentiated products while the share of HIIT has remained remarkably stable over this period. These changes were caused, for example by the growth of imports of such products, as prepared or preserved fish and caviar, fish fillets and other fish meat.

Countries of the South America: At the moment South America plays a significant role in Russia's international agricultural trade only in terms of imports. Export of Russian agricultural products in this region is negligible.

In relation to South America inter-industry trade dominates throughout the whole analyzed period, just as it is observed in the cases with other geographically distant areas. The share of intra-industry trade is negligible, close to zero (Table 8).

CONCLUSION

The analysis presented in this study provides a systematic decomposition of Russia's foreign trade in agricultural products into 3 trade types: Inter-industry, intra-industry in horizontally and vertically differentiated products, over the period 1996-2012.

The analysis is performed in relation to individual regions European Union, Commonwealth of Independent States, Asia and South America. Results show that the extent of intra-industry trade in agricultural products in Russia varies significantly depending on the geographical region. The lowest level of intra-industry trade is observed in relation to and South America, the highest-in relation to CIS countries.

Researchers, also found out that in the case of Russia's foreign trade in agricultural products increase in intra-industry trade simultaneously with the process of trade liberalization occurred only in relation to the CIS countries.

The inter-industry trade is the dominant type in the Russian trade in agricultural products and foodstuffs in relation to all considered countries. On the basis of this analysis, researchers can assume that geographic distance is the main factor determining the intensity of intra-industry trade in agricultural products between the 2 countries. Researchers can, also suppose that upon foreign trade liberalization the intra-industry trade intensity growth in countries with a similar level of economic development.

These results are consistent with existing literature at the point that the higher the degree of integration among countries and the low in trade barriers, the higher its associated IIT index (Fontagne and Freudenberg, 1997; Brulhart, 1999; Lovely and Nelson, 2002; Brulhart and Elliott, 2002; Diaz-Mora, 2002).

Results also confirm Gusev (2007)'s assertion about the highest intensity level of intra-industry trade is characteristic of Russia's foreign trade exchange with the CIS countries. In the coming years, Russia's accession to the WTO will increase the level of its integration into the world trading system. Therefore, it is reasonable to assume that changes in the level of intra-industry trade will be more significant.

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