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Commodity efficiency of Slovak agricultural trade

ROMAN SERENČEŠ – JANA KUTIŠOVÁ

Slovak University of Agriculture in Nitra

Slovakia

roman.serences@uniag.sk



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Commodity efficiency of Slovak agricultural trade

Abstract

The article judges the efficiency and the competitiveness of selected commodities of animal production, plant production and food-processing industry. Competitiveness and efficiency of the commodities was measured Revealed Comparative Advantage Index and Grubel-Lloyd Index. In the conclusion, there is a summary of values of Comparative Advantage Index of selected commodities in chosen years.

Keywords: Agritrade, Competitiveness, Commodity, Efficiency, RCA, GLI.

JEL Classification: Q17

1 Introduction

Competitiveness is understood as the ability of the economy to produce goods and services, which are able to succeed within the international trades and so they guarantee the increase of real income of the population when they rationally use the production factors and fill another social and environmental aims. It is an ability of the country to combine the comparative advantages/disadvantages with the current market and government imperfections within the international trade.

2 Theoretical framework

The aim of this article is to found out the efficiency of Slovak agricultural trade in 2006-2015. To find out the development of the foreign trade of selected commodities of plant production, animal production and food-processing industry through selected indicators and to compare the efficiency of the commodities within 2006, 2009 and 2015. The article was elaborated on the basis of the data from the databases of the Statistical Office of the Slovak Republic and data from Green Report of the Ministry of Agriculture and Rural Development of the Slovak Republic. The commodities are sorted according to the HS4 items of the unified system of customs tariffs with focus on agri-food commodities with no. 0001-2400. There were used comparative methods, deduction methods and indicators as Revealed Comparative Advantage Index – is suitable for appraisal of agri-food commodities competitiveness within the trade of the one country towards the other one; and it easy identifies their competitiveness changes.

$$RCA = \ln \left(\frac{\frac{x_{ij}}{m_{ij}}}{\frac{X_j}{M_j}} \right)$$

x_{ij} – export value “i” group of analysed industry products of the “j” country

m_{ij} – import value “i” group of analysed industry products of the “j” country

X_j – value for total export from the “j” country

M_j – value for total import to the “j” country

If the value:

$RCA > 0$ result indicates a comparative export advantage of the country

$RCA < 0$ result indicated a comparative export disadvantage of the country

$RCA = 0$ neutral, there is neither comparative advantage not disadvantage

Grubel-Lloyd Index

$$GLi = \frac{\sum_i (X_i + M_i) - \sum_i |X_i - M_i|}{\sum_i (X_i + M_i)}$$

X_i - value for total amount commodity export

M_i - value for total amount commodity import

Values of this index ranges within interval (0 - 1)

$GLi = 0$, inter-industry trade – it is a total specialization of a trade with various products

$GLi = 1$, value 1 means there is only intra-industry trade

Intra-industry trade represents export and import of the same type of goods or the same industry between two countries or regions.

3. Body of Paper

Tab.1: Development of the Slovak external agri-trade (AT) (mil. €)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Export AT SR	1734.9	1849.4	2036.8	1932.8	2162.0	2918.6	3593.2	3214.8	2734.5	2799.7
Import AT SR	2295.8	2667.1	2908.5	2782.3	3119.9	3723.2	3963.9	3898	3789.6	3845.2
Balance AT	-560.9	-817.7	-871.7	-849.5	-957.9	-804.6	-370.7	-683.2	-1055.1	-1045.5
Turnover AT	4030.7	4516.5	4945.3	4715.1	5281.9	6641.8	7557.1	7112.8	6524.1	6644.9

Source: own calculation based on data from Statistical Office of the Slovak Republic

Export of the agri-food products among 2006-2008 increased reaching value 2036.8 million €. In 2009 this value reached level of 1 932.8 million €. From 2009 to 2012 the export was increasing and got to the highest amount representing 3593.2 million €. After consequent decrease in 2013 and 2014 the export increased a bit to the value 2 799.7 million €. Import of the agri-food products was increasing from 2006 to 2008. In 2009 is decreased due to the economic crisis. In consequent years the export was very uneven and in 2015 reached amount of 3 845.2 million €. Balance of the agri-food products was negative within all monitored years. The highest negative value was in 2014 (-1 055.1 million €), in 2015 it was little increased by 10.4 million €. The turnover of the agri-food products was growing from 2006 to 2008. In 2009 the turnover decreased a bit to the amount of 4 715.1 million €. Until 2012 the turnover increased again and in 2015 it reached the value 6 644.9 million €.

Tab.2: Comparison of agri-food products imports with the total import (million €)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total import	43 422	47 870	50 280	38 775	47 494	55 768	58 588	59 940	60 019	64 361
Out of this AT import	2 296	2 667	2 909	2 782	3 120	3 723	3 964	3 898	3 790	3 845
Ratio %	5.29	5.57	5.79	7.17	6.57	6.68	6.77	6.50	6.31	5.97

Source: own calculation based on data from Zelená správa (Green Report) of the Ministry of Agriculture and Rural Development of the Slovak Republic

Ratio of agri-food products import on the total import has an uneven development. From 2005 to 2009 the ration was increasing, in 2009 there was the highest ration in amount of 7.17%. In 2015, the ratio decreased to 5.97% compared to 2014.

Tab.3: Comparison of agri-food products export with the total import (million €)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total export	40 924	47 160	49 522	39 721	48 272	56 783	62 144	64 172	64 721	67 680
Out of this AT import	1 735	1 849	2 037	1 933	2 162	2 919	3 593	3 215	2 734	2 800
Ratio %	4.24	3.92	4.11	4.87	4.48	5.14	5.78	5.01	4.22	4.14

Source: own calculation based on data from Zelená správa (Green Report) of the Ministry of Agriculture and Rural Development of the Slovak Republic

Both tables show that we import more agri-food products than we export. The export ratio of agri-food products on total export was also uneven. The lowest value was in 2006 with 3.92%. The highest value was reached in 2012, with 5.78%. In 2015, the ratio was 4.14%.

Tab. 4: Payment review of total foreign trade and agricultural foreign trade, in million€

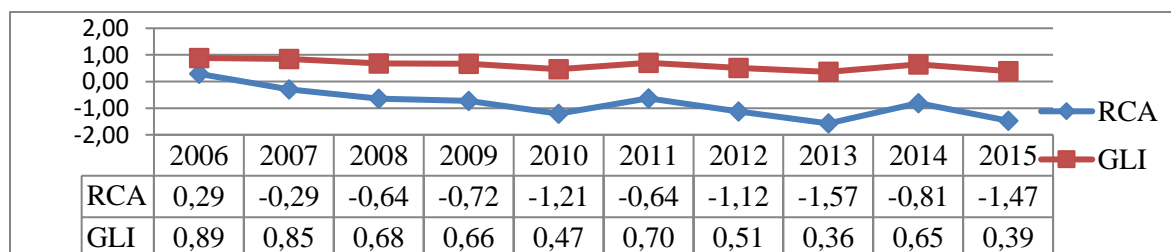
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Balance total	-2 498	-710	-758	946	778	1 015	3 556	4 232	4 702	3 319
Balance AT	-666	-561	-818	-872	-849	-958	-804	-371	-683	-1045

Source: own calculation based on data from Zelená správa (Green Report) of the Ministry of Agriculture and Rural Development of the Slovak Republic

From the chart, we can see that the balance of the agri-trade and balance of the total foreign trade is uneven. In 2006 the balance of foreign trade was negative, -2498 million €. In 2008 the balance was a little decreased by 48 million € compared to 2007. In 2009, we reached plus value of foreign trade balance. Since then, the balance was only increasing and the highest value was reached in 2014 with 4702 million €. Balance of agri-trade reached the highest negative value in 2015 with -1045 million €. Within all ten years, the value is negative. The lowest negative value of agri-trade balance was in 2013 with value -371 million €.

3.1 Development of foreign trade of selected animal production commodities and their effectiveness

The import of fresh beef was increasing from 2006 to 2013. The consequent year it dropped a bit and in 2015 excessively increased to amount 3 8934 thousand €. The export was decreasing from 2006 to 2010. In consequent years, the export was uneven.



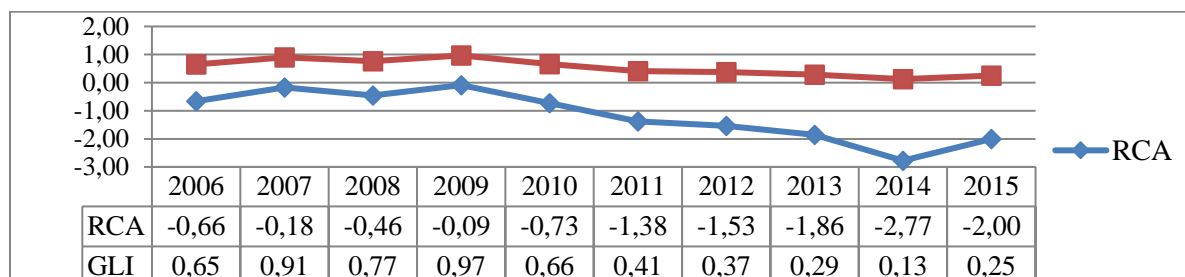
Graph 1 - Effectiveness of foreign trade commodity 0201 Beef, fresh or chilled

Source: own composition based on data from Statistical Office of the Slovak Republic

RCA Index reached the plus value 0.29 only in 2006 meaning that on other years Slovakia has comparative disadvantage in trade with chilled beef. In 2015, the RCA index was decreased to the value -1.47 due to decrease of export and increase of import within this year. In 2006 the

GLI value 0.89, it was almost sole intra-industry trade. Since then the GLI value was decreasing until 2010 reaching value 0.47. Since then, the value oscillates around 0.5.

Slovakia imported more frozen beef than exported during all ten years. The value of export was even during 2006 to 2010. In 2011 the value increased by 619 thousand €. Until 2014 the export value decreased and in 2015 increased a little reaching 1051 thousand €.

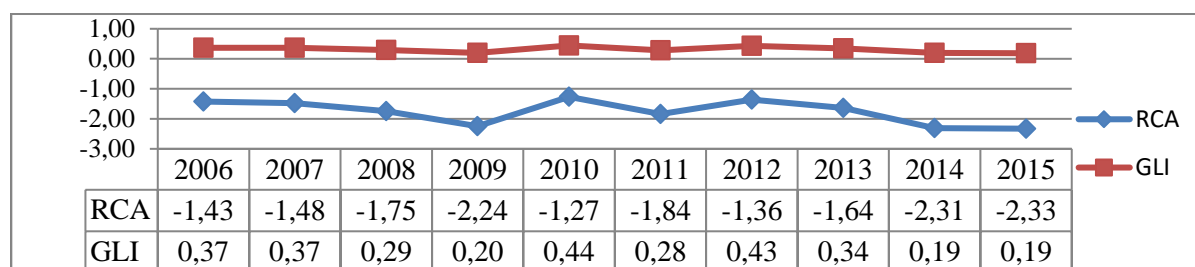


Graph 2 - Effectiveness of foreign trade commodity 0202 Beef, frozen

Source: own composition based on data from Statistical Office of the Slovak Republic

Slovakia has a comparative disadvantage concerning foreign trade with frozen beef during all ten years. In 2006 - 2009, the RCA value reached better values. Since then the value was decreasing until 2014, when the RCA index reached the lowest value -2.77. In 2015, the RCA index reached value -2. Grubel-Lloyd index has descending development in 2009-2014. In this year, it reached the lowest value 0.13. In 2015 the value increased to 0.25 (increase by 92%).

Import of pork exceed the export. We are not able to cover domestic consumption of pork by our own production. The import of this type of meat is the highest among the followed commodities, it exceeds also the import of poultry. From 2006 to 2015 the import increased by 60 373 thousand €. On the contrary, from 2006 to 2015 the export was decreased by 8745 thousand €.



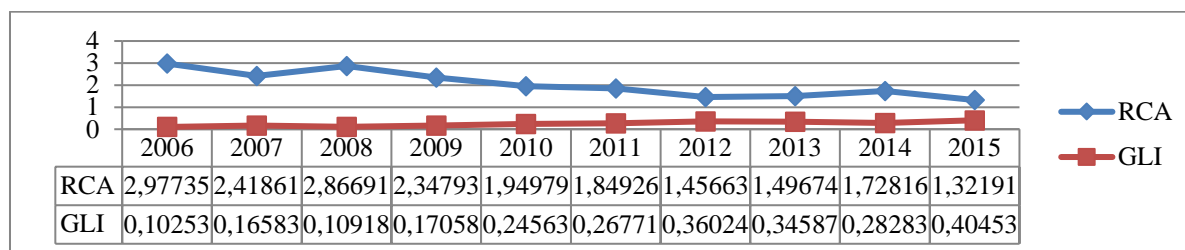
Graph 3 - Effectiveness of foreign trade commodity 0203 Pork, fresh, chilled or frozen

Source: own composition based on data from Statistical Office of the Slovak Republic

Within the followed years, GLI index changed slightly and in 2015 of reached the lowest value 0.19. Its values are tending to be zero; this is considered as inter-industry trade. The index of Revealed Comparative Index was uneven during the years. Within all years, Slovakia has a comparative disadvantage in pork trade. The RCA decreased from 2006 to 2009, when there was a global economic crisis. In 2010, it increased to -1.27 and the next year it dropped again. In 2015, this index reached the lowest value -2.33.

Only the meat of sheep or goats the export exceeds the import, we have positive balance of the foreign trade. The export was highest in 2006 and the lowest in 2009. In 2015 it was decreased by 596 thousand € (15.71%) compared to 2014. From 2006 to 2015 the import decreased by 597 thousand €.

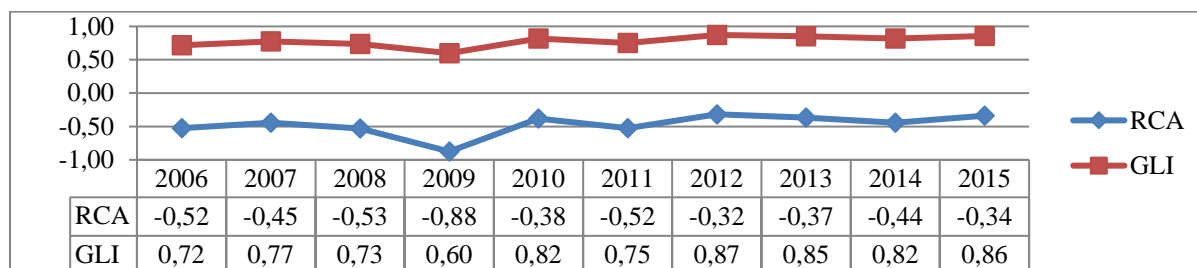
Trade with meat of sheep and goats reaches positive comparative advantage in all followed years. RCA value was dropping from 2008 to 2012 (1.46). From 2013 to 2014, the value rose and in 2015 RCA index reached value 1.32. Since 2006, when GLI index was 0.1, it was approaching value 0.5; and in 2015, it reached value 0.4. However, meat of sheep and goats is not significant in term of population nourishment, so we cannot consider this as positive information.



Graph 4 - Effectiveness of foreign trade commodity 0204 Meat of sheep or goats, fresh, chilled or frozen

Source: own composition based on data from Statistical Office of the Slovak Republic

Poultry import increased from 2006 to 2011. Since then, its development was slightly uneven and in 2015 the poultry import reached 100 381 thousand €. The value of poultry export is the highest among the followed types of commodities. The lowest value of export was in 2006 (33 269 thousand €). Since then the export was increasing until 2008 and 2009 it slightly decreased by 8 787 thousand €. Since then the import value was growing until 2012 and there is a slight drop in last years.



Graph 5 - Effectiveness of foreign trade commodity 0207 Poultry, fresh, chilled or frozen

Source: own composition based on data from Statistical Office of the Slovak Republic

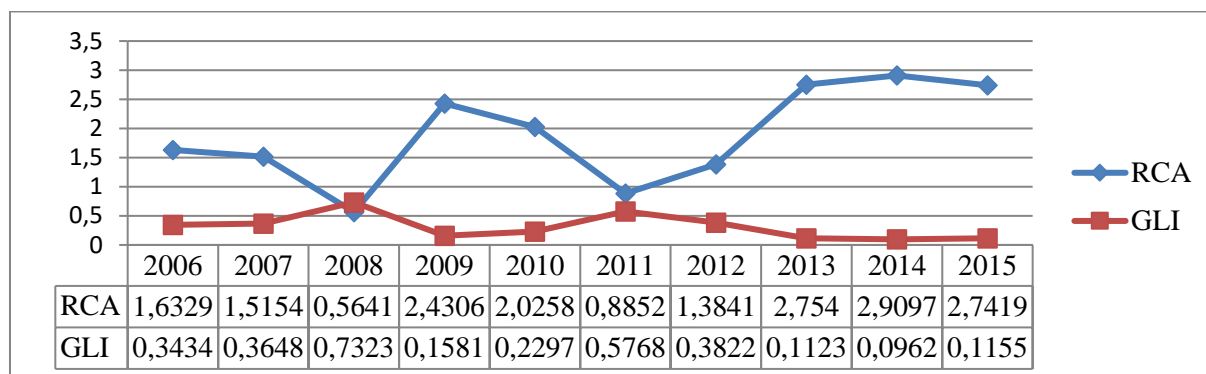
Within followed period, there is a comparative disadvantage in the external poultry trade. In 2009 the RCA index was the lowest, -0.88. In 2010, it was increased by 0.5 to the amount -0.38. From 2012 to 2014, it was decreasing slightly; in 2015, it reached a level -0.34. In years 2006 - 2015, the Grubel-Lloyd index was oscillating between values 0.5 and 1. In 2015, it reached value 0.86, what is considered as intra-industry trade.

3.2 Development of foreign trade of selected plant production commodities and their effectiveness

Within the wheat foreign trade, we reached positive balance. Moreover, the export was increasing from 2011. The wheat import reached the highest value in 2011 (34 284 thousand €) and the lowest value in 2014 (7 809 thousand €). In 2015, there was a slight increase of import by 4 075 thousand €.

RCA development was uneven in all followed years. However, we can say Slovakia has a comparative advantage in wheat trade. In 2008, Slovakia had the lowest comparative advantage 0.56. In 2009 the RCA value gone up sharply to 2.43. In 2011, the value sharply dropped to 0.89; since then the value was increasing until 2014. In 2015, it slightly increased to 2.74. In 2016 GLI index reached value 0.34. The highest value was reached in 2008, 0.73. From 2011

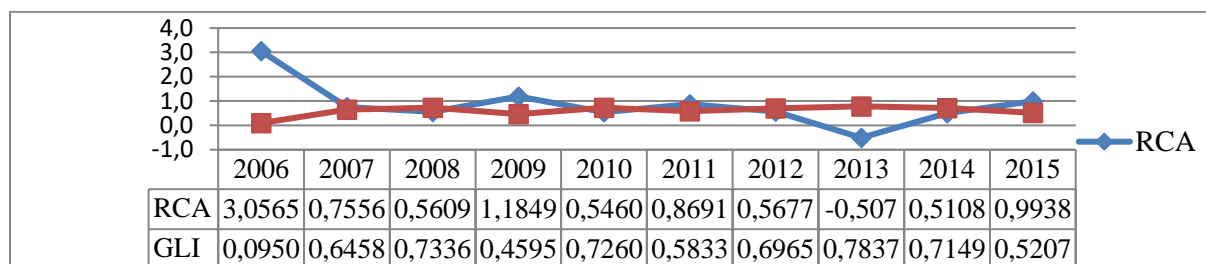
to 2014, it was slightly decreasing; in 2015, it reached value 0.12. Currently it is mainly inter-industry trade.



Graph 6 - Effectiveness of foreign trade commodity 1001 Wheat

Source: own composition based on data from Statistical Office of the Slovak Republic

We were reaching positive balance with barley foreign trade since 2013, when the import exceeded export by 6 374 thousand €. The highest export was in 2011 (45 550 thousand €). In 2013, when the export was the lowest, it was growing and increased by 22 732 thousand €. From 2006 to 2015 the import increased by 10 315 thousand €.



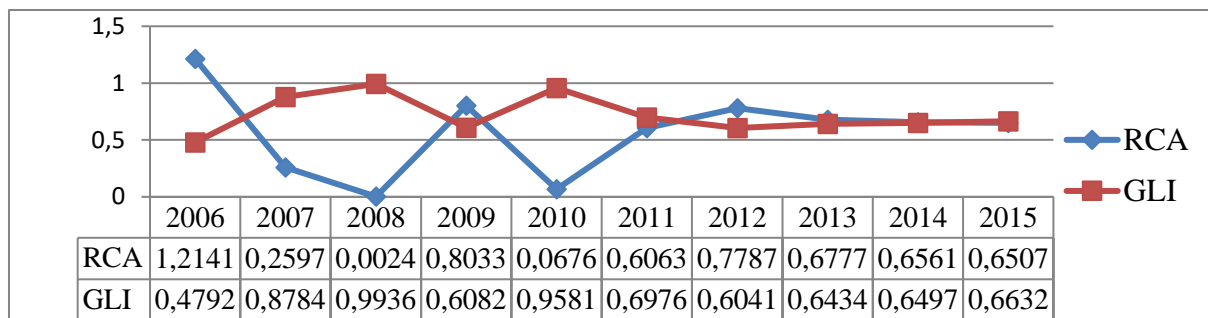
Graph 7 - Effectiveness of foreign trade commodity 1003 Barley

Source: own composition based on data from Statistical Office of the Slovak Republic

RCI index of barley was evenly developing during the followed years. In 2006, RCI index reached the highest value 3.06. In 2007, there was a significant drop to 0.76. Only in 2013, Slovakia had a comparative disadvantage in barley external trade (-0.51). In consequent years, RCA value was increasing reaching value 0.99 in 2015. Lowest value of Grubel-Llyod index was in 2006 with 0.09. In 2007, it increased to 0.65.

Positive balance of foreign trade was reached speaking of maize, except a year 2008. The lowest export was in 2010 (65 421 thousand €). The highest export was in consequent year, in 2011, with amount 141 510 thousand €. Since 2006 the import of maize was increased by 20 884 thousand €.

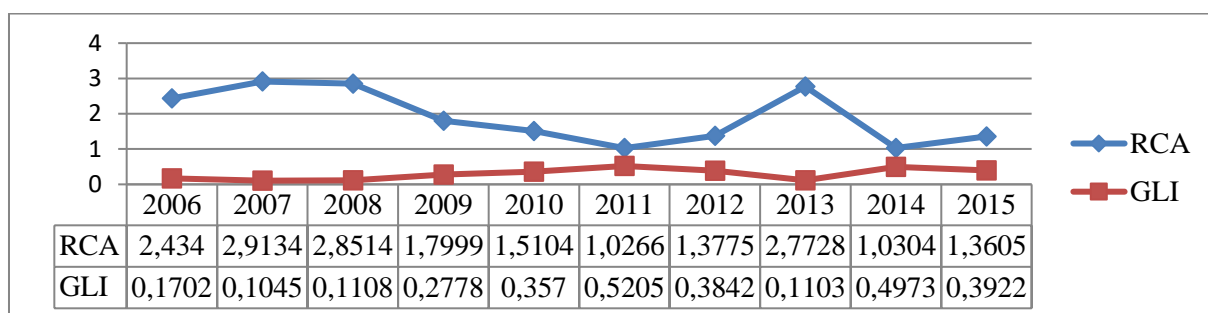
Comparative advantage index of maize reached the highest value in 2006, 1.21. In 2008, there was a significant drop to 0, when Slovakia did not have neither comparative advantage nor disadvantage. RCA reached in followed years only positive values (except 2008), so Slovakia has a comparative advantage of maize production. In 2013, RCA index was almost stabilized; in 2015, it reached the value 0.65. During 2006 - 2011 GLI index was also developing unevenly. In 2015 reached value 0.66.



Graph 8 - Effectiveness of foreign trade commodity 1005 Maize

Source: own composition based on data from Statistical Office of the Slovak Republic

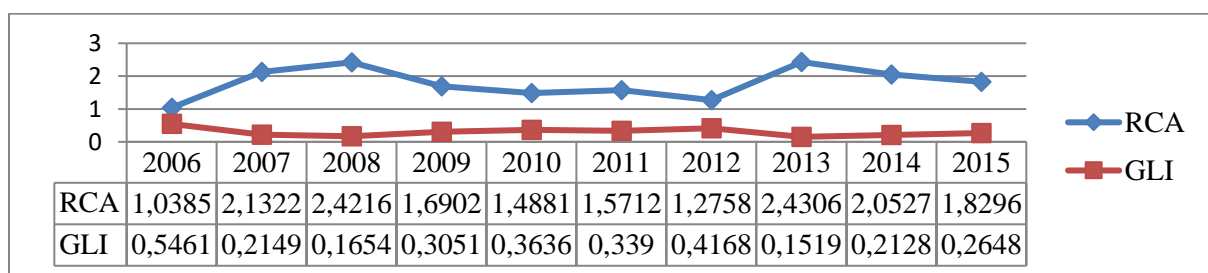
Colza seeds export is higher than import in all years. The highest export was in 2012. Since then it was consecutively decreasing reaching value 70 057 thousand € in 2015. Import was increased from 2006 to 2015 by 13 689 thousand €.



Graph 9 - Effectiveness of foreign trade commodity 1205 Rape or colza seeds, whether or not broken

Source: own composition based on data from Statistical Office of the Slovak Republic

RCA index of colza seeds reached positive values in ten followed years; it was even over value 1. That means Slovakia had a revealed comparative advantage by production of colza seeds. The highest RCA value was in 2007 (2.91). Then it was rapidly dropping and in 2013 repeatedly grown to 2.77. In 2015, the index value was 1.36. From 2007 to 2011, GLI slightly increased. In 2013, there was a decrease to 0.11; and in 2015, it reached value 0.39.



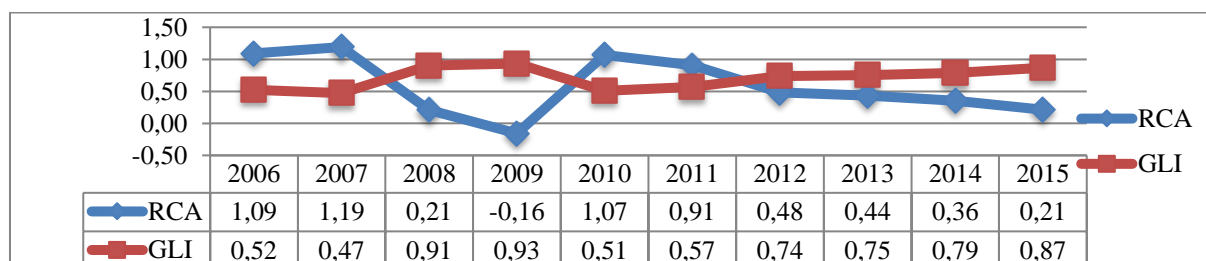
Graph 10 - Effectiveness of foreign trade commodity 1206 Sunflower seeds, whether or not broken

Source: own composition based on data from Statistical Office of the Slovak Republic

RCA reached in all years positive values, meaning Slovakia had an unrevealed comparative advantage of sunflower seeds production. However, RCA development was uneven; from 2006 to 2008, it was increasing. The highest RCA value was reached in 2013 (2.43). Since then, RCA value was dropping to 1.83 in 2015. GLI is ranging from 0 to 0.5, understanding this as intra-industry trade. Slovak production of all followed plant production commodities reached comparative advantages, what is understood as positive.

3.3 Development of foreign trade of selected food-processing industry commodities and their effectiveness

Payment balance of flour was positive during all followed years, except 2009, when the import exceeded export by 4 248 thousand €. The highest amount of exported flour was in 2011, representing 46 793 thousand €. Since then the export is decreasing, but in 2014 not significantly. The flour import was increasing until 2008. Since then it was dropping to value 8 238 in 2010. In 2014, there was a small increase by 1 782 thousand €.

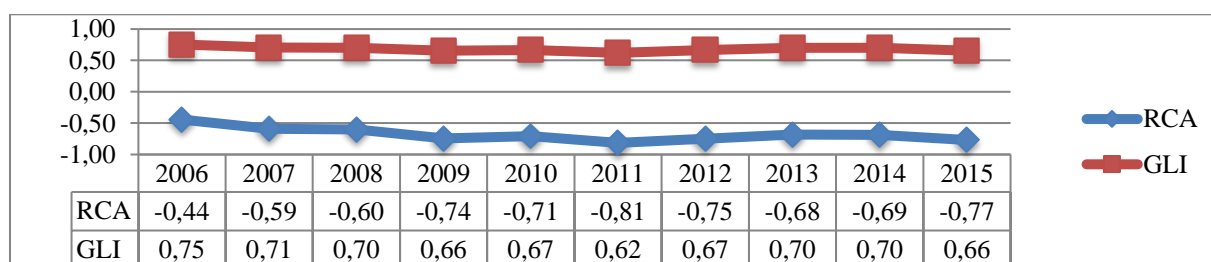


Graph 11 - Effectiveness of foreign trade commodity 1101 Wheat or meslin flour

Source: own composition based on data from Statistical Office of the Slovak Republic

In 2006, RCA reached value 1.09; in 2007, it was increased by 0.1. In 2009, it reached the lowest value – 0.16. RCA was negative only in this year and Slovakia had negative payment balance. In 2010 significantly was increased by 1.23. Since then it was only dropping to 0.21 in 2015. Until 2010, GLI was uneven. From that year to 2015, it was only increasing reaching value 0.87. Slovakia is competitive in wheat flour production, however not in the same level as wheat production.

Import of bread, pastry, cakes, biscuits and other bakers' wares is higher than export within all followed years. Export and import was progressively increasing. Lowest import of bread, biscuits and other bakers' wares was in 2006 (93 438) and the highest import was in 2015 with value 168 671. Export was lowest in 2009, consequently increasing until 2013 and in last years, there was small decrease.



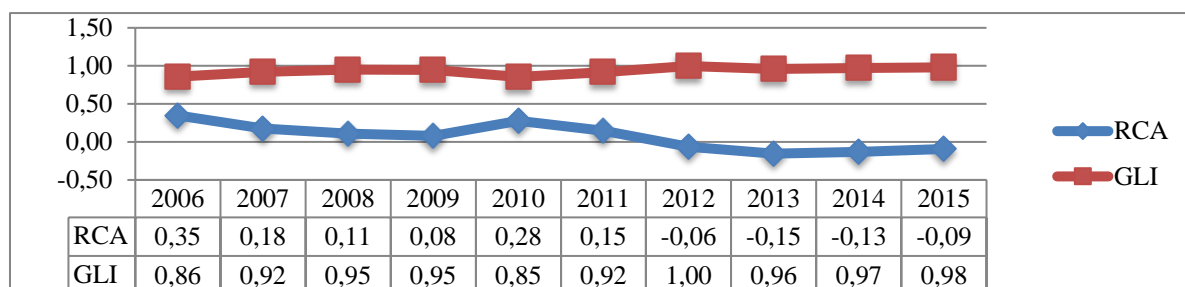
Graph 12 - Effectiveness of foreign trade commodity 1905 Bread, pastry, cakes, biscuits and other bakers' wares

Source: own composition based on data from Statistical Office of the Slovak Republic

RCA is negative in all years. Slovakia is competitive in flour and wheat trade, but trading with bread, pastry, cakes, biscuits and other bakers' wares Slovakia has a comparative disadvantage. In 2007 RCA value was -0.77. GLI was ranging from 0.60 to 0.80 representing more-less intra-industry trade.

Until 2011, Slovakia had a positive payment balance of chocolate trade; and up to this year, the import increased the export of chocolate. The export was at its lowest value in 2009 (119 273 thousand €), when the economic crisis started. Since 2012, the export of chocolate was slightly increasing. Concerning import, the lowest value was in 2009 with 107 533 thousand €. Highest

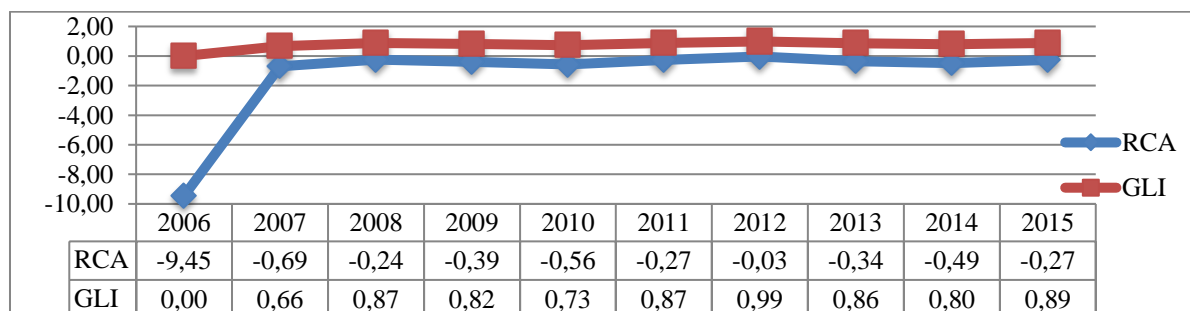
chocolate import and export was in 2015. GLI was in all years over value 0.8. In 2012, it was even over 1 representing intra-industry trade. Highest RCA value was in 2006, since then, it was decreasing until 2009. Since 2012, RCA is negative, so Slovakia has comparative disadvantage in production and processing of chocolate.



Graph 13 - Effectiveness of foreign trade commodity 1806 Chocolate and other food preparations containing cocoa

Source: own composition based on data from Statistical Office of the Slovak Republic

In 2007, there was a year-on-year coffee export increase by 30.5 million €. Then the export was increasing until 2013 reaching value 131.6 million €. In 2015, a year-on-year export was increased by 64.4 million €. Import of coffee was lowest in 2006, 39.4 million €. The highest value was in 2015 reaching 216.2 million €. Coffee is a popular drink in Slovakia, so its import is constantly increasing. Development of import was almost copying the export, besides 2012, when the export exceeded import by 5 172 thousand €.

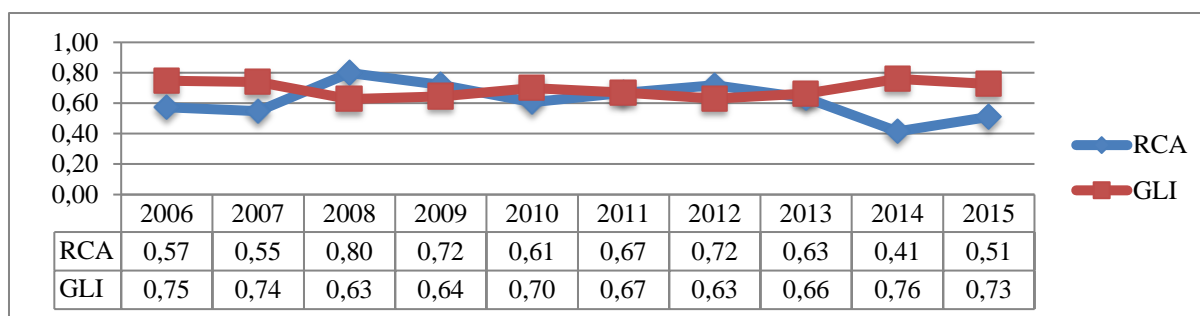


Graph 14 - Effectiveness of foreign trade commodity 0901 Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes

Source: own composition based on data from Statistical Office of the Slovak Republic

RCA value was lowest in 2006 (0.0001). Since then there was a significant increase of export. In 2015, it reached value -0.27. Slovakia reached comparative disadvantage of coffee trade within all years. This is understandable, as coffee is not growing in here. Despite of this fact, this commodity is the most balanced. GLI index was approaching value 1; this is understood as an intra-industry trade.

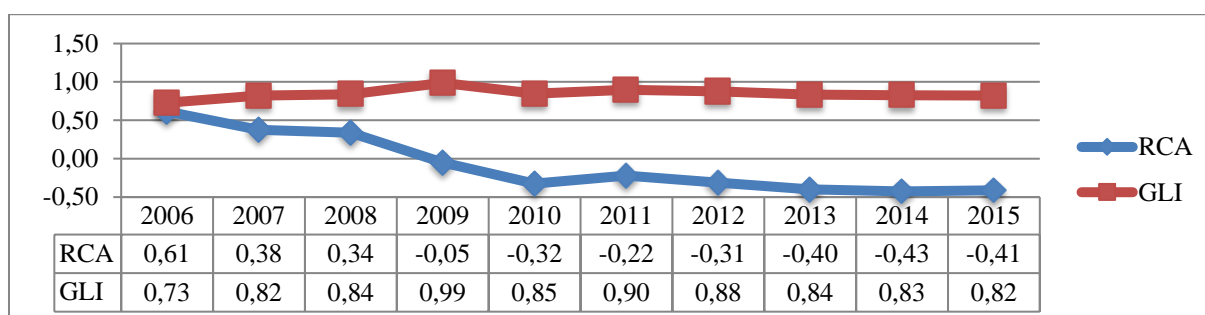
Export of milk and cream exceed the import. This is positive information, as milk is considered as one of irreplaceable commodities. The development export was uneven. The lowest was in 2006 (64 963 thousand €) and the lowest was in 2013 (124 552 thousand €). Comparing import in 2015 and in 2006, it increased by 18 220 thousand €. Development of RCA index was uneven. Within all years, it reached positive values representing revealed comparative advantage of milk trade. The highest RCA value was in 2008, lowest was in 2014. In 2015, its value increased to 0.5. GLI ranges from 0.6 to 0.8. In 2015, this value reached 0.73 representing intra-industry trade.



Graph 15 - Effectiveness of foreign trade commodity 0401 Milk and cream, neither concentrated nor sweetened

Source: own composition based on data from Statistical Office of the Slovak Republic

Cheese and curd are also one of the most exported commodities. However, their import is higher than export since 2009. The highest import was in 2014 reaching value 99 960 thousand €. In 2015, a year-to-year import was decreased by 6.5 million €.



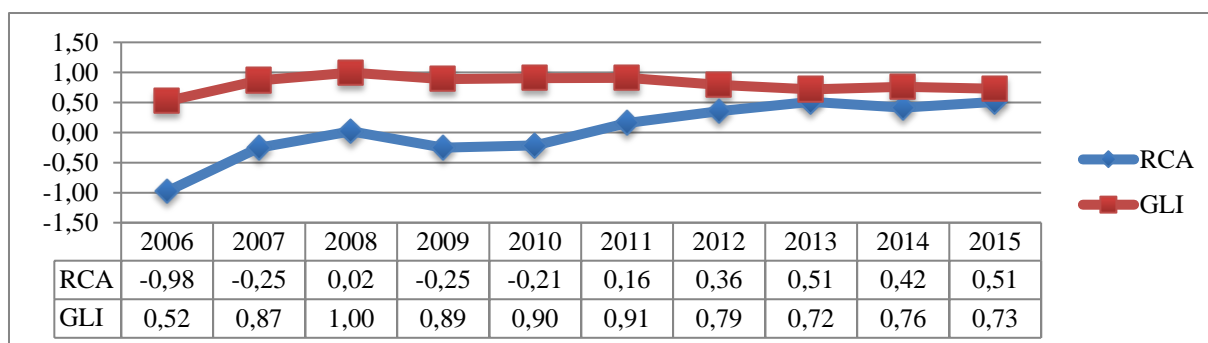
Graph 16 - Effectiveness of foreign trade commodity 0406 Cheese and curd

Source: own composition based on data from Statistical Office of the Slovak Republic

RCA was top in 2006, then it started to descend until 2010. The lowest RCA value was in 2014 (-0.43). In 2015, there was a small increase by 0.02. Within all followed years, Slovakia has a comparative disadvantage, besides years 2006-2008. Cheese and curd are also one of the irreplaceable commodities, we are not able to process all types of cheese and the cheese is imported in high extent. This statement is supported by GLI values, which are oscillating close to value 0.8. This is called an intra-industry trade.

Concerning sugar confectionery the export is higher than import in all years, besides 2009 and 2010. Since 2010, the export was rising until 2014. In 2015, there was a small drop by 4 257 thousand €. Import was uneven during these years. The highest value was in 2009 (72 850 thousand €), lowest was in 2006 (33 931 thousand €).

RCA index was negative from 2006 to 2009. Since 2010, Slovakia had a comparative advantage, even though it was very low as the RCA values are around 0.5. GLI index was ranging from 0.5 to 1. This represents more likely intra-industry trade.



Graph 17 - Effectiveness of foreign trade commodity 1704 Sugar confectionery, not containing cocoa

Source: own composition based on data from Statistical Office of the Slovak Republic

3.4 Commodities comparison according to RCA index in 2006, 2009 and 2015

In 2006, Slovakia reached positive RCA values of all followed plant commodities. The highest values of animal commodities are meat sheep and goats and fresh or chilled beef. Trend of food-processing industry commodities is also good. In 2006, positive RCA value was reached for flour, cheese, milk, chocolate and sunflower oil. The lowest RCA value was monitored for coffee. Animal production commodities with negative RCA value are pork, frozen beef and poultry. Concerning plant products, negative RCA values are observed for colza seeds oil and sugar confectionery. Better values have bread, pastry, cakes, biscuits and other bakers' wares, with RCA index -0.44.

In 2009, positive RCA values are for smaller amount of commodities compared to 2006. Barley moved up to the fifth place. The first ranking goes to wheat. RCA value of chocolate is slightly over 0 (0.08). Concerning plant commodities, each of them had a positive RCA value, however for animal commodities, only meat of sheep and goats had positive values. Pork had the lowest RCA values. All animal products commodities had negative RCA value in 2009, besides meat of sheep and goats. Food-processing industry commodities, which had positive RCA values in 2006, are considered as commodities with comparative disadvantage in 2009. This refers to flour, cheese and sunflower oil.

In 2015, wheat had the highest RCA value similarly to 2009. RCA of sunflower seed increased by 0.14 compared to 2009. Wheat flour and sugar confectionery in 2015 comparative advantage, in contrary to negative RCA value in 2009. Wheat reached the highest RCA value, similar to 2009. RCA of sunflower seeds increased by 0.14 compared to 2009. Wheat flour and sugar confectionery reached comparative advantage in 2015 compared to negative RCA value in 2009. Slovakia has the he highest comparative disadvantage with pork, similar to 2009. For chocolate, there was a small drop by 0.15 to value -0.09 compared to 2009. Other commodities were negative also in 2009,

4. Conclusion

Share of agricultural trade on the total foreign trade is relatively small. In 2015, the share on total export was 4.14% and 5.97% on import. Slovakia imports more agri-food products than exports within all followed years. This means that the balance of agricultural foreign trade was represented by negative values within all years. All followed plant production commodities belong to the most exported, besides barley. However, there is no animal production commodity among the most exported commodities. First place of imported commodities goes to coffee. Some most exported commodities are also the mostly imported ones – coffee, chocolate, bread and cheese. When comparing the most exported commodities and commodities with the highest RCA value, only wheat matches. RCA index calculates also with import of selected commodity.

Slovakia had a comparative advantage of fresh beef only in 2009 reaching 0.26. Concerning frozen beef, pork and poultry there was a comparative disadvantage. Concerning followed animal production commodities, the import of pork was the highest, and it even exceeded import of poultry. Within the followed years, Slovakia has a revealed comparative advantage only in relation to meat of sheep and goats, but this type of meat is the less significant concerning population nutrition. According to GLI index, only poultry is the most significant intra-industry trade, values of other commodities are unstable. This means that out of all followed commodities; only the amount of exported poultry was approximate to the amount of imported poultry. Slovakia has comparative advantage in all followed years for wheat, sunflower seeds and colza seed. In 2008, the RCA index of maize was 0, so this is considered as neither comparative advantage nor comparative disadvantage for this particular year. For trade with barley, there is a revealed comparative disadvantage only in 2013. Within followed years, sunflower seeds and colza seeds represent an inter-industry trade. Export and import values of these products are differing the most. More positive situation is with wheat and meslin flour. Trading with flour was considered as a trade with revealed comparative advantage within all followed years, besides 2009. Also, the export was higher than import, besides 2009. For bread and bakers' wares import exceed export and Slovakia has comparative disadvantage within all followed years. Positive balance in chocolate trade was only until 2011, since then the import of chocolate exceeds the export. The lowest export was in 2009 (119 273 thousand €), when the economic crisis arose. Since 2012, trade with chocolate has a comparative disadvantage. Coffee is very popular drink in Slovakia, so its import was constantly rising. Despite the fact coffee was one of 10 most exported commodities, Slovakia reached comparative disadvantage in trade with coffee within all followed years. RCA values were close to 0. Trade with milk and cream was competitive within all followed years. Situation with cheese got worse in 2008 and Slovakia is not competitive. Trade with sugar confectionery reached a comparative advantage since 2010, however very small, because RCA values were around 0.5. All followed commodities reached positive RCA values in 2006. Concerning animal production commodities, the highest values are values of trade with meat of sheep and goats and fresh or chilled beef. Trade with coffee reached the lowest RCA value. Positive RCA values were reached within smaller amount of commodities in 2009, compared to 2006. Barley was shifted to the fifth place, wheat took the first place. RCA value of chocolate was slightly over 0 (0.08) in 2000. All plant production commodities had positive RCA values, however, only meat of sheep and goats had positive RCA values from the animal production commodities. Pork had the lowest RCA value. Also, food-processing industry commodities, which had positive RCA in 2006, had a comparative disadvantage in 2009. These are flour and cheese. In 2015, the situation did not get any better, 10 commodities had negative RCA; compared to 11 in 2009. The only exception is flour, which reached comparative advantage. All followed trade with animal production commodities, besides meat of sheep and goats, reached comparative disadvantage.

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