

THE COMPARATIVE ADVANTAGE OF CZECH AGRICULTURAL TRADE IN RELATION TO THE MOST IMPORTANT TRADE PARTNER COUNTRIES IN THE PERIOD OF 2008–2011

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Abstract

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The objective of the presented article is to analyze Czech agricultural trade as a whole and primarily trade in relation to the six key trade partners, with an emphasis on the identification of changes in its structure and competitiveness that occurred within the period of the years 2008–2011. On the basis of the results of the conducted analyses, it may be stated that the problematic period of the years 2008–2011 did not affect the development of Czech agricultural trade in an especially negative manner (commodity and territorial structure did not change significantly), whether in relation to the analyzed partner countries (In the case of individual countries within the analyzed period, the value of export and import increased as follows: Germany: 1.5% per year and 0.1% per year respectively, Austria: 2.9% per year and –0.01% per year respectively, the Netherlands: –1.1% per year and –6.3% per year respectively, Italy: 8.7% per year and 7.3% per year respectively, Slovakia: 6.1% per year and –3.2% per year respectively, Poland: 3.5% per year and 11.1% per year respectively.), or in relation to the overall agricultural trade of the Czech Republic (Agricultural trade was able to face the stagnation of the global economy relatively very well. Only in the year 2009, there was a slight year-on-year decline in the value of agricultural export by approximately 5%, but, nevertheless, within the years 2010 and 2011, the value of agricultural trade increased year-on-year by approximately 3.6% and 14.8%, respectively). Growth in the area of the development of the value of export as well as import remained preserved. The comparative advantage of Czech export remained preserved in the case of key aggregations. The strong aggregations of Czech agricultural export generally include CN 01, CN 04, CN 10, CN 11, CN 12, CN 13, CN 17, CN 21, CN 22 and CN 24.

Czech agricultural trade, period of crisis, impact, structure, partners, value, comparative advantage

Foreign trade is among significant activities affecting not only the functioning of the global economy, but also the economies of the individual countries (Jeníček, Krepl, 2009). In terms of world trade, the Czech Republic belongs among small open economies. The turnover of the actual goods foreign trade exceeds the actual value of the GDP. The share of goods export and import in the GDP of the Czech Republic exceeds, on a long-term basis, sixty percent (Svatoš *et al.*, 2009). Agricultural and food production participates in the overall goods

trade of the Czech Republic, in the case of export, at a level of approximately 4.2%, and at a level of approximately 5.8% in the case of imports (data for the year 2011, CZSO). Agricultural foreign trade of the Czech Republic is generally characterized by a relatively high value of the negative balance, which currently ranges at a level of over CZK 35 billion. As there has been a significant restructuring of the Czech agricultural sector and the economy in general within the last two decades, the role of agricultural trade has also significantly changed.

The Czech Republic stopped being self-sufficient in a number of agricultural and food products (Kraus, 2008). Significant changes have occurred in the case of Czech agricultural trade, which have affected primarily its territorial structure, but certain changes have also been seen in the area of the commodity structure (Smutka, Belova, 2011). Czech agricultural trade has become more concentrated. A relatively limited number of aggregations comprise a pillar primarily of its own export operations. After entry into the EU, agricultural trade of the Czech Republic became even more concentrated primarily in relation to the EU27 countries Svatoš, 2009). These countries currently represent approximately eighty-eight percent of the value of the turnover of agricultural trade of the Czech Republic. In terms of the share in the turnover, the following six countries participate in the turnover of agricultural trade of the Czech Republic with a share of approximately 67.4%. Currently (2011), they are the following six countries – according to the turnover share model – Slovakia (16.9%), Germany (21.4%), the Netherlands (4.7%), Austria (4.7%), Poland (13.2%) and Italy (6.5%). The above therefore shows that the territorial structure of Czech agricultural trade is extremely concentrated, on countries immediately adjoining the Czech Republic. The extreme concentration of the agricultural trade of the Czech Republic represents, to a certain extent, an advantage in terms of transactional and marketing costs (Beneš *et al.*, 2004; Horská, 2010). Nevertheless, such concentration also represents an extreme threat to the stability of agricultural trade as a whole. Czech agricultural trade can generally be threatened by external as well as internal economic and non-economic factors. One of those threats can also include an economic crisis with its negative effects on development in the area of supply and demand. The crisis of the global economy, which occurred within the years 2008–2011, with its peak in 2009,

showed the overall vulnerability of the European economy, as well as of the global economy. A number of sectors were extremely affected by the crisis. In this regard, it is appropriate to note that agriculture was the sector that was affected by the crisis the least, relatively speaking (WTO, 2010). The crisis itself also showed the vulnerability of many countries in terms of the ability to maintain their comparative advantages in relation to partner markets (Bojnec, Ferto, 2009).

MATERIALS AND METHODS

The objective of the presented article is to analyze Czech agricultural trade as a whole and primarily trade in relation to the six key trade partners (Austria, Germany, Italy, the Netherlands, Poland and Slovakia), with an emphasis on the identification of changes in its structure and competitiveness that occurred within the period of the years 2008–2011. The main aim is to identify the impact of crisis on Czech foreign trade performance and individual commodity aggregations competitiveness in relation to key trade partners of the Czech Republic.

As regards methodology, the analysis deals not only with the development of the Czech agrarian trade in relation to above mentioned countries but it also analysed the general agrarian trade development in relation to all trade partners to highlight the position of above mentioned six countries within the Czech agrarian foreign trade performance. It is also important to mention that from the analytical point of view, the whole text was drawn up with respect to the agrarian trade development and other variables related thereto in the time framework including the period of 2008–2011. The reason why the analysis is focused on such a limited time period is the following. The global economy crisis appeared by the end of the year 2008. It is the reason why the year 2008 is

I: *The list of aggregations representing agrarian and food trade*

CN 01	Live animals	CN 13	Lac, gums, resins and other vegetable saps and extracts
CN 02	Meat and edible meat offal	CN 14	Vegetable plaiting materials
CN 03	Fish and crustaceans, molluscs and other aquatic invertebrates	CN 15	Animal or vegetable fats and oils
CN 04	Dairy produce	CN 16	Preparations of meat, of fish or of crustaceans
CN 05	Products of animal origin, not elsewhere specified	CN 17	Sugars and sugar confectionery
CN 06	Live trees and other plants	CN 18	Cocoa and cocoa preparations
CN 07	Edible vegetables and certain roots and tubers	CN 19	Preparations of cereals, flour, starch or milk bakers' wares
CN 08	Edible fruit and nuts	CN 20	Preparations of vegetables, fruit or nuts
CN 09	Coffee, tea, maté and spices	CN 21	Miscellaneous edible preparations
CN 10	Cereals	CN 22	Beverages, spirits and vinegar
CN 11	Products of the milling industry, malt, starches, inulin	CN 23	Residues and waste from the food industries
CN 12	Oil seeds and oleaginous fruits	CN 24	Tobacco and manufactured tobacco substitutes

Source: Czech Statistical Office, 2012

chosen as the first year of the analysis. The other years afterwards were directly affected by the crisis. Especially year 2009 was critical. The years 2010 and 2011 can be taken as period of global economy recovery. For the reasons of homogeneity of the data source, the Czech statistical office database was selected as the central data. Only for the calculation of RCA index (the index was calculated on USD base) the UN COMTRADE database was selected. As a source of data for LFI index calculation was selected again trade database processed by the Czech statistical office (the index was calculated on CZK base). The selected databases enable to follow development of the commodity trade according to the Harmonized system (CN). Taking into account that the main goal of the paper is especially an analysis of agrarian trade, the agrarian trade has been divided into 24 aggregations for the needs of a more detailed analysis – see the Tab. I.

The trade and comparative advantage analyses themselves deal with the issues of the agrarian trade of the Czech Republic against the background of the agrarian trade in the world (third countries i.e. World minus EU27) and in the EU countries. They have been drawn up using the basic statistical characteristics such as the basic index, the chain index and the geometric mean. A significant part of the analysis has also been drawn up by means of indexes the goal of which is the characteristics of comparative advantages of the Czech agrarian export in relation to selected trade partners or territories. The comparative or, as the case may be, competitive advantage (in relation to global market) is analysed by means of the RCA index. The concept of the RCA index is based on the Balassa index dating back to 1965 (Balassa, 1965). The Balassa index provides a simple overview of the comparative advantage distribution (e.g., Proudman and Redding, 2000; Hinloopen and Marrewijk, 2001).

Revealed comparative advantage index (RCA – global/regional level)

$$RCA = (X_{ij}/X_{nj})/(X_{it}/X_{nt}),$$

where:

X ... represents exports,

i represents the analyzed country,

j represents the analyzed sector of the economy,

n represents the group of countries or world,

t represents the sum of all sectors of the economy or the sum of all commodities or the sum of all branches.

The advantage of above mentioned index is its simplicity and quite good interpretation. Another very important characteristic of this index is its ability to take in consideration not only trade performance realized between individual trade partners, but it is also taking in consideration total trade performance realized within the whole territory – it does not matter if the trade operation is realized between analyzed subjects. A comparative

advantage is then proven if the RCA index value is greater than 1. If, however, the result of the calculated index is less than 1, it may be asserted that the given country has a comparative disadvantage in the case of the given commodity or group of commodities (Qineti, Rajcaniova, Matejkova, 2009).

The above specified analysis of the competitive ability of total Czech agrarian export is supplemented with an analysis of individual aggregations' (items) competitive ability in relation to selected trade partners (the bilateral comparative advantage). The bilateral comparative advantage of individual items of the Czech agrarian export with respect to selected countries (Austria, Germany, Italy, Netherlands, Poland and Slovakia) is analysed by means of the Lafay index. Apart from export flows, the Lafay index (hereinafter only the LFI index – (Lafay, 1992)) also takes into account import flows. As opposed to the standard RCA index, its advantage is its ability to take into account the intersectoral trade and also re-export. In this respect, its information value is stronger as compared to the traditional index of the obvious comparative advantage. It is suitable to utilize this index in the cases when a relationship between two business partners is analysed (Fidrmuc et al., 1999). The LFI index enables to analyse the position of every specific product within the foreign trade structure of every specific analysed country or a group of countries (Zaghini, 2003). The LFI index for the given "i" country and for every "j" analysed product or group of products is defined:

$$LFI_j^i = 100 \times [((x_j^i - m_j^i) / (x_j^i + m_j^i)) - (\sum_{j=1}^N (x_j^i - m_j^i)) / (\sum_{j=1}^N (x_j^i + m_j^i))] \times ((x_j^i + m_j^i) / (\sum_{j=1}^N (x_j^i + m_j^i))),$$

where: x_j^i and m_j^i represent exports and imports of "j" product realized by "i" country or a group of countries with respect to the rest of the world or with respect to a selected business partner (partner country). "N" is the number of analysed items. The positive value of the LFI index indicates existence of a comparative advantage within the analysed traded aggregation or a group of aggregations in question. And vice versa, the negative value of the LFI index signals that specialization and hence comparative advantages are lacking (Zaghini, 2005).

ANALYSIS AND DISCUSSION

Basic Development Characteristics of Agricultural Foreign Trade of the Czech Republic with an Emphasis on the Years 2008–2011

Agricultural foreign trade of the Czech Republic has undergone substantial changes within recent years – primarily the value (Tab. II) of exports as well as imports has significantly increased. Just within the years 2000–2011, the value of agricultural export increased from approximately CZK 48

II: *Development of the Value of Czech Agricultural Trade (CZK millions)*

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Import	65 012	69 228	69 040	74 259	93 822	103 522	112 737	129 333	131 048	133 735	140 008	156 111
Export	47 729	49 412	45 174	48 805	61 526	78 520	78 542	96 880	106 931	101 708	105 364	121 002
Balance	-17 282	-19 817	-23 866	-25 455	-32 295	-25 003	-34 195	-32 453	-24 117	-32 028	-34 644	-35 108

Source: Czech Statistical Office, 2012

billion to approximately CZK 121 billion. Within the same period, the value of agricultural import increased from CZK 65 billion to more than CZK 156 billion. Together with the growth in the value of implemented trade flows, the value of the negative trade balance also increased from approximately CZK 17 billion to more than CZK 35 billion.

On the basis of the above data, it may therefore be inferred that the value of agricultural import within the analyzed period increased approximately 2.4 times (8.2% per year on average), the value

of agricultural export increased 2.53 times (9.7% per year on average) and the value of the negative balance increased 2.3 fold. The above thus shows that, in the analyzed period, the value of agricultural export increased faster as compared to the value of agricultural import – nevertheless, not even the higher rate of growth of the value of agricultural export could stop the growth in the value of the negative balance (for details, see Tab. III).

Generally, it is evident that within the period that immediately preceded the global economic crisis,

III: *Rate of Growth of the Value of Czech Agricultural Trade (growth coefficient)*

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	00–11	00–08	09–11
Import	1.073	1.065	0.997	1.076	1.263	1.103	1.089	1.147	1.013	1.021	1.047	1.115	1.082	1.090	1.060
Export	1.200	1.035	0.914	1.080	1.261	1.276	1.000	1.233	1.104	0.951	1.036	1.148	1.097	1.116	1.042

Source: Czech Statistical Office, 2012

IV: *Commodity Structure of Czech Agricultural Trade in the Years 2008–2011*

Import	2008	2009	2010	2011	Export	2008	2009	2010	2011
CN 01	1.1%	1.4%	1.3%	1.2%	CN 01	4.6%	4.4%	4.5%	4.8%
CN 02	10.7%	11.9%	12.1%	12.5%	CN 02	3.8%	3.8%	4.1%	4.3%
CN 03	1.8%	1.7%	1.7%	1.8%	CN 03	1.4%	1.3%	1.5%	1.5%
CN 04	7.7%	7.7%	8.1%	7.9%	CN 04	13.7%	12.3%	12.7%	13.3%
CN 05	0.9%	0.9%	0.9%	1.0%	CN 05	0.5%	0.6%	0.6%	0.7%
CN 06	2.4%	2.4%	2.3%	2.3%	CN 06	0.3%	0.3%	0.4%	0.3%
CN 07	6.8%	6.9%	7.8%	6.8%	CN 07	1.9%	2.0%	2.3%	2.2%
CN 08	9.0%	8.4%	8.3%	7.8%	CN 08	2.2%	2.3%	2.4%	2.2%
CN 09	2.5%	2.6%	2.6%	3.0%	CN 09	1.2%	1.4%	1.7%	1.7%
CN 10	1.9%	1.4%	1.4%	1.5%	CN 10	7.1%	8.8%	7.1%	10.1%
CN 11	0.8%	0.8%	0.8%	0.9%	CN 11	3.0%	3.1%	2.5%	2.6%
CN 12	2.2%	1.7%	2.3%	2.6%	CN 12	7.8%	6.7%	5.3%	4.3%
CN 13	0.8%	0.5%	0.5%	0.5%	CN 13	0.7%	1.0%	0.9%	0.8%
CN 14	0.0%	0.0%	0.0%	0.0%	CN 14	0.0%	0.0%	0.0%	0.0%
CN 15	4.1%	4.7%	3.9%	4.7%	CN 15	3.8%	3.8%	4.7%	4.2%
CN 16	3.2%	3.3%	3.0%	2.9%	CN 16	2.5%	3.0%	2.9%	3.1%
CN 17	2.9%	3.3%	2.9%	3.0%	CN 17	5.4%	5.2%	5.4%	5.2%
CN 18	4.6%	4.6%	4.7%	4.6%	CN 18	3.8%	3.5%	3.5%	3.5%
CN 19	6.7%	6.7%	6.6%	6.7%	CN 19	5.2%	5.1%	5.7%	5.7%
CN 20	5.0%	4.7%	4.6%	4.1%	CN 20	2.1%	2.0%	1.9%	2.1%
CN 21	8.0%	7.5%	7.3%	7.3%	CN 21	8.5%	9.0%	8.0%	7.8%
CN 22	7.4%	7.3%	6.9%	7.3%	CN 22	9.5%	10.0%	9.2%	7.5%
CN 23	6.7%	6.3%	6.0%	5.7%	CN 23	4.4%	3.7%	5.2%	5.2%
CN 24	2.6%	3.3%	3.6%	3.8%	CN 24	6.6%	6.8%	7.6%	7.1%
Total	100%	100%	100%	100%	Total	100%	100%	100%	100%

Source: Czech Statistical Office, 2012

the dynamics of growth of agricultural trade of the Czech Republic was very high. Within the years 2000–2008, the average rate of growth of the value of agricultural export and import reached 11.6% per year or 9% per year. The subsequent crisis in the year 2009 meant a significant decline in the area of development – or the dynamics of growth of the value of agricultural trade. The year-on-year rate of growth of the value of agricultural import ranged at a level of approximately 2.1% per year and the year-on-year rate of growth of the value of agricultural export actually decreased and, in a year-on-year comparison, the value of implemented exports decreased by approximately 5%. Then, within the subsequent years, there was a recovery in the growth of the value of implemented trading along with the recovery of the growth of the economy. Nevertheless, the period of the years 2009–2011 differs from the period of 2000–2008 with significantly lesser dynamics of growth of implemented trading. The average value of the year-on-year growth in the value of exports and imports within this period ranged at a level of approximately 4.2% or 6%, respectively. A characteristic feature for that period is a higher rate of growth of the value of agricultural import as compared to export, which once again initiated the growth of the negative balance. The above thus shows that the crisis had effects on Czech agricultural trade primarily in terms of the dynamics of the development of its value. The commodity structure of Czech agricultural trade remained more or less untouched during the time of the crisis – see Tab. IV. The data shows that Czech agricultural export within the years 2008–2011 was dominated by the same aggregations as within the period immediately prior to the crisis. The crisis itself had a minimal effect on the share of the individual aggregations in the resulting value of agricultural export. The most significant changes in terms of absolute values occurred in the case of aggregations CN 10 (significant strengthening of the share), CN 12 and CN 22 (in both cases, a significant weakening of the share in the total export). In this regard, it is important to note that if we take into consideration changes not by way of absolute

indicators, but rather by way of relative indicators, then the analyzed period did indeed bring about more significant fluctuations – which, however, in view of the low share of a number of aggregations in Czech agricultural export, did not bring about significant changes, with a few exceptions. In this regard, the share of aggregations CN 10, CN 09, CN 05, CN 16, CN 23 and CN 07 strengthened the most significantly. Conversely, aggregations CN 12, CN 22 and CN 11 significantly weakened.

In relation to agricultural import, in terms of absolute changes in the value of shares, such significant changes did not occur as in the case of exports (where the share strengthened more significantly only in the case of aggregations CN 02 and CN 24. Conversely, the share of aggregations CN 08 and CN 23 weakened). Agricultural import proved to be significantly more stable and more resistant to changes in the external environment as compared to export. Similarly, even relative changes in percentage values of shares of individual aggregations were significantly lower within the analyzed period as compared to export. In this regard, the most significant fluctuations occurred within aggregations CN 24, CN 09 (which unusually strengthened) and CN 13, CN 10 and CN 20 (which unusually weakened).

Comparative advantage of Czech Agricultural Trade – Basic Development Characteristics with an Emphasis on the Period of 2008–2011

Agricultural trade of the Czech Republic as a whole does not have comparative advantages either in relation to EU member countries, or in relation to third countries. In terms of the distribution of comparative advantages, Czech merchandise trade only has comparative advantages in terms of trade in processed industrial products (for details, see Tab. V).

Nevertheless, the Czech Republic figures, both in terms of the global market, as well as in terms of the market of the EU countries, not only as an agricultural importer, but also as an exporter. Such fact can be explained in such a way that the Czech Republic is capable – if not in the case of agricultural

V: Development of comparative advantage of individual main components of the Czech foreign trade in 2000–2010 (with respect to the EU27 countries and third countries)

CR RCA in relation to EU27	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Agriculture	0.43	0.41	0.43	0.43	0.41	0.51	0.51	0.50	0.35	0.50	0.42	N/A
Fuels and Raw materials	1.13	1.18	1.62	1.23	1.00	0.91	0.87	0.85	0.57	1.09	0.88	N/A
Processed products	1.09	1.17	1.29	1.31	1.16	1.25	1.28	1.20	0.85	1.20	1.08	N/A
CR RCA in relation to „third countries“ (All countries in the world except for the EU members)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Agriculture	0.99	0.79	0.53	0.69	0.59	0.65	0.45	0.38	0.31	0.30	0.28	N/A
Fuels and Raw materials	0.19	0.19	0.20	0.17	0.15	0.14	0.09	0.10	0.07	0.11	0.12	N/A
Processed products	1.16	1.17	1.18	1.18	1.21	1.24	1.29	1.28	1.37	1.29	1.30	N/A

Source: Comtrade, own processing, 2012

VI: *Distribution of Comparative Advantages of Czech Agricultural Foreign Trade – RCA and LFI Index*

World (including EU)*	RCA					World (including EU)**	LFI				
	2007	2008	2009	2010	2011		2007	2008	2009	2010	2011
CN 01	2.517	2.851	2.67	2.847	3.521	CN 01	1.7556	1.7714	1.6198	1.6518	1.7748
CN 02	0.4	0.423	0.426	0.494	0.52	CN 02	-3.0515	-3.3518	-4.1294	-3.9717	-4.0551
CN 03	0.193	0.2	0.203	0.2	0.28	CN 03	-0.1269	-0.1477	-0.077	-0.0804	-0.1075
CN 04	2.387	2.173	2.136	2.109	2.266	CN 04	3.886	2.9145	2.1694	2.2746	2.6797
CN 05	0.825	0.761	0.954	0.963	1.063	CN 05	-0.1828	-0.1963	-0.147	-0.1545	-0.1586
CN 06	0.144	0.145	0.174	0.211	0.418	CN 06	-0.9887	-1.0606	-1.0557	-0.9638	-0.9647
CN 07	0.436	0.429	0.41	0.469	0.547	CN 07	-2.648	-2.4439	-2.4875	-2.7124	-2.257
CN 08	0.381	0.353	0.346	0.433	0.362	CN 08	-3.1124	-3.2651	-2.9577	-2.9558	-2.6925
CN 09	0.495	0.45	0.491	0.557	0.498	CN 09	-0.5659	-0.6385	-0.5964	-0.4544	-0.6847
CN 10	0.959	0.73	1.12	0.95	1.084	CN 10	2.6924	2.6111	3.7201	2.7505	4.1144
CN 11	1.895	2.156	2.268	2.1	1.995	CN 11	0.8142	1.0765	1.0858	0.8165	0.8261
CN 12	1.621	1.358	1.155	0.858	0.643	CN 12	2.771	2.783	2.5748	1.4634	0.903
CN 13	1.453	1.777	2.196	2.179	2.054	CN 13	0.0353	-0.0384	0.1302	0.1924	0.1528
CN 14	0.043	0.08	0.064	0.091	0.36	CN 14	-0.0098	-0.0105	-0.0123	-0.0127	-0.0129
CN 15	0.636	0.549	0.626	0.608	0.472	CN 15	0.2297	-0.2577	-0.6104	0.2211	-0.294
CN 16	0.653	0.738	0.886	0.925	0.918	CN 16	-0.4194	-0.3388	-0.1812	-0.0418	0.0387
CN 17	1.661	1.922	1.544	1.467	1.295	CN 17	0.6327	1.2044	1.0354	1.1938	1.0771
CN 18	1.305	1.348	1.081	1.069	1.118	CN 18	-0.5125	-0.4526	-0.5863	-0.5841	-0.5244
CN 19	1.098	1.239	1.186	1.366	1.372	CN 19	-0.7189	-0.7101	-0.7008	-0.4134	-0.4566
CN 20	0.538	0.46	0.442	0.454	0.499	CN 20	-1.1864	-1.4393	-1.2239	-1.2131	-1.0189
CN 21	1.93	2.119	2.109	1.934	1.944	CN 21	0.0609	0.1138	0.7592	0.4058	0.2061
CN 22	1.191	1.178	1.248	1.223	0.946	CN 22	1.6782	1.0666	1.248	1.1346	0.0929
CN 23	0.933	0.916	0.716	1.046	1.085	CN 23	-0.9426	-1.1482	-1.2817	-0.4444	-0.2575
CN 24	1.541	2.274	2.055	2.499	2.647	CN 24	-0.09	1.9583	1.7047	1.8977	1.6186

* total world agricultural trade performance is analyzed in relation to total Czech agricultural trade performance (RCA index considers all trade flows realized within the world market – It is not taking in consideration, that the Czech Republic does not participate in all transaction realized within the world market)

** only transactions realized between the Czech Republic and all trade partners (including EU members) are taken in consideration – LFI index includes only bilateral trade flows

Source: Czech Statistical Office, 2012

trade as a whole, to acquire comparative advantages at least in some of its segments. If we focus on the distribution of the comparative advantages that the Czech Republic has in the case of agricultural trade, we ascertain that within the global market in agricultural and food products, the Czech Republic is capable of acquiring considerable comparative advantages and is also capable of maintaining such advantages. The following Tab. VI provides an overview of the distribution of individual aggregations' comparative advantages in relation to the world market. The RCA index provides an overview of the available comparative advantages in view of the total volume of all transactions having occurred on the global agricultural market, and the LFI index provides an overview of the comparative advantages that the Czech Republic has in terms of bilateral exchange.

Tab. VIII shows that there is a segment of approximately eight aggregations within which the

Czech Republic has clear advantages within partner markets, and further, there are approximately nine aggregations within which the Czech Republic does not have comparative advantages at all. In the case of the remaining seven aggregations, the comparative advantages spill over. The strong aggregations of Czech agricultural export generally include CN 01, CN 04, CN 10, CN 11, CN 12, CN 13, CN 17, CN 21, CN 22 and CN 24.

Agricultural Foreign Trade of the Czech Republic in Relation to the Most Significant Trade Partners within the Period of the Years 2008–2011

The territorial structure of Czech agricultural trade is very concentrated. Six countries (Germany, Austria, Netherlands, Italy, Poland and Slovakia) participate in the turnover of Czech agricultural trade with a pivotal share. The value of trade in relation to the countries stated above is continually

growing. The period of stagnation led to a slowdown in the growth of mutual trade for only a temporary period. Whereby the value of imports increased continually and the value of exports in the years 2009 and 2010 fell below the level of the year 2008, but, nevertheless, in 2011 it then quickly increased. Currently (2011), the value of Czech exports to the markets of the countries set out above represents approximately CZK 89 billion, and, conversely, the value of imports coming onto the market of the Czech Republic ranges at a level of approximately CZK 97 billion. The Tab. VII shows that agricultural trade between the Czech Republic and the countries set out above did undergo certain changes within recent years, but those changes did not affect the structure of trade in any significant way. The commodity structure of mutual trade proved to be stable even despite economic problems.

The fact that the analyzed countries are key trading partners of the Czech Republic within most of the aggregations, both in terms of export as well as import, is also evidenced by the Tab. VIII, which contains data regarding the share of the analyzed countries in Czech agricultural export and import within the individual aggregations. In the case of

sixteen aggregations, the analyzed countries are key partners of Czech agricultural import with a share exceeding sixty percent. In the case of eighteen aggregations, the said countries are also key partners of Czech agricultural export with an average share exceeding seventy percent. The data set out in Tab. IX shows that the key shares of the individual countries in Czech agricultural export and import remained more or less untouched within the analyzed period. Certain fluctuations in the order of units of percentages did occur – but, nevertheless, such fluctuations do not deviate from the results of long-term observation. The thing that is crucial for the development of Czech agricultural trade is the fact that, within the analyzed period, the rate of growth of agricultural export exceeded the rate of growth of the value of agricultural import in the case of five of the six analyzed countries (Poland is an exception in this regard). This information is crucial primarily because of the fact that despite the stagnation of the world economy and domestic economy, Czech agrarian export was able to maintain, in relation to the individual partners, relatively high dynamics of growth of the actual value.

VII: Development of Agricultural Trade of the Czech Republic in Relation to the Analyzed Countries (in mil. CZK)

	Export 2008	Import 2008	Export 2009	Import 2009	Export 2010	Import 2010	Export 2011	Import 2011
CN 01	3 711.2	1 117	3 477.7	1 364.5	3 249.6	1 019.3	3 917.9	1 102.3
CN 02	3 677	11 095.2	3 582.9	12 525.1	3 849.4	13 039.6	4 763.9	13 300.2
CN 03	1 073.4	971	1 226.4	1 072.4	1 218.1	1 063.4	1 342.5	569.6
CN 04	10 886.5	9 037.3	9 461.8	9 070.5	9 751.9	10 021.6	11 689.8	10 852.1
CN 05	381	786.9	497.7	899.7	440.5	880.8	534.5	979.1
CN 06	252.1	2 869.7	318.3	3 049.9	351.1	3 035.1	345.3	3 055.5
CN 07	1 767.1	5 700.6	1 904.4	5 826.7	2 228.7	6 426.4	2 310.4	5 310.6
CN 08	2 061.1	6 759.9	2 025.3	6 111.8	2 037.1	6 248.6	2 229	3 722
CN 09	946.7	2 088.2	953.3	2 185	1 134.4	1 960.6	1 399.4	2 276.8
CN 10	7 330.3	1 746.1	9 220.3	1 383.4	7 186	1 442.9	11 589.3	1 523.4
CN 11	2 295.6	999.8	1 973.6	985.2	1 678.8	980.6	1 796.7	1 238.2
CN 12	6 768.6	1 913.5	5 904.7	1 569.6	4 145.2	2 199.6	3 877.1	2 650.9
CN 13	333.1	365.8	302.3	203.1	281.3	215.5	265.2	228.5
CN 14	4.4	19.1	3.4	20.8	4.2	19.7	8.1	16.7
CN 15	2 944.2	3 966.4	2 695.9	4 916.4	4 310.1	3 815.1	4 527.6	4 899.8
CN 16	2 266.5	2 730.2	2 463.3	2 785.6	2 274.1	2 758.4	2 639.8	2 592.6
CN 17	3 535.5	2 701.8	2 667.3	2 433.8	2 933	2 832.3	3 493.3	3 230.7
CN 18	2 474.2	4 678.5	2 383.4	4 794.2	2 301.3	4 603.6	2 873.1	5 441.8
CN 19	3 432	6 814.9	3 462.6	7 196.4	3 579.4	7 095.2	4 261.2	7 757.4
CN 20	1 777.5	4 360.1	1 736.2	4 175.2	1 601.1	4 093	1 780.4	3 873.7
CN 21	5 027.8	6 798.3	5 322.1	6 397.6	4 792.6	6 160.6	5 518.2	6 753.3
CN 22	6 809.1	5 680.3	7 130.4	5 770	6 752	5 997	6 211.6	6 395.7
CN 23	3 687.1	6 885.7	3 122.8	6 527.7	4 184	6 206.5	4 610.9	5 954
CN 24	5 180.9	1 551.4	5 019.7	2 469.4	5 927.1	2 826.1	7 009.5	3 299.5
Total	78 623.2	91 637.6	76 855.5	93 734.1	76 210.9	94 941.7	88 994.4	97 024.1

Source: Czech Statistical Office, 2012, own processing

VIII: Position of Analyzed Countries within the Commodity Structure of Czech Agricultural Foreign Trade

	Export					Import					Year-on-year growth rate of export			Year-on-year growth rate of import			GEO-MEAN	GEO-MEAN
	2008	2009	2010	2011	2008	2009	2010	2011	2008	2009	2010	2011	2008	2009	2010	2011		
CN 01	75.52%	77.33%	68.40%	66.93%	74.72%	72.08%	56.35%	59.62%	0.700	1.297	1.079	0.993	0.747	0.806	1.019	0.850		
CN 02	89.99%	93.13%	88.78%	92.56%	78.86%	78.49%	76.66%	68.16%	1.044	1.211	1.038	1.095	1.461	1.010	1.146	1.191		
CN 03	72.87%	93.48%	79.15%	73.72%	41.96%	46.95%	44.09%	20.59%	1.101	1.751	1.265	1.346	1.367	0.878	0.892	1.023		
CN 04	74.46%	75.34%	73.01%	72.86%	89.54%	88.15%	88.17%	88.16%	0.790	1.441	1.272	1.132	1.084	1.111	1.109	1.101		
CN 05	71.75%	79.76%	70.25%	66.07%	67.37%	76.12%	66.98%	63.66%	1.060	1.089	1.128	1.092	3.772	0.899	1.657	1.778		
CN 06	86.34%	101.37%	92.39%	91.59%	91.45%	95.16%	93.85%	85.73%	0.541	0.903	2.810	1.111	0.808	0.803	1.169	0.912		
CN 07	88.36%	94.46%	91.68%	87.09%	63.85%	62.75%	58.71%	50.31%	0.993	0.963	0.955	0.970	0.940	0.979	0.918	0.945		
CN 08	88.27%	85.42%	82.27%	84.56%	57.58%	54.50%	53.61%	30.70%	1.010	1.170	1.324	1.161	0.813	1.315	0.830	0.961		
CN 09	71.45%	66.34%	62.40%	69.41%	62.95%	63.44%	52.86%	47.92%	1.113	1.227	0.996	1.108	1.497	1.035	1.153	1.213		
CN 10	96.94%	102.85%	95.92%	95.03%	71.65%	73.00%	71.36%	63.74%	0.744	1.052	1.419	1.036	1.392	1.195	0.846	1.121		
CN 11	71.20%	63.44%	63.81%	57.62%	90.15%	89.16%	86.78%	88.57%	0.823	0.845	1.050	0.901	1.563	0.646	1.222	1.072		
CN 12	80.80%	86.91%	74.59%	74.13%	67.66%	69.88%	67.56%	64.89%	1.097	0.430	1.134	0.812	0.559	2.014	1.039	1.054		
CN 13	43.60%	31.07%	28.24%	26.98%	35.58%	30.22%	28.32%	29.07%	1.394	1.099	0.846	1.090	0.632	1.655	0.879	0.972		
CN 14	88.00%	85.00%	59.53%	32.40%	59.69%	50.73%	40.27%	22.57%	4.500	1.444	3.923	2.943	1.600	0.375	4.556	1.398		
CN 15	72.43%	70.54%	87.20%	89.99%	73.11%	78.16%	70.68%	67.04%	0.832	1.841	2.709	1.607	1.403	0.550	1.598	1.072		
CN 16	83.42%	79.95%	73.79%	71.25%	64.16%	63.66%	64.81%	56.32%	1.211	0.760	1.122	1.011	1.137	1.068	1.092	1.099		
CN 17	61.74%	50.51%	51.28%	55.13%	71.12%	55.28%	68.63%	68.29%	0.984	0.832	1.950	1.169	0.931	1.211	1.089	1.071		
CN 18	61.06%	67.08%	62.38%	67.38%	76.78%	78.46%	70.39%	75.70%	0.762	0.933	1.085	0.924	1.250	1.009	1.023	1.089		
CN 19	61.27%	66.21%	59.90%	61.70%	77.65%	80.29%	77.28%	74.60%	0.863	1.151	1.261	1.078	1.040	1.080	1.216	1.109		
CN 20	79.32%	86.68%	78.95%	71.73%	66.52%	66.90%	64.15%	60.07%	1.087	0.923	0.978	0.994	1.156	1.078	0.892	1.036		
CN 21	55.15%	58.38%	57.06%	58.56%	64.51%	63.63%	60.20%	59.09%	0.922	0.885	0.960	0.922	0.952	1.116	1.111	1.057		
CN 22	66.85%	69.95%	69.54%	68.47%	58.34%	59.17%	61.66%	56.24%	0.840	1.061	1.011	0.966	1.024	1.128	1.523	1.207		
CN 23	78.99%	84.04%	76.84%	73.59%	78.53%	77.42%	73.62%	66.47%	0.825	1.323	1.147	1.078	1.084	1.065	1.155	1.101		
CN 24	73.45%	72.90%	74.36%	81.44%	45.55%	56.14%	55.83%	55.25%	1.228	1.311	1.408	1.314	1.649	1.094	1.497	1.393		
Total	73.53%	75.56%	72.33%	73.55%	69.93%	70.09%	67.81%	62.15%	0.873	1.010	1.257	1.035	1.156	1.034	1.148	1.111		

Source: Czech Statistical Office, 2012, own processing

IX: *have of Germany, Slovakia, Poland, Italy, Netherlands and Austria in Czech Agricultural Foreign Trade (Selected Characteristics of the Rate of Growth of the Value of Trade)*

	Export					Import					Year-on-year growth rate of export			Year-on-year growth rate of import			GEO-MEAN	GEO-MEAN
	2008	2009	2010	2011	2008	2009	2010	2011	2008	2009	08-09	09-10	10-11	08-09	09-10	10-11		
Germany	21.65%	23.22%	19.82%	20.00%	25.89%	25.35%	25.30%	22.35%	1.02	1.008	1.02	0.884	1.159	0.999	1.045	0.985	1.009	1.009
Austria	5.25%	5.56%	6.16%	5.06%	5.14%	5.19%	4.97%	4.30%	1.008	1.008	1.008	1.147	0.943	1.031	1.003	0.965	0.999	0.999
Netherlands	1.98%	1.88%	1.75%	1.70%	10.21%	9.97%	10.00%	7.06%	0.901	0.961	0.901	0.961	1.117	0.996	1.05	0.787	0.937	0.937
Italy	6.51%	7.26%	6.96%	7.39%	5.50%	5.07%	5.26%	5.70%	1.061	0.994	1.061	0.994	1.218	0.94	1.087	1.21	1.073	1.073
Slovakia	27.03%	27.44%	27.70%	28.51%	10.20%	9.79%	7.75%	7.77%	0.966	1.045	0.966	1.045	1.182	0.98	0.828	1.118	0.968	0.968
Poland	11.12%	10.20%	9.95%	10.89%	13.00%	14.73%	14.54%	14.97%	0.873	1.01	0.873	1.01	1.257	1.156	1.034	1.148	1.111	1.111

Source: Czech Statistical Office, 2012, own processing

The following Tab. X provides an overview of the average values of Czech agricultural exports and imports implemented in relation to the individual analyzed countries. Further, the table contains data regarding the share of individual aggregations in Czech agricultural export, or import in the case of the individual analyzed countries. The data in the table are then arranged according to column 2, which contains information regarding the development of the average deviation of export or import within the individual aggregations of Czech agricultural trade implemented between the Czech Republic and individual analyzed countries. The data shows that the greatest fluctuations were seen primarily in relation to the key aggregations.

In relation to Germany, the period of the years 2008–2011 brought about the most significant fluctuations in the value of export in the case of aggregations CN 10, CN 12, CN 04, CN 24 and CN 23, and, in the case of imports, aggregations CN 04, CN 02, CN 08 and CN 23. In the case of Austria, the aggregations with the greatest changes in the absolute value were CN 15, CN 10 and CN 17 in the case of exports, and CN 09, CN 02 and CN 24 in the case of imports. In relation to the Netherlands, more significant changes in the value of exports only occurred in the case of aggregation CN 12, and on the import side the period brought about more significant fluctuations primarily in the case of aggregations CN 08, CN 07, CN 02, CN 15 and CN 20. Export going into Italy showed the most significant fluctuations within the analyzed period in the case of aggregations CN 04, CN 24 and CN 23; in the case of imports, the analyzed period had the greatest effects in the case of the change in the value of aggregations CN 22, CN 08, CN 21 and CN 19. Agricultural export to Slovakia within the analyzed period was affected by fluctuations primarily within aggregations CN 02, CN 24, CN 10, CN 07, CN 15 and CN 04. Import in relation to Slovakia showed changes primarily within aggregations CN 15, CN 21, CN 17, CN 04, CN 09 and CN 07. The last analyzed country is Poland. The most significant changes in terms of the development of the value of exports affected aggregations CN 15, CN 10, CN 11 and CN 12. In relation to agricultural import, the most significant value fluctuations were seen for aggregations CN 04, CN 02, CN 24, CN 15, CN 19, CN 22, CN 21 and CN 09.

Distribution of Comparative Advantages of Czech Agricultural Foreign Trade in Relation to Selected Countries

Tab. XI summarizes the development of comparative advantages of Czech agricultural trade in relation to individual analyzed countries in period of the years 2008–2011.

The data shows that, in terms of the distribution of comparative advantages, there is, in the case of the Czech Republic, in relation to each analyzed country, a relatively strong segment of aggregations with comparative advantages. In relation to

X: Selected Characteristics of Agricultural Foreign Trade of the Czech Republic in Relation to the Analyzed Countries

Germany				Austria				The Netherlands				Italy				Slovakia				Poland			
EXPORT in mil. CZK, %																							
	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3
10	5537	1223	24	15	658	416	11	12	239	108	12	04	1574	248	21	2	2961	358	10	15	645	390	6
12	3115	851	14	10	650	177	11	02	172	63	9	24	4195	158	55	24	1024	288	3	10	1760	282	15
04	4664	493	20	17	885	120	15	21	332	58	17	23	203	121	3	10	649	248	2	12	801	282	7
24	350	272	2	01	1141	94	19	24	69	34	3	10	192	99	3	7	1621	209	5	11	1175	144	10
23	1234	241	5	12	406	81	7	22	74	30	4	21	511	71	7	15	1877	202	6	4	734	134	6
22	1801	229	8	02	177	49	3	17	210	23	11	15	68	48	1	4	2895	189	10	23	982	122	9
21	639	112	3	22	340	44	6	04	312	23	16	22	172	48	2	18	1280	167	4	17	439	99	4
15	336	75	1	04	269	43	5	23	36	16	2	17	35	26	0	19	2166	155	7	21	1032	94	9
01	901	69	4	19	233	41	4	15	36	16	2	01	190	22	2	12	493	121	2	19	626	69	5
17	607	60	3	20	86	28	1	10	44	13	2	12	119	20	2	9	533	115	2	1	470	52	4
19	509	40	2	03	124	27	2	19	39	12	2	19	112	16	1	21	2219	112	7	18	448	49	4
11	451	34	2	05	45	23	1	18	157	12	8	18	39	15	1	17	982	109	3	22	817	41	7
09	339	33	1	21	432	21	7	07	15	5	1	03	78	12	1	16	2031	109	7	3	110	39	1
05	226	32	1	23	78	19	1	08	24	5	1	20	49	8	1	22	3521	100	12	24	138	37	1
03	358	30	2	09	93	17	2	20	13	5	1	08	22	7	0	23	1369	99	5	8	139	22	1
08	205	29	1	16	67	16	1	13	41	5	2	07	12	6	0	1	752	99	2	2	167	19	1
02	475	29	2	07	46	14	1	09	5	4	0	02	16	6	0	3	537	54	2	9	137	17	1
20	118	25	1	08	92	13	2	01	135	4	7	13	44	4	1	11	212	52	1	16	146	12	1
06	103	24	0	11	86	9	1	16	10	3	0	05	10	4	0	20	1135	50	4	20	324	11	3
13	126	24	1	18	24	9	0	05	6	2	0	11	9	2	0	8	1607	41	5	5	124	11	1
07	154	17	1	24	9	5	0	11	3	2	0	09	2	2	0	6	174	15	1	7	205	7	2
18	559	16	2	06	20	4	0	06	5	2	0	16	3	1	0	13	33	7	0	6	15	6	0
16	154	9	1	13	8	1	0	03	8	1	0	06	0	0	0	5	53	4	0	13	43	5	0
14	1	0	0	14	0	0	0	14	0	0	0	14	0	0	0	14	2	0	0	14	2	2	0
IMPORT in mil. CZK, %																							
	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3
02	5446	438	16	09	223	107	3	08	1402	583	11	22	1195	171	16	15	956	326	8	2	3083	445	15
04	4085	388	12	02	1381	99	20	07	2042	213	16	08	1659	110	22	21	856	212	7	4	3326	328	17
08	1686	348	5	24	244	97	4	02	1481	186	11	21	397	110	5	17	967	212	8	24	1048	272	5
23	4728	347	14	12	334	86	5	15	465	174	4	19	600	107	8	4	1630	205	13	15	1125	221	6
24	1048	209	3	22	643	76	9	20	671	149	5	07	567	76	8	9	286	172	2	19	1874	193	9
15	1369	206	4	08	211	65	3	16	225	93	2	18	283	44	4	7	479	170	4	22	789	168	4
12	809	181	2	20	567	54	8	18	999	90	8	15	170	38	2	12	486	169	4	21	2060	142	10
21	2097	175	6	21	541	49	8	22	513	90	4	09	187	29	2	8	468	164	4	9	797	125	4
03	462	130	1	15	314	48	5	04	324	60	3	04	231	29	3	18	765	153	6	16	1046	90	5
18	1801	127	5	23	357	39	5	06	2256	53	17	02	426	20	6	22	1417	112	11	18	842	70	4
07	1477	111	4	07	236	38	3	23	410	48	3	10	595	19	8	10	459	71	4	20	944	61	5
09	521	109	2	18	189	32	3	03	185	42	1	24	29	18	0	19	1245	69	10	17	531	52	3
19	2670	106	8	16	162	31	2	21	576	41	4	20	570	18	8	20	422	51	3	23	549	49	3
17	768	105	2	17	258	30	4	12	234	39	2	23	148	13	2	11	366	36	3	7	1015	48	5
22	1404	98	4	11	205	27	3	24	160	35	1	06	106	9	1	16	170	34	1	12	190	40	1
01	527	92	2	05	91	26	1	09	115	25	1	11	17	7	0	23	202	21	2	8	285	28	1
13	202	51	1	19	559	21	8	05	94	22	1	16	193	7	3	1	281	18	2	3	198	21	1
10	233	47	1	10	71	13	1	19	268	21	2	03	19	6	0	5	122	9	1	10	145	19	1
05	494	43	1	06	44	11	1	17	219	18	2	13	15	5	0	6	37	8	0	11	92	15	0
20	952	43	3	01	43	10	1	11	38	12	0	05	54	4	1	2	674	8	5	1	71	13	0
16	921	30	3	04	150	4	2	01	217	5	2	01	12	4	0	24	7	7	0	5	32	12	0
11	333	29	1	03	6	2	0	13	9	3	0	12	31	2	0	3	50	4	0	6	67	8	0
06	493	13	1	13	6	2	0	10	21	1	0	17	57	2	1	14	2	2	0	13	8	1	0
14	6	2	0	14	0	0	0	14	8	1	0	14	0	0	0	13	13	1	0	14	2	1	0

Note: 1 – the average value of agrarian export/import in 2008–2011, Note: 2 – the value of average deviation of agrarian export/import in monitored time period, Note: 3 – the average share of monitored aggregation in total value of Czech agrarian export/import

Source: Czech Statistical Office, 2012, own processing

XI: Value of the LFI Index of Czech Agricultural Foreign Trade in Relation to Germany, Austria, Netherlands, Italy, Slovakia and Poland

Germany	2008	2009	2010	2011	Average deviation	Austria	2008	2009	2010	2011	Average deviation
10	8.389	13.285	9.534	13.483	2.211	15	1.153	2.071	9.364	-0.469	3.167
12	7.832	6.775	4.200	2.755	1.913	10	2.315	5.399	4.294	7.444	1.559
23	-5.344	-5.006	-2.436	-3.146	1.192	17	8.394	4.182	4.934	4.654	1.427
04	6.198	3.185	3.484	3.443	1.060	12	3.722	0.902	0.168	-0.837	1.367
08	-2.548	-2.241	-1.932	-0.928	0.492	01	9.160	10.280	7.493	10.034	0.915
22	1.748	2.263	2.340	0.991	0.466	02	-8.290	-8.053	-7.717	-10.166	0.805
02	-5.655	-6.680	-6.726	-7.146	0.449	09	-2.411	-0.338	-0.392	-0.274	0.778
24	-0.637	-1.312	-0.984	0.020	0.420	24	-0.769	-2.059	-2.728	-1.205	0.703
21	-2.131	-1.594	-1.171	-1.444	0.277	21	-0.661	0.287	-1.054	0.158	0.540
09	0.194	-0.140	0.222	-0.321	0.219	08	-0.705	-1.270	-1.224	0.164	0.488
18	-1.311	-1.216	-1.059	-1.732	0.201	20	-3.209	-3.967	-3.715	-2.736	0.434
19	-2.703	-2.958	-2.371	-2.523	0.192	04	0.794	1.738	0.699	1.411	0.414
17	0.013	0.010	0.347	0.438	0.191	07	-1.197	-0.988	-1.950	-1.169	0.312
15	-1.355	-1.258	-0.842	-1.386	0.184	23	-2.073	-2.256	-1.989	-1.458	0.243
01	1.386	0.824	1.138	1.229	0.163	22	-2.275	-1.545	-1.797	-1.657	0.228
03	0.079	0.083	-0.107	0.382	0.136	03	0.922	0.828	0.783	1.434	0.221
11	0.456	0.583	0.587	0.292	0.106	19	-2.391	-2.318	-2.102	-1.726	0.220
16	-1.049	-1.065	-0.832	-0.889	0.098	16	-0.393	-0.680	-0.932	-0.462	0.189
07	-1.682	-1.765	-1.865	-1.579	0.092	18	-1.102	-1.069	-1.007	-1.546	0.183
06	-0.516	-0.553	-0.345	-0.458	0.067	11	-0.594	-0.758	-0.680	-1.084	0.153
05	-0.231	-0.126	-0.188	-0.312	0.057	05	-0.263	-0.347	-0.205	-0.370	0.062
20	-1.054	-1.087	-1.016	-1.141	0.040	06	-0.154	-0.040	-0.241	-0.187	0.058
13	-0.069	-0.001	0.027	-0.025	0.030	13	0.029	0.002	0.001	0.051	0.019
14	-0.011	-0.008	-0.006	-0.004	0.002	14	-0.003	-0.001	-0.004	-0.003	0.001
Netherlands	2008	2009	2010	2011	Average deviation	Italy	2008	2009	2010	2011	Average deviation
06	-3.766	-3.736	-3.546	-5.433	0.656	24	28.976	27.874	27.535	24.978	1.182
17	2.455	2.129	1.233	1.231	0.530	04	7.753	8.527	8.363	10.028	0.680
04	2.942	2.324	1.542	1.625	0.525	22	-6.670	-5.694	-6.474	-7.942	0.624
08	-3.007	-2.589	-2.429	-1.458	0.456	08	-11.418	-10.456	-11.387	-10.154	0.549
20	-1.620	-0.992	-0.304	-0.553	0.439	10	-2.539	-3.231	-2.610	-1.706	0.408
12	4.522	3.212	3.386	3.631	0.417	19	-2.664	-3.264	-3.121	-2.155	0.392
02	-1.915	-1.013	-0.644	-0.927	0.395	01	1.318	1.943	1.302	1.539	0.215
21	3.066	3.046	1.916	2.780	0.393	21	0.861	1.391	1.032	0.740	0.206
07	-3.010	-3.186	-3.285	-4.185	0.384	02	-3.008	-3.530	-3.335	-3.038	0.205
13	0.364	0.645	0.526	1.175	0.249	20	-3.801	-3.652	-4.271	-3.774	0.198
18	0.266	0.267	0.467	0.486	0.105	12	0.774	0.393	0.702	0.532	0.138
16	-0.526	-0.363	-0.290	-0.206	0.098	17	-0.385	-0.620	-0.306	-0.614	0.136
15	-0.265	-0.262	-0.088	-0.091	0.087	18	-1.697	-1.682	-1.351	-1.488	0.135
10	0.162	0.104	0.197	0.383	0.086	23	-0.301	-0.269	-0.009	-0.036	0.131
23	-0.476	-0.346	-0.285	-0.196	0.085	06	-0.615	-0.775	-0.340	-0.660	0.129
22	0.359	0.489	0.515	0.636	0.076	15	-1.058	-1.353	-1.171	-1.036	0.108
19	-0.302	-0.269	-0.162	-0.108	0.075	03	0.510	0.299	0.466	0.292	0.096
01	1.092	1.270	1.109	1.220	0.072	07	-3.371	-3.633	-3.417	-3.531	0.094
03	-0.329	-0.299	-0.223	-0.155	0.062	05	-0.367	-0.333	-0.138	-0.214	0.087
11	0.027	-0.034	0.162	0.081	0.062	14	-0.006	-0.003	0.232	0.076	0.079
24	0.084	-0.013	0.177	0.111	0.054	09	-0.943	-0.793	-0.741	-0.684	0.078
09	-0.008	-0.084	0.066	0.040	0.050	13	0.193	0.293	0.378	0.171	0.077
14	-0.009	-0.134	-0.013	-0.020	0.045	11	-0.173	-0.010	-0.001	0.002	0.064
05	-0.106	-0.168	-0.029	-0.067	0.044	16	-1.368	-1.424	-1.339	-1.326	0.032

Slovakia	2008	2009	2010	2011	Average deviation	Poland	2008	2009	2010	2011	Average deviation
04	-1.920	-2.246	-2.366	-3.151	0.365	11	5.677	4.911	4.138	3.513	0.734
12	-1.272	-1.271	-1.520	-1.836	0.203	10	7.579	5.935	6.097	7.232	0.695
16	2.160	2.607	2.075	2.059	0.191	12	3.647	4.683	3.184	2.867	0.570
10	-1.104	-1.113	-1.327	-1.557	0.167	04	-5.445	-4.850	-4.364	-4.180	0.438
11	-0.694	-0.700	-0.466	-0.324	0.151	02	-5.641	-6.691	-6.341	-6.643	0.344
22	1.255	0.927	1.339	1.070	0.149	23	2.476	2.194	1.912	2.504	0.219
24	1.247	0.778	1.115	0.995	0.147	21	-0.812	-0.209	-0.246	-0.274	0.214
15	0.621	0.668	1.004	0.871	0.147	07	-2.250	-2.043	-1.839	-2.406	0.194
09	-1.020	-0.714	-0.817	-1.025	0.129	05	0.420	0.649	0.515	1.028	0.188
01	0.331	0.366	0.404	0.695	0.123	19	-2.222	-1.734	-1.707	-1.832	0.174
08	0.193	0.223	0.114	0.504	0.123	20	-1.080	-0.710	-0.504	-0.741	0.161
05	-0.281	-0.378	-0.164	-0.015	0.120	16	-1.969	-1.662	-1.505	-1.787	0.147
20	0.131	0.160	0.070	0.438	0.119	22	1.849	1.436	1.596	1.478	0.133
19	-1.081	-0.818	-1.176	-1.127	0.116	09	-1.092	-1.328	-0.928	-1.147	0.114
18	-1.085	-0.998	-1.220	-1.315	0.113	18	0.236	0.426	0.472	0.621	0.108
03	0.465	0.591	0.628	0.836	0.103	08	-0.382	-0.195	-0.120	-0.043	0.103
17	-0.866	-0.705	-0.571	-0.643	0.089	17	0.215	0.414	0.194	0.397	0.100
21	-0.302	-0.381	-0.354	-0.109	0.089	15	-1.502	-1.592	-1.354	-1.386	0.089
23	1.505	1.228	1.423	1.400	0.080	06	-0.168	-0.049	0.004	0.111	0.083
07	-0.159	-0.168	-0.049	0.002	0.070	24	-1.297	-1.445	-1.203	-1.360	0.076
02	1.787	1.934	1.831	1.936	0.063	03	-0.208	-0.115	-0.084	0.010	0.062
13	0.015	-0.010	-0.010	0.105	0.040	14	-0.004	-0.001	0.111	0.133	0.062
14	0.001	-0.012	-0.019	0.074	0.032	01	1.866	1.791	1.807	1.683	0.052
06	0.082	0.030	0.054	0.117	0.029	13	0.108	0.186	0.166	0.222	0.033

Source: Czech Statistical Office, 2012, own processingw

Germany, such aggregations are CN 10, CN 12, CN 04, CN 22, CN 17, CN 03 and CN 11. In the case of Austria, such aggregations are: CN 15, CN 10, CN 17, CN 12, CN 01, CN 04, CN 03 and CN 13. Agricultural trade with the Netherlands in terms of comparative advantages on the part of the Czech Republic is based primarily on aggregations CN 17, CN 04, CN 12, CN 21, CN 13, CN 18, CN 10, CN 22, CN 01, CN 11 and CN 24. In relation to Italy, the best comparative advantage can be seen in the case of following aggregations: CN 24, CN 04, CN 01, CN 21, CN 12, CN 03 and CN 13. As far as the countries of the former eastern bloc are concerned – the most important partners are Poland and Slovakia. In relation to Poland, the Czech Republic has comparative advantages in the case of aggregations CN 11, CN 10, CN 12, CN 23, CN 05, CN 22, CN 18, CN 17, CN 01 and CN 13. In addition to Germany, Slovakia is a key market for export of Czech agricultural and food products. Czech export has comparative advantages primarily in the case of aggregations CN 16, CN 22, CN 24, CN 15, CN 01, CN 08, CN 20, CN 03, CN 23, CN 02 and CN 06.

If we look at the data summarized in the said Tab. XI, we find that the Czech Republic is capable of maintaining the above stated comparative advantages despite the crisis in the case of a majority of the analyzed aggregations in relation to the individual analyzed countries. Nevertheless, the

fact that the Czech Republic was able to maintain such advantages does not mean that strengthening, or, conversely, weakening of the values of the LFI index did not occur within the individual aggregations. In the case of trade between the Czech Republic and the individual analyzed countries, the following changes occurred within the development of the value of the LFI index (only the most significant changes are shown). In the case of Germany, the most significant fluctuations in the LFI index occurred in the case of aggregations CN 10, CN 08 and CN 24 (strengthening) and further in the case of aggregations CN 12, CN 23, CN 04, CN 22, CN 02 (weakening of comparative advantages, or deepening of a comparative disadvantage). In relation to Austria, the most significant fluctuations occurred in the case of CN 15, CN 10, CN 01, CN 09, CN 21, CN 08, CN 20 and CN 04 (strengthening of a comparative advantage, or reduction of comparative disadvantages). Further, there was a weakening of comparative advantages, or even a deepening of a comparative disadvantage in the case of aggregations CN 17, CN 12, CN 02, CN 24 and CN 07. Trade with the Netherlands was affected in the case of the following aggregations: CN 08, CN 20, CN 02, CN 13. The most significant decline in comparative advantages, or deepening of a disadvantage, occurred in the case of aggregations CN 06, CN 17, CN 04, CN 12,

CN 21 and CN 07. Agricultural trade with Italy was affected in the case of the following aggregations: CN 04, CN 08, CN 10 and CN 19 (strengthened their comparative advantage position – or rather, there was a reduction of a comparative disadvantage in the case of all aggregations with the exception of CN 10). Further, aggregations CN 24, CN 22 suffered a significant decline in comparative advantage. Czech agricultural trade with Slovakia, in terms of a change in the LFI index values, underwent relatively small changes – or rather, fluctuations in the value of the index did not deviate from long-term averages and actual fluctuations in the value of the average deviation within the analyzed period were none too extreme. The most significant changes occurred in the case of aggregations CN 04, CN 12, CN 16 and CN 10, where there was a rather significant weakening of the value of comparative advantage. Agricultural trade between the CR and Poland, underwent more significant changes within the period of 2008 – 2011. The competitively strong aggregations CN 11, CN 12 and CN 22 weakened. The comparative disadvantage deepened more significantly in the case of aggregation CN 02. There was also a strengthening of comparative advantages, or rather a weakening of comparative disadvantage, in the case of aggregations CN 04, CN 21, CN 05, CN 20, CN 18, CN 08, CN 17, CN 06, CN 03, CN 14 and CN 13.

CONCLUSION

The results of the analysis conducted above, focusing on the development of Czech agricultural foreign trade within the years 2008–2011 with an emphasis on the development of its value and structure in relation to six key trading partners, show the following. The analyzed period only affected agricultural trade of the CR marginally. Agricultural trade was able to face the stagnation of the global economy relatively very well. Only in the year 2009, there was a slight year-on-year decline in the value of agricultural export by approximately 5%, but, nevertheless, within the years 2010 and 2011, the value of agricultural trade increased year-on-year by approximately 3.6% and 14.8%, respectively. In the case of agricultural import, the analyzed period showed only a slowdown in the rate of growth. During the years 2009, 2010 and 2011, the value of imports increased by 2.1%, 4.7% and 11.5% respectively. In relation to the six analyzed partner countries representing the most significant Czech agrarian trade partners, we may state that the analyzed period did not affect, in any more significant manner, the development of the value of implemented trading. The value of exports as well as imports within the entire period increased continually, with only a slowdown in the rate of growth of the value occurring as compared to the preceding period. In the case of individual countries within the analyzed period, the value of export and import increased as follows: Germany:

1.5% per year and 0.1% per year respectively, Austria: 2.9% per year and –0.01% per year respectively, the Netherlands: –1.1% per year and –6.3% per year respectively, Italy: 8.7% per year and 7.3% per year respectively, Slovakia: 6.1% per year and –3.2% per year respectively, Poland: 3.5% per year and 11.1% per year respectively. In this regard, it is important to state that, with the exception of Poland, the rate of growth of the value of exports within the analyzed period exceeded the rate of growth of the value of imports, which led to the stabilization of the negative balance in relation to the analyzed countries. As far as the position of the individual countries as partners of Czech agricultural trade is concerned, the share of Germany and Slovakia in Czech agricultural export decreased in the course of the analyzed period. Conversely, the share of Poland in Czech agricultural export increased. In relation to agricultural import, we can see an increase in the share in the total imports in the case of imports from Poland; the shares of the other countries slightly decreased in the course of the analyzed years. In relation to the development of the value of agricultural trade, we may note that the most significant fluctuations occurred within the analyzed period on the export side in the case of Slovakia, Italy, Poland and Germany, and in the case of Poland, the Netherlands, Italy and Slovakia on the import side. As far as the commodity structure of agricultural trade in relation to the analyzed countries is concerned, the results show that in the case of agricultural exports, there was a significant strengthening of the value of transactions in the case of aggregations CN 10, CN 24, CN 15, CN 02, CN 23, CN 19, CN 04 and CN 07. In the case of agricultural import within the analyzed period, the value of transactions implemented within aggregations CN 02, CN 04, CN 24, CN 19, CN 15, CN 18, CN 12, CN 22 and CN 17 increased significantly. As far as the decline in the value of implemented transactions in relation to the six analyzed countries is concerned, the period of the years 2008 – 2011 led to a more significant reduction in the value of transaction in regard to aggregations CN 12, CN 22 and CN 11 in the case of Czech exports, and, in regard to aggregations CN 08, CN 23, CN 20 and CN 03, in the case of imports coming onto the Czech market. Besides the fulfillment of the objective set out above, the presented analysis also has one other objective, which is to identify the development in the area of the comparative advantages of Czech agricultural export primarily in regard to Germany, Slovakia, Poland, the Netherlands, Italy and Austria. In relation to such objective, the presented analysis evidences the following. The period of the years 2008–2011 generally did not lead to really significant worsening of the comparative advantages of Czech export, not only in relation to the analyzed countries, but also, the comparative advantages of Czech export in relation to the entire market of the EU27 countries, and further also in relation to third countries. The majority of the aggregations

comprising the backbone of Czech export were able to maintain comparative advantages in relation to the key markets, and some of them were even able to actually strengthen their competitive position even despite economic problems. Analyzing the total Czech agricultural foreign trade competitiveness, we have to admit, that agricultural trade as a whole does not have comparative advantage both in relation to global market and also in relation to EU market. But it has to be highlighted, that its individual components (commodity aggregations) are able to get comparative advantage not only in the EU market, but also in the world market. There is a segment of approximately eight aggregations within which the Czech Republic has clear advantages. The strong aggregations of Czech agricultural export generally include CN 01, CN 04, CN 10, CN 11, CN 12, CN 13, CN 17, CN 21, CN 22 and CN 24. If we are analyzing Czech foreign trade competitiveness in relation to main trade partners, it can be seen that in relation to every analyzed country there is a relatively strong segment of aggregations with comparative advantages. In relation to Germany, such aggregations are CN 10, CN 12, CN 04, CN 22, CN 17, CN 01, CN 03 and CN 11. In the case of Austria, such aggregations are: CN 15, CN 10, CN 17, CN 12, CN 01, CN 04, CN 03 and CN 13. Agricultural trade with the Netherlands in terms of comparative advantages on the part of the

Czech Republic is based primarily on aggregations CN 17, CN 04, CN 12, CN 21, CN 13, CN 18, CN 10, CN 22, CN 01, CN 11 and CN 24. In relation to Italy, the best comparative advantage can be seen in the case of following aggregations: CN 24, CN 04, CN 01, CN 21, CN 12, CN 03 and CN 13. As far as the countries of the former eastern bloc are concerned – the most important partners are Poland and Slovakia. In relation to Poland, the Czech Republic has comparative advantages in the case of aggregations CN 11, CN 10, CN 12, CN 23, CN 05, CN 22, CN 18, CN 17, CN 01 and CN 13. In addition to Germany, Slovakia is a key market for export of Czech agricultural and food products. Czech export has comparative advantages primarily in the case of aggregations CN 16, CN 22, CN 24, CN 15, CN 01, CN 08, CN 20, CN 03, CN 23, CN 02 and CN 06. In conclusion, we can state that the problematic period of the years 2008–2011 did not affect the development of Czech agricultural trade in an especially negative manner. Growth in the area of the development of the value of export and import remained preserved. The basic characteristics in the area of territorial structure and commodity structure did not change in any significant manner, and, beyond a few exceptions, the comparative advantages of Czech export remained preserved in the case of key aggregations.

SUMMARY

The objective of the presented article is to analyze Czech agricultural trade as a whole and primarily trade in relation to the six key trade partners, with an emphasis on the identification of changes in its structure and competitiveness that occurred within the period of the years 2008–2011. On the basis of the results of the conducted analyses, it may be stated that the problematic period of the years 2008–2011 did not affect the development of Czech agricultural trade in an especially negative manner. Growth in the area of the development of the value of export as well as import remained preserved. The basic characteristics in the area of the territorial structure and commodity structure did not change in any significant manner and the comparative advantages of Czech export remained preserved in the case of key aggregations. In relation to the six analyzed partner countries representing the most significant Czech agrarian trade partners, we may state that the analyzed period did not affect, in any more significant manner, the development of the value of implemented trading. The value of exports as well as imports within the entire period increased continually, with only a slowdown in the rate of growth of the value occurring as compared to the preceding period. The period of the years 2008–2011 generally did not lead to really significant worsening of the comparative advantages of Czech agricultural export in relation to the analyzed countries. The majority of the aggregations comprising the backbone of Czech agricultural export were able to maintain comparative advantages in relation to the key markets, and some of them were even able to actually strengthen their competitive position even despite economic problems. There is a segment of approximately eight aggregations within which the Czech Republic has clear advantages. The strong aggregations of Czech agricultural export generally include CN 01, CN 04, CN 10, CN 11, CN 12, CN 13, CN 17, CN 21, CN 22 and CN 24. If we are analyzing Czech foreign trade competitiveness in relation to main trade partners, it can be seen that in relation to every analyzed country there is a relatively strong segment of aggregations with comparative advantages. In relation to Germany, such aggregations are CN 10, CN 12, CN 04, CN 22, CN 17, CN 01, CN 03 and CN 11. In the case of Austria, such aggregations are: CN 15, CN 10, CN 17, CN 12, CN 01, CN 04, CN 03 and CN 13. Agricultural trade with the Netherlands in terms of comparative advantages on the part of the Czech Republic is based primarily on aggregations CN 17, CN 04, CN 12, CN 21, CN 13, CN 10, CN 22, CN 01, CN 11 and CN 24. In relation to Italy, the best comparative advantage can be seen in the case of following aggregations: CN 24, CN 04, CN 01, CN 21, CN 12, CN 03 and CN 13. As far as the countries of the former eastern bloc are concerned –

the most important partners are Poland and Slovakia. In relation to Poland, the Czech Republic has comparative advantages in the case of aggregations CN 11, CN 10, CN 12, CN 23, CN 05, CN 22, CN 18, CN 17, CN 01 and CN 13. In addition to Germany, Slovakia is a key market for export of Czech agricultural and food products. Czech export has comparative advantages primarily in the case of aggregations CN 16, CN 22, CN 24, CN 15, CN 01, CN 08, CN 20, CN 03, CN 23, CN 02 and CN 06.

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