Foreign trade trends in the Hungarian-Romanian turnover of agricultural products

Miklós VÁSÁRY*

Abstract

The accession to the European Union (EU) has brought a lot of advantages for all the new member states (NMS). The general and wide range implementation of economic integration gave the hope of economic prosperity and macroeconomic stability for all the new member states. In the case of foreign trade of agricultural products the possibility of expansion has opened after EU integration. The chance to build and stabilize new trading relations was especially important for the small countries with an open economy.
In general, it can be concluded from the analysis of EU membership that the trade among new member countries has substantially expanded as a result of increasing trading activities in relation to member states which integrated into the EU in 2004 and also due to the elimination of former trading barriers and a growing common internal market. Starting from this, the examination of trading of goods between particular countries is also justified. The important aspects in considering the possible solutions for the consequences of the economic crisis in 2008 are: the strengthening of regional markets, the utilization of geographical conditions and the increasing role of comparative advantages. The present study details how the Hungarian-Romanian agricultural trade has changed in the frames of bilateral trading activities due to the second wave of Eastern expansion and what tendencies can be observed. In regards to trading of goods, it is reviewed which products show concentration and which products can be characterized with comparative advantages.

Keywords: agricultural foreign trade, Hungary, Romania, EU, export specialization, comparative advantage

JEL Classification: F14, Q17

* Miklós Vásáry is Ph.D. at the Szent István University, Faculty of Economics and Social Sciences, Hungary; e-mail: vasary.miklos@gtk.szie.hu.

1. Introduction

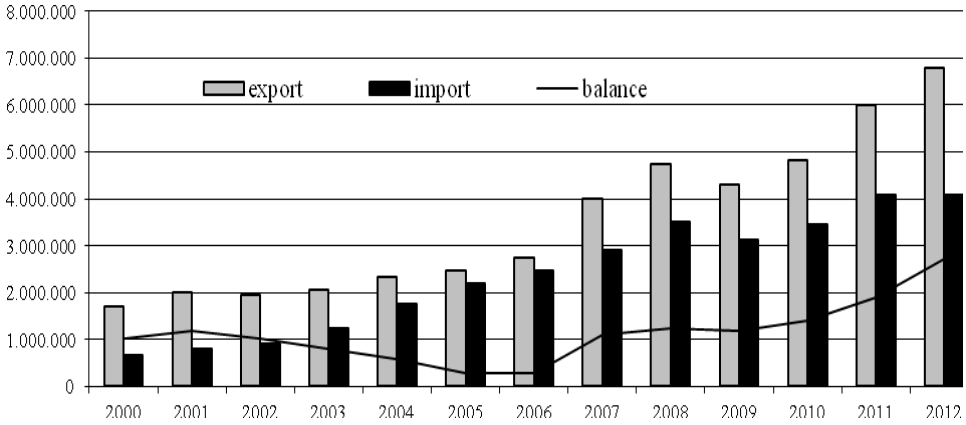
The enlargement of the European Union (EU) in 2004 has resulted in the significant change of the foreign trade of agricultural products. Besides the impact of the common internal market, the measures applied earlier – basically in relation to each other - to protect and support the markets were eliminated in the newly accessed member states. Together with this, the previously used disproportionate national supports – which could have ensured relative competitive advantages in relation to some markets - were cancelled due to the membership. Thus, integration has greatly affected the trading of goods between member states, which has been basically restructured. Substantial value and volume growth could be observed during this process.

Although the trade agreements concluded with the EU has permanently enhanced the possibilities of entering the markets of old member states (OMS), the Hungarian agri-export could not but moderately utilize the possibilities of the common market.[1] The volume and value of export has increased but specifically, reflected on one ton of goods, at a constantly decreasing pace. It has resulted in the deterioration of the trading balance in connection with some products and markets (Baksa, 2011).

In the early 2000s, due to the EU-preferential trade, agriculture has practically become a coequal part of the internal market and thus an internal market competition. The value of agri-export in the relation between Hungary and the whole European Union (EU27) increased by almost 40%, to 2,4 billion euro by 2005, compared to the 1,7 billion euro in 2000. Further favourable processes resulted that this amount was 6,7 billion euro in 2012. The import grew to 2,1 billion euro in five years, from the 0,6 billion euro of the millenium and it exceeded 4,0 billion euro by 2011 (RIAE, 2013).

[1] In regard to the improvement of Hungarian-EU relations, in the frame of the historical events in 1989, the EU provided considerable agro-trade preferences by expanding the General System of Preferences (GSP). Then, as a result of the talks started at the Dublin summit in June 1991 in connection with the associated membership, the European Treaty was signed (together with Czechoslovakia and Poland) in Brussels on December 16, 1991. The second amendment to this included the arrangement enhancing liberalization process prior to the accession. The mechanism of favours were extended in this framework: (a) system of customs-free quotes – "four zero solution", (b) a customs-free option without quantity restrictions – "double zero solution", and (c) tools of traditional customs quotes. The degree of preferences considerably increased due to the measurements, the quantity limits decreased, thus afterwards the preferential agricultural trade was in fact an equal part of internal market, the market competition (Halmai, 2007).

Figure 1. Hungarian agricultural foreign trade with EU27 countries (thousand €, at current prices)



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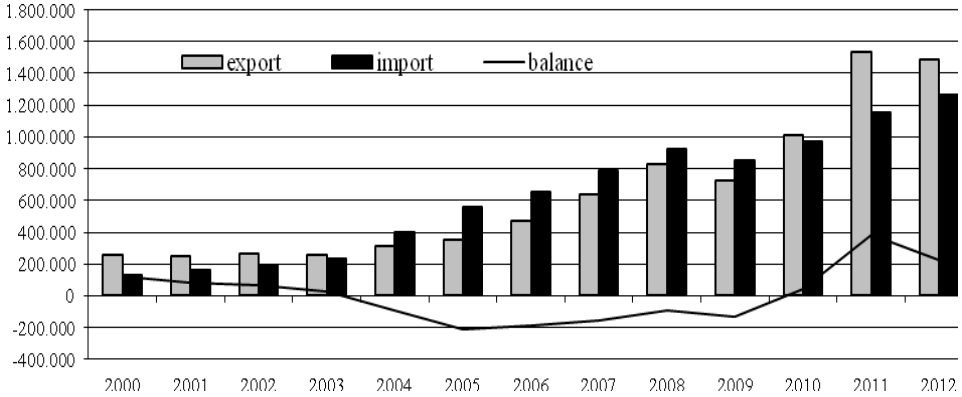
Besides the trends on the markets of OMS, the internal market regulations – fully liberalized in trading terms - and elimination of restrictions after May 1, 2004 induced strong changes in regard to new member states (NMS – Central and Eastern European countries which accessed in 2004 together with Hungary) due to the lifting of trading restrictions which had been applied earlier with them.

Compared to the markets of the old member states, the turnover of new member states among each other has shown proportionally much higher expansion. In the case of markets which had been protected with substantial customs duties until 2004, the Hungarian export values increased only gradually after the integration. In this process, the role of Visegrad countries (V4)[2] was determinant. 45% of the Hungarian export with NMS went here, while 80% of the EU12 import came from Slovakia, the Czech Republic and Poland. In contrary to this, Romania and Bulgaria have opened new dimensions in foreign trade activities, and thus the total value of export increased by 134%, while the import grew by 115% and therefore the balance value tripled (Baksa, 2011).

[2] The Visegrad Cooperation (Visegrad countries or V4) is the regional organization of the Czech Republic, Poland, Hungary and Slovakia. The aim of cooperation is the common representation of economic, diplomatic and political interests of these Central-European countries, harmonization of their possible actions in relation to EU with special regard to common agricultural policy, structural funds, common foreign and defence policy, as well as in Schengen system. The V3 group was formed without the Hungarian party.

Figure 2. Hungarian agricultural foreign trade with V4 countries (thousand €, at current prices)



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Following the accession, position losses and drastic balance deterioration could be observed in V4 relations from Hungarian aspects. The Hungarian balance surplus can still be detected in terms of value, due primarily to the expansion of grain market – thanks to the changing conditions of intervention conditions. (Takács-György et al 2012, Takács et al. 2009) As regards the structure (owing to the relatively low ratio of finished products) and in some cases, the value, there are still negative tendencies on the grain market.

The development of trade relations has been discussed by a number of authors. Out of among them, the works of, for example, Fertő (2003, Fertő et al. (2005), Baráth et al. (2010), Kiss (2010) or Jámbor (2011) can be highlighted. They analyse the general features of competitiveness between Hungary and EU15. These works examine the Hungarian trading relations basically from the aspect of EU convergence and successes on the OMS markets perspectives. In the case of these authors, the profound theoretical description and practical implementation of the analysing methods should be underlined.

Recently, works by Bartosova et al. (2008), Bojnec et al. (2009), Savtos et al. (2010), Bojnec et al. (2012), Rajcaniova (2012), Bielik et al. (2012), Qineti et al. (2012) have appeared in the international references. They examine the trading conditions of the new member states with special regard to Visegrad Countries. Out of among Hungarian authors, Jámbor et al in 2012 and Jámbor in 2013 examined the narrow Visegrad relation in their papers. Their methodology is based on a general approach and concentrates on the main values of the examined relations. In a technical sense, some analyses performed at the sectorial level can also be found in the Hungarian special literature. Such is for example the PhD dissertation of Poór in 2010, or the article of Mészáros et al. in 2011 which examines the EU context of beef trade.

On the basis of the information about conditions and the varied work of the above authors, the question is how the agri-trade process has changed within the specific relation between countries in the course of EU membership? It seems to be reasonable that in the case of Romania – which accessed the EU on January 1, 2007 – only the pure inter-country processes are analysed in order to moderate the „block effect" emerging in case of country groups. Exploring the impacts of development of integration, it is useful for both countries and it also helps to evaluate the related integration and special policy processes. It is a specific feature of the research, that the relation of two countries with a common border of 476 kilometres is reviewed. These countries have traditionally strong market relations with each other due to a lot of common historical and cultural moments. It provides a proper basis for realizing efficient utilization of cooperation within the European Union.

The research also covers the trends of agri-trade positions between these two countries. What are the obvious special features, basically what are the characteristics of the bilateral agri-trade between the two countries and in which cases can the comparative advantages be confirmed?

2. Material and method

The basis of research was provided by the data of bilateral trading processes available from 2000 until 2012[3]. Romania accessed the EU only in 2007 but since then enough information has been collected in order to draw profound conclusions. In some cases, the four-digit and two-digit product groups of combined classification[4] have also been utilized. These come from the database of the Research Institute of Agricultural Economics and the Eurostat. The Research Institute of Agricultural Economics (RIAE) uses the foreign trade data of the Hungarian Statistical Office. However, since according to the methodology and records of the Statistical Office, some product groups, e.g. animal and crop fats, oils or raw leather, do not belong to the agricultural products but to the raw materials, the adjustment is justified. After this

[3] The database was summarized by the Research Institute of Agricultural Economics on the basis of the data of Central Statistical Office.

[4] The Standard International Trade Classification is a product classification of the United Nations and used for external trade statistics (export and import values and volumes of goods). In cooperation with Governments and with the assistance of expert consultants, the United Nations Secretariat drew up the 1950 edition of the United Nations Standard International Trade Classification (referred to below as the "original" SITC). By 1960, many countries were compiling international merchandise trade data according to the original SITC or national classifications correlated to it and major international organizations had adopted SITC as a basis for the reporting of international trade statistics. SITC is allowing for international comparisons of commodities and manufactured goods. (UN, 2006)

supplement, the basis of examination was formed by the values of trade concerning agricultural raw materials, food industry products and beverages belonging to the whole agricultural sector.

It has become clear during the research, that, in general, a lot of difficulties and special conditions can affect the uniformity and reliability of data due to the characteristics of the database. Out of these, the following should be highlighted:

- Following the EU integration, in case of import, the goods coming from countries out of EU appear as goods from within the EU due to their crossing of the EU border and the seat position of an importing corporation in the EU.
- In case of export, entry and exit summary, customs declaration should be filled only in case of trade outside the EU, thus the control of the actual turnover within EU is not possible on the basis of customs declaration.[5]
- The series of VAT frauds within the EU has a significant distorting impact, because the effect of fictitious turnovers within the Union is very uncertain in administration and, consequently, in statistics.[6]
- Moreover, the black or illegal trade can be added to the above because it has a strong impact on some special product groups.[7] But the avoiding trade should also be noted here, because it goes legally at the union level, but it does not appear in the statistical reports [8] of the individual member states.

In these cases, the correlations can be determined multiple delineation.

[5] It should be noted that the paper which serves to follow the movement of goods is called accompanying document in the trade of excise goods. It had been used only in internal trade earlier, but following the EU-accession, the goods are accompanied by this, too, in case of excise goods trade between member states, because the value added tax and the excise duty can be recovered on the basis of this. (EUVONAL, 2012)

[6] With regard to the examined countries, by the end of the period, the VAT rates were converging, thus it increased from 19% to 24% in 2010 in Romania, while from 20% to 25% in 2009 in Hungary and to 27% from 2012. (EUROSTAT, 2012b) It should be noted that the tax wedge is more significant at preferential tax rates – which also concern some food products. In Romania the tax rate is 9% after the lowest 5% category, while in Hungary it is 18%. The sales tax which corresponded to the Danish and Swedish VAT level – the highest in the EU - in 2011 and exceeded it in 2012, heavily attracted those who wanted to cheat with agricultural raw materials, e.g. meat, grain or processed products, like for example coffee.

[7] In the frames of black trade in relation to the examined two countries, it can be concluded on the basis of abuses uncovered by the National Tax and Customs Administration of Hungary that mostly the cereals, vegetables, fruits and tobacco products are traded illegally.

[8] It is a difference in the reports of member states that data should be given above different turnover values in each country. In the case of Hungary it is 100 million HUF annual turnovers.

The export-import balance, which clearly expresses the difference between the export and import of the country.

$$B_{E/I} = x_{ij} - m_{ij} \quad (1)$$

Where *i* is the given country, *j* is the product in question, *x* is export, *m* is import, x_{ij}, is the sum of export value of the given country, and m_{ij} is the sum of the similar values of import, $B_{E/I}$ gives the sum of balance, x_{ij}, is the sum of export value of the given country, and m_{ij} is the sum of the similar values of import.

The specific ratio of goods trade in each relation can be determined by the following indicator.

$$SV_{E/I} = \frac{V_{E/I}}{Q_{E/I}} \quad (2)$$

Where $SV_{E/I}$ gives the specific value, $V_{E/I}$, is the total of export or import value in trade, $Q_{E/I}$, is the quantity of export or import in the trade.

The indicator quantifying the export-import ratio can also be applied. The ratio is the simplest export specification index which correlates the export of the countries to their import.

$$R_{E/I} = \frac{x_{ij}}{m_{ij}} \quad (3)$$

Where *i* is the given country, *j* is the product in question, *x* is export, *m* is import, , x_{ij}, is the total of export items, currently the sum of export values of the given country, while m_{ij} gives the sum of similar values of import, $R_{E/I}$ is the value of index.

A generally approved method of analysing bilateral trading activity is the use of foreign trade specification index (SI)[9]. The index relates foreign trade balance to the value of the total foreign trade. The result of the index is between -1 and +1, where +1 indicates strong competitiveness. Due to the structure of the index, the more significant is the ratio of export, the higher is the value of the index, approaching +1, and vice versa, the less considerable is the import, the lower is the value of index, nearing -1.The Iapadre trade specialization index

[9]The indicator can be described as follows: $SI = z_{ij} = (\frac{x_{ij}}{m_{ij}} - 1)/(\frac{x_{ij}}{m_{ij}} + 1) = (x_{ij} - m_{ij})/(x_{ij} + m_{ij})$ Where *i* is the given country, *j* is the given product, *x* is export, *m* is import, x_{ij} is the total of export items, currently the sum of export values of the given country, while m_{ij} gives the sum of similar values of import, z_{ij} that is SI value gives the nominalised product-level trading balance.

(TS_{ij}) – which works according to the same principle - can be derived from this. It can also be regarded as a comparative advantage index (RCA). (Iapadre, 2001) The indicator quantifies the deviation of product-level nominalized foreign trade balance from the value of the total foreign trade.

$$TS_{ij} = \frac{x_{ij} - m_{ij}}{x_{ij} + m_{ij}} - \frac{\sum_{i=1}^{n} x_{ij} - \sum_{i=1}^{n} m_{ij}}{\sum_{i=1}^{n} x_{ij} + \sum_{i=1}^{n} m_{ij}} = z_{ij} - Z_{ij} \qquad (4)$$

Where *i* is the given country, *j* is the given product, *x* is export, *m* is import, x_{ij}, indicates the values of export items, m_{ij} is for the sum of import values, $\sum_{i=1}^{n} x_{ij}$ the value of total export, $\sum_{i=1}^{n} m_{ij}$ is the value of total import in case of a given country. Following the simplification of the equation it can be concluded, that the value of z_{ij} that is SI value gives the nominalized product-level trading balance, while the Z_{ij} value is the index of total agricultural goods turnover. A number of external factors, however, can significantly distort the value of the index, therefore - according to Lafay (1992) – it must be weighted by the index of the total agricultural goods turnover. Thus, we got the value of each product category weighted with the value of total foreign trade that is the value of contribution to the trade balance: cb_{ij}. indicator of contribution to the trade balance (cb): $cb_{ij} = \frac{x_{ij} - m_{ij}}{\sum_{i=1}^{n} x_{ij} + m_{ij}} - \frac{x_{ij} + m_{ij}}{\sum_{i=1}^{n} x_{ij} + m_{ij}} \frac{\sum_{i=1}^{n} x_{ij} - m_{ij}}{\sum_{i=1}^{n} x_{ij} + m_{ij}}$ (5)

In addition to the above, there are a lot of indices and evaluations concerning the quantification of comparative advantages. One of them is connected to Béla Balassa, who can be regarded as the pioneer of measuring comparative advantages. During the last decades, a lot of versions of the index have been developed, but in the present paper the original formula is used for the examination of competitiveness in connection with the trading of goods with Romania. Béla Balassa suggested to the use of the following index for measuring the relative comparative advantages:

$$B = \frac{x_{ij} / \sum_i x_{ij}}{\sum_j x_{ij} / \sum_i \sum_j x_{ij}} = \frac{x_{ij} / \sum_j x_{ij}}{\sum_i x_{ij} / \sum_i \sum_j x_{ij}} \qquad (6)$$

where *x* indicates the export, *i* is for the product group, *j* is the examined country, and, subsequently, x_{ij} means the product-level, while $\sum_i x_{ij}$ is the total

export of the given country, $\sum_j x_{ij}$ indicates the product-level export, and $\sum_i \sum_j x_{ij}$ is the total export of the world or a country group[10] (Balassa, 1965).

The B index starts from the point that the export structure is equally sensitive to the relative costs and the differences between non-price factors. (Fertő, 2003) Therefore, the comparative advantages are expected to determine the structure of export.

The index was criticised from many aspects, see for example Fertő 2003, Fertő et al. (2005), or Jámbor et al. (2012). The critical approach can be the consequence of the application of the index widely, in international environment, where it served the comparison of very heterogeneous features and market regulators. In our opinion, in the case of EU27 countries, (1) the geographical proximity, (2) similar macro-economic conditions, and (3) the nearly identical or simultaneously concluded trade policy agreements in more countries show that the predictability and applicability of the index can be regarded clearly sound.

The numerator and denominator of Balassa index is between 0 and 1. [11] Accordingly, the value of the index can be within the [0;∞[interval..[12] If B>1, the given country has a comparative advantage in the case of the examined product, if the value of the index is between 0 and 1, we speak about a comparative disadvantage. The index is asymmetric in its structure and, with regard to its leaning deviation, it is leaning in the positive range. Dalrum et al. (1988) tried to solve this problem by introducing the revealed symmetric comparative advantage (RSCA) index.

$$RSCA = \frac{(B+1)}{(B-1)} \qquad (7)$$

[10] In the original paper of Balassa, the *i* index in the original formula indicated the combined export of 74 industrial products, while *j* index in the original formula was for the sum of 11 developed industrial countries. In order to moderate the trade policy distortions, the B-index was originally limited only to the examination of industrial products. B-index starts from the fact that the export structure is sensitive both to relative costs as well as to the differences in non-price factors. Thus the comparative advantages are expected to determine the structure of export (Fertő, 2003).

[11] If $x_{ij} / \sum_j x_{ij} = 1$ we speak about monopoly, the product is supplied only by the examined country.

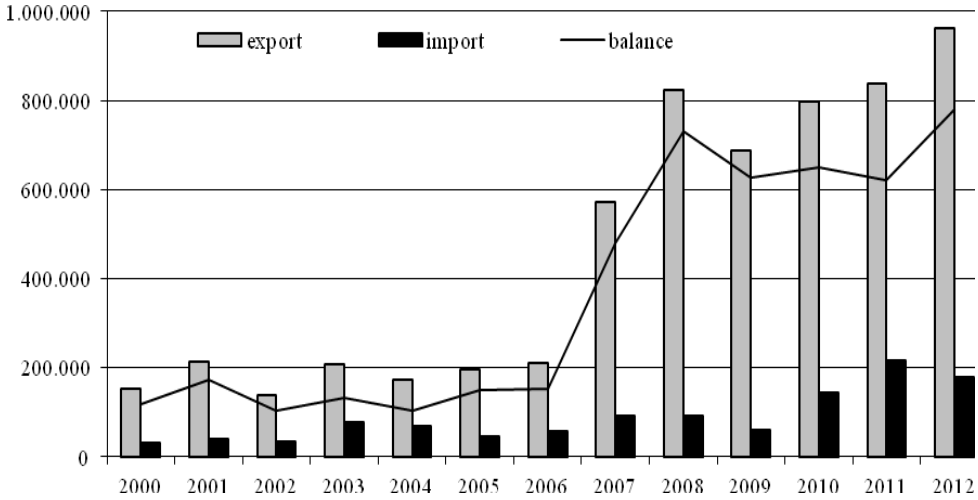
[12] The actual upper limit $\sum_i \sum_j x_{ij} / \sum_i x_{ij}$ holds to infinity if $\sum_i x_{ij}$ holds to zero, that is, the economic weight of the country is not significant regarding the export. (Poór, 2010).

3. Results

Due to the enlargement of EU in 2007, the agri-trade turnover in relation to Romania has significantly improved from the aspect of Hungary. There had been a reduced trading activity until EU membership on the market of the country which had considerable sales potential due to the customs barriers and other protection mechanisms. In 2000, goods in the value of around 150.000 euro and almost 500.000 ton were exported. Until 2007, the quantity had not actually changed, the value increased to 305.000 euro only.

After EU accession, the quantity of exported goods increased by 3,7-fold, its value by 2,7-fold. Thus by 2008, it reached 2 million ton and 823.000 euro (Figure 3) (KSH, VM, 2011).

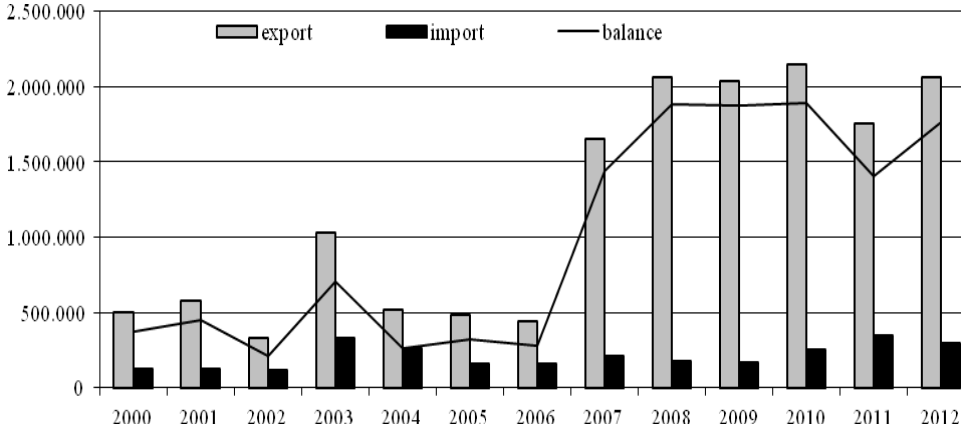
Figure 3. Value of Hungarian-Romanian foreign trade (million euro at current prices, 2000-2012)



Source: own edition on the basis of RIAE database, RIAE 2013

Following the decline in 2009 - caused by the global economic crisis of 2008 – and the correction in 2010, there was another decrease again in 2011 in regards to export. In 2012, the Hungarian export was stronger and amounted to 960 million euro, while the value of the Romanian import was 180 million euro. It has resulted the highest trading balance of the examined period, which amounted to 780 million euro. In the course of the Hungarian import, goods came in the value of 32.000 euro and in the quantity of 128.000 ton in 2000. The quantitative comparison is similar to the previous trend (Figure 4).

Figure 4. Volume of Hungarian-Romanian foreign trade (ton, 2000-2012)



Source: own edition on the basis of RIAE database, RIAE 2013

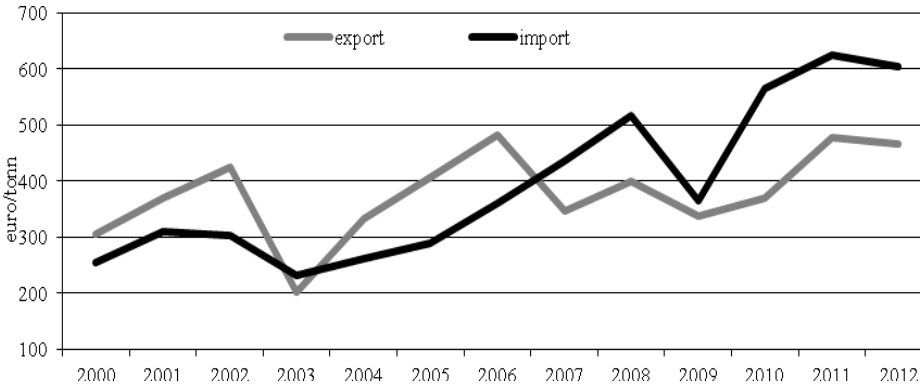
As regards quantities, 2003 was an outstanding year, because 75% and 66% of the total quantity shipped from Romania to Hungary – although temporarily - was soybean cake which is considered a processed product. A rise can be observed after the EU membership, although it stopped in 2011, when the Hungarian merchants shipped less by about half a million ton of goods to Romania than in 2010. By the end of the period, however, the Hungarian agri-trade increased by approximately 300.000 ton and exceeded 2 million ton. The quantity of goods imported from Romania did not grow significantly, it increased 2,3-fold during the whole period. 60% of this could be put in the period after the accession and thus it approached 300.000 ton in 2012.

It can be concluded from the analysis of the trader that Hungary could further expand its previously positive trading relations and was able to substantially increase the value and quantity of export. The Romanian party could also increase the value and quantity of trade, although to a much lower degree than the Hungarian values. Thus, the EU membership has ensured advantages for both parties and they could utilize these advantages in their mutual relations.

It is interesting that the specific value of Hungarian and Romanian products shows a rising tendency (Figure 5). Although the index is simple and schematic, it still expresses what specific values could be activized by the parties in the trade. By analysing the euro value per ton, it can be concluded that the previous trend turned around and the specific values of Romania in case of import were higher after the accession than those values of the Hungarian export. It means that, following the accession, Hungary mostly shipped mass products of lower value to the Romanian market, while the Romanian partners

traded with more highly processed products, which belong to a higher specific price category (and have higher added value).[13] It is positive, however, that the increasing tendency can be observed on both sides.

Figure 5. Specific changes of Hungarian-Romanian foreign trade (euro/ton, 2000-2012)

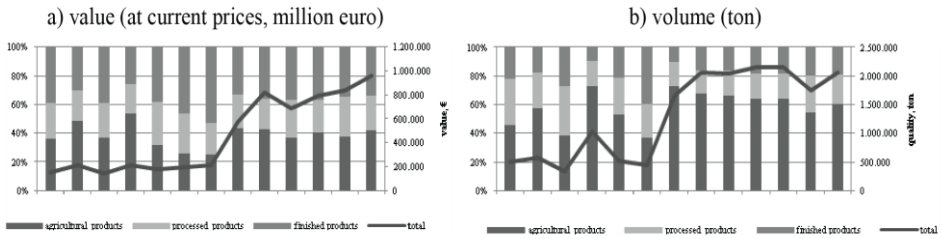


Source: own edition on the basis of RIAE database, RIAE 2013

The trend observed in the case of specific values can be explained through the examination of the breakdown of traded products according to the level of processing. The product groups are distinguished on the basis of value and quantity in order to explore the processes profoundly. Figure 6/a demonstrates that the ratio of agricultural products in terms of value was 40% at the end of the period. Figure 6/b shows in terms of quantity that the major part, almost 60% of Hungarian exported goods were raw products in 2012.
If the structure of goods turnover is examined on the basis of value, it is obvious that the ratio of raw (~35-40%) and processed products (~35-40%) is almost the same on average – but basically the role of raw products is dominant, the ratio of semi-finished products is almost 30%. (Figure 6/a) There was not any considerable shift of ratios, substantial restructuring or basic change observed during the examined period.

[13] In some cases, the other macroeconomic reasons – like e.g. inflation, exchange rate changes concerning national currencies - emerging in the trading activities can also have significant impact. The exact quantification of this impact is not discussed in the present research.

Figure 6. Agricultural goods turnover in Hungarian-Romanian relation (2000-2011)



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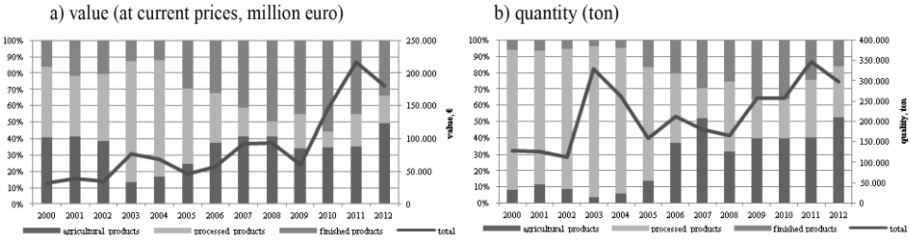
The value of Romanian-Hungarian trade increased significantly during the 12 years of research. The value ratio of finished products has reached and, in some years (2008, 2010), exceeded 45% while the ratio of semi-finished products considerably declined. (Figure 7) The direct impact of accession to the European Union is well demonstrated on Figure 7 according to which, the ratio of Romanian finished products increased in relation to Hungarian export – by exploiting the possibilities of common market after 2007. Although in the last twelve years, the volume of finished products increased at the expense of processed products shipped from Romania, it still does not reach 40%. (Figure 7/b) Parallel with this, the ratio of finished products gradually increased – more quickly after the accession – while in the structure of Hungarian export in general, ratios decline or stagnate.

Figure 7. Quantity of Romanian-Hungarian agricultural trade (2000-2011)



Source: own edition on the basis of RIAE database, RIAE 2013

The above processes are confirmed by the changes in regards to the five major products which are traded. The values of those years (2004, 2007) are introduced and compared with the latest data which were the most important in connection with EU membership. Table 1 lists the major imported products and their values expressed in thousands euro.

Table 1. The five most important products imported from Romania to Hungary (ton, thousand euro, 2004, 2007, 2012)

	value (thousand euro)		quantity (ton)	
2004	2304 Oilcake and other solid residues, resulting from the extraction of soya-bean oil	41 440	2304 Oilcake and other solid residues, resulting from the extraction of soya-bean oil	173 052
	2306 Oilcake and other solid residues, resulting from the extraction of vegetable fats or oils	6 812	2306 Oilcake and other solid residues, resulting from the extraction of vegetable fats or oils	60 185
	0104 Live sheep and goats	4 757	1005 Maize or corn	4 131
	1905 Bread, pastry, cakes, biscuits and other bakers' wares	3 068	1001 Wheat and meslin	2 919
	0505 Skins and other parts of birds with their feathers or down	2 534	2009 Frozen orange juice, unfermented	2 915
2007	1512 Sunflower-seed, safflower or cotton-seed oil	13 637	2306 Oilcake and other solid residues, resulting from the extraction of vegetable fats or oils	46 339
	2009 Frozen orange juice, unfermented	7 696	1003 Barley	24 907
	1206 Sunflower seeds, whether or not broken	7 625	2304 Oilcake and other solid residues, resulting from the extraction of soya-bean oil	21 791
	1005 Maize or corn	6 396	1512 Sunflower-seed, safflower or cotton-seed oil	19 130
	1003 Barley	5 152	1206 Sunflower seeds, whether or not broken	17 708
2012	1005 Maize or corn	16 274	1005 Maize or corn	54 713
	1206 Sunflower seeds, whether or not broken	15 094	2306 Oilcake and other solid residues	46 833
	0105 Live poultry	13 197	1206 Sunflower seeds, whether or not broken	27 137
	1517 Margarine, other edible mixtures or preparations of animal or vegetable fats or oils	11 903	0105 Live poultry	14 062
	0102 Live bovine animals	11 481	1517 Margarine, other edible mixtures or preparations of animal or vegetable fats or oils	12 593

Source: own edition on the basis of RIAE database, RIAE 2013

The result of the former classification is also reflected by the tables. In the case of Romanian export, the group of processed products was higher even among the most important product categories than in case of the Hungarian export. It is clear from the table what are the volume differences between the goods turnover of the two countries. Referring to the previous conclusions, the major products in the Romanian export belonged mostly to the group of processed products. Table 2 contains the major products of the Hungarian export in the examined years.

In contrary to the previous table, the ratio of finished products is dominant. It is remarkable that there are huge differences between value and volume in the case of the five most important categories. In 2012, the item which represented the highest value in the Romanian-Hungarian trade was the maize. But in the case of the same product category, the Hungarian-Romanian maize export value was hardly the tenth of the Romanian-Hungarian maize export value.

Table 2. The five most important products exported to Romania (thousand euro, 2004, 2007, 2012)

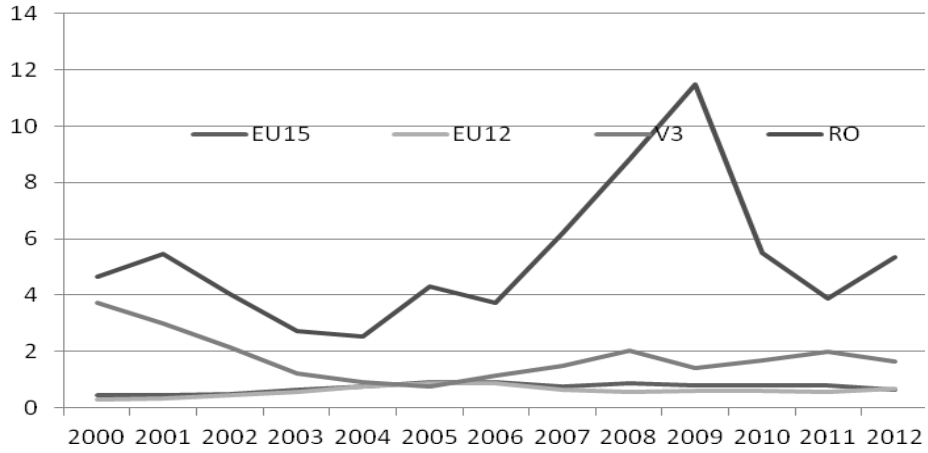
	value (thousand euro)		quantity (ton)	
2004	2309 Preparations of a kind used in animal feeding	26 265	1001 Wheat and meslin	169 551
	0203 Meat of swine, fresh, chilled or frozen	22 593	2309 Preparations of a kind used in animal feeding	71 506
	1001 Wheat and meslin	21 377	1107 Malt, whether or not roasted	33 216
	1107 Malt, whether or not roasted	9 985	1212 Locust beans, seaweeds and other algae	33 048
	1701 Cane or beet sugar and chemically pure sucrose, in solid form	9 137	1005 Maize or corn	26 992
2007	1005 Maize or corn	96 995	1005 Maize or corn	620 305
	1001 Wheat and meslin	79 820	1001 Wheat and meslin	425 398
	0203 Meat of swine, fresh, chilled or frozen	52 185	2309 Preparations of a kind used in animal feeding	86 246
	2309 Preparations of a kind used in animal feeding	51 702	1003 Barley	76 736
	1701 Cane or beet sugar and chemically pure sucrose, in solid form	34 103	1701 Cane or beet sugar and chemically pure sucrose, in solid form	55 708
2011	1005 Maize or corn	177 757	1005 Maize or corn	799 476
	2309 Preparations of a kind used in animal feeding	87 647	2309 Preparations of a kind used in animal feeding	206 751
	1512 Sunflower-seed, safflower or cotton-seed oil and fractions thereof, whether or not refined	67 064	1001 Wheat and meslin	158 585
	0203 Meat of swine, fresh, chilled or frozen	60 602	0401 Milk and cream, not concentrated nor containing added sugar or other sweeter	100 588
	0207 Meat and edible offal of fowls of the species Gallus domesticus, ducks, geese, fresh, chilled or frozen	43 292	1101 Wheat or meslin flour	99 458

Source: own edition on the basis of RIAE database, RIAE 2012

The changes in the export-import ratio have very remarkable outputs in the frames of trading processes (Figure 8). This ratio is the simplest export specification index which correlates the export of the examined country or countries (country group(s)) to the import. In regards to the Hungarian export, the values of the most important country groups, EU15, EU12, V3 and Romania were compared.[14] It is obvious from the analysis of the full time horizon that the value of ratio has gradually decreased in the case of the examined country groups and the Hungarian export advantage declined year by year (Figure 8). The decline was the greatest in relation to EU12, but the trend is significant in the case of all the examined groups. Due to the trade agreements and the EU membership, the measures taken by the common internal market considerably reduced the domestic preferences and the opportunities offered by accession were not fully utilized on behalf of Hungary.

[14] With regard to the selection of country groups, the similar conditions and the similarities concerning the date of EU accession should be considered.

Figure 8. The Hungarian export-import ratio in case of some country groups and Romania (2000-2012)



Source: own edition on the basis of RIAE database, RIAE 2012

After 2006, however, some shifts and changes could be observed. In spite of the fact that there was not any substantial change on average in relation to EU27, the value of ratio increased in the case of EU12, where the domestic market processes were more favourable. In the meantime, with regard to EU15, the processes were more unfavourable for us, thus the value of ratio declined. The values of Romania are markedly different from the trend of the group. The specifically high ratio of export results in surprising values. The considerable rise of export in the direction of Romania resulted in the fact that the range of exported goods increased by 3,5-fold in 2007 as compared to the previous year, while the import expanded only by 35%. The ratio clearly refers to the fact that Hungary could more efficiently exploit its advantages in regards to the domestic export by better utilizing the possibilities of accession. On the basis of the TS_{ij} and cb_{ij} values, it can be detected how the specific product categories contributed to the development of the whole agricultural foreign trade. Due to the limits of space, Table 3 includes on country codes (RO: Romania, HU: Hungary) where the given country had higher values than the other, that is when it contributed to the development of bilateral trading processes to a greater degree. In this approach, it cannot be clearly declared whether the accession to the European Union has brought advantages in case of some products or not. It is a fact, however, that in the case of product groups, for example, 04 dairy produce or 14 vegetable planting materials and 23 residues and waste from the food industries, prepared animal fodder, the Hungarian values definitely improved after the accession. In the meantime, the Romanian values clearly

strengthened or stabilized in the following categories: 19 preparations of cereals or 09 coffee, tea, mate and spice, as well as 24 tobacco and manufactured tobacco substitutes. Therefore, it can be concluded that some restructuring can be observed but it has not any significant impact.

Table 3. Priority determined on the basis of cb index values in the case of Hungarian-Romanian agricultural trade turnover (2000-2011)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
01 live animals	RO	RO	RO	RO	RO	RO	RO	RO	HU	HU	HU	RO	RO
02 meat and edible meat offal	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU
03 fish and crustaceans, molluscs and other aquatic invertebrates	RO	RO	RO	RO	HU	HU	HU	HU	HU	HU	HU	RO	HU
04 dairy products; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	RO	RO	HU	RO	RO	RO	RO	HU	HU	HU	HU	HU	HU
05 products of animal origin, not elsewhere specified or included	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
06 live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	RO	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU
07 edible vegetables and certain roots and tubers	HU	HU	HU	HU	RO	RO	RO	HU	HU	HU	HU	HU	HU
08 edible fruit and nuts; peel of citrus fruits or melons	RO	RO	RO	RO	RO	RO	RO	RO	HU	HU	RO	RO	RO
09 coffee, tea, maté and spices	HU	HU	HU	HU	HU	HU	HU	HU	HU	RO	RO	RO	RO
10 cereals	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU
11 products of the milling industry; malt; starches; inulin; wheat gluten	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU
12 oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder	RO	RO	RO	RO	HU	HU	RO	RO	RO	RO	RO	RO	RO
13 lac; gums, resins and other vegetable saps and extracts	HU	HU	HU	HU	HU	HU	HU	HU	HU	RO	HU	HU	RO
14 vegetable plaiting materials; vegetable products not elsewhere specified or included	RO	RO	RO	RO	RO	RO	RO	HU	HU	HU	HU	HU	HU
15 animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	RO	RO	HU	HU	RO	RO	RO	RO	RO	RO	RO	RO	RO
16 preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU
17 sugars and sugar confectionery	HU	HU	RO	RO	HU	HU	HU	HU	HU	RO	RO	RO	RO
18 cocoa and cocoa preparations	HU	HU	HU	HU	HU	HU	HU	HU	HU	HU	RO	HU	RO
19 preparations of cereals, flour, starch or milk; pastrycooks' products	HU	RO	RO	RO	RO	HU	HU	HU	RO	RO	RO	RO	RO

20 preparations of vegetables, fruit, nuts or other parts of plants	HU	HU	HU	RO	RO	RO	RO	RO	HU	RO	HU	HU	HU
21 miscellaneous edible preparations	HU	HU	HU	RO	HU	HU	HU	HU	HU	HU	HU	HU	HU
22 beverages, spirits and vinegar	HU	HU	HU	RO	HU	HU	HU	RO	RO	RO	HU	HU	HU
23 residues and waste from the food industries; prepared animal fodder	RO	RO	RO	RO	RO	HU	HU	RO	HU	HU	HU	HU	HU
24 tobacco and manufactured tobacco substitutes	HU	RO	RO	RO	RO	RO	HU	RO	RO	RO	RO	RO	RO
Number of higher RO value	10	11	10	14	11	9	9	9	6	10	9	10	11
Number of higher HU value	14	13	14	10	13	15	15	15	18	14	15	14	13

Source: own calculation on the basis of EUROSTAT 2013

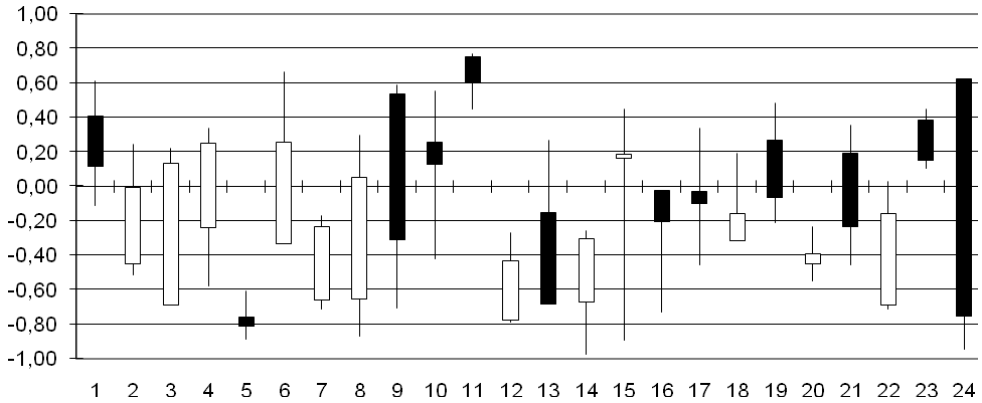
Only the relative differences and not the absolute value were introduced in the comparison. It is clear, however, that, in the case of Hungarian export, higher cb_{ij} was detected in more product categories, 14 on average, than in the case of Romanian export. Parallel with this, in some categories, like e.g. 10 – cereals or 11 – products of the milling industry, only Hungarian prevalence can be observed, while in the case of category 5 – products of animal origin, there is a Romanian exclusiveness.

The results of relative competitiveness are introduced through the value of RSCA. Through the results, the changes and the extreme values during the examined period can be evaluated clearly.[15] On the basis of examination, it can be concluded that the values of the index, thus competitiveness, deteriorated in 13 categories in case of the Hungarian export.

It is definitely clear in the Hungarian-Romanian relation that competitiveness has decayed the most in categories 24 (tobacco and manufactured tobacco substitutes), 9 (coffee, tea, maté and spices) and 1 (live animals) (Figure 9).

[15] It should be added to the explanation of the figure that in the case of specific categories traditionally the thin line indicates the minimum and maximum values during the period. The thick column indicates the opening and closing values of the period. If the column is white, the value of the closing date improved as compared to the opening value. If the column is black, the value of the closing date deteriorated as compared to the opening value.

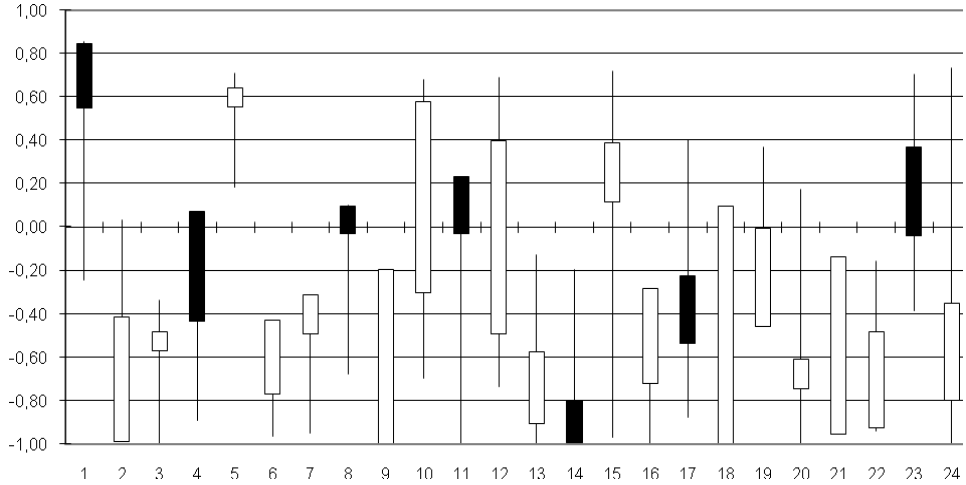
Figure 9. Values of RSCA index in regards to Hungarian-Romanian goods turnover (2000 – 2012)



Note: The categories of figures are in Table 3
Source: own edition on the basis of RIAE database, RIAE 2013

Out of these, in the case of category 9, it can be connected with the expansion of turnover caused by trade diversion which was due to the issues of origin of raw material production. Along with this, improvement could be detected in categories 3 (fish and crustaceans, molluscs and other aquatic invertebrates), 6 (live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage) and 8 (edible fruit and nuts; peel of citrus fruits or melons). It is also remarkable that the greatest fluctuation within the period was seen in the case of categories 24 (tobacco and manufactured tobacco substitutes) and 15 (animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes). With regard to the other aspect of the trade, the calculation can be performed from the side of the partner country, too. On the basis of this, it can be concluded that the number of categories in the case of Romanian import, the number of those categories was much less (exactly 7–1, 4, 8, 11, 14, 17 and 23) where a relative decline of competitiveness could be observed (Figure 10).

Figure 10. Values of RSCA index in regards to the Romanian-Hungarian trade (2000-2012)



Note: The categories of figures are in Table 3
Source: own edition on the basis of RIAE database, RIAE 2013

Out of these categories, the most concerned were the categories 23 (residues and waste from the food industries; prepared animal fodder), 4 (dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included) and 14 (vegetable plaiting materials; vegetable products not elsewhere specified or included). The best performing categories were as follows: 12 (oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder), 10 (cereals), and 21 (miscellaneous edible preparations). The greatest fluctuation with regard to the value of competitiveness was observed in categories 24 (tobacco and manufactured tobacco substitutes) 15 (animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes) and 12 (oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder).

4. Conclusions, recommendations

It is very striking from the analysis of the Hungarian-Romanian foreign trade that the trade surplus of the Hungarian party further increased after the accession to the EU. It is a fact that, after 2004, following the foreign trade position losses in relation to Visegrad countries, Hungary in general could generally utilize its market possibilities successfully, enforced its trading

interests and increased both the quantity and value of export to Romania. The analysis of the trading structure, however, reveals that, in the case of the Hungarian export, the role of raw materials is determinant in contrary to the structure of goods imported from Romania. The ratio of basic agricultural products and semi-finished products is low, but it shows an increasing tendency within bilateral relations. It can be concluded that the export value per one unit of quantity was unfavourable for both parties after EU accession. The values of the foreign trade index clearly indicate that the market position of a number of products improved after the accession and there was a possibility to realize comparative advantages within trade. It is obvious that, after 2004, Hungary could not fully exploit the trading advantages of common market in relation to the neighbouring countries, and Romania could not do that either, in relation to Hungary. This trend was basically due to the transition period of EU adaptation and its consequences. In contrary to this, the Hungarian products could strongly appear on the Romanian market. It was mostly due to the fact that the Hungarian merchants learnt to utilize the possibilities offered by the EU.

The research has also revealed the group of competitive products. It has also become clear that the Romanian products were able to increase their relative competitiveness in more cases and more substantially. Although, most of the products, with increasing competitiveness, don't belong to the products which are produced in the greatest volume in either of the countries. In the frames of expansion of trade at the international and regional level, further considerable strengthening of market position can be forecasted in case of these products, independently from the way of entering the new market (either by creating trade or by diverting trade). The expansion of products with comparative advantages and active foreign trade participation – also in relation to the neighbouring countries – can be the basis of permanent and steady growth of Hungarian and Romanian agricultural sector.

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