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Foreign trade in agricultural products in the Czech Republic

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Abstract: The article analyses trends in the territorial and commodity structure of the Czech foreign agrarian trade and aims to identify changes which have occurred during the last decade. The main emphasis has been put on the period after the accession to the EU. Primarily such changes are identified, that occurred in the relation to the EU-Member States and to third countries. The results show that the value of agricultural exports and imports was growing during the surveyed period while the growth rate of agricultural exports was above the growth rate of agricultural imports. Agricultural exports increased from CZK 78 billion in 2005 to more than CZK 160 billion in 2013 and the imports rose from CZK 103 billion to more than CZK 184 billion in the same period. The territorial structure of the foreign agrarian trace is continuously concentrating on the EU-Single Market, both in terms of exports and imports. Exports of milk, milk products, cereals, beverages, food preparations, tobacco and tobacco manufactures, cereal preparations, food residues and waste, oilseeds, vegetable fats and oils, sugar and confectionery belong to the most important commodity aggregations. The share of processed products in the total exports increased and reached currently about 7%. The export – import coverage ratio reached a satisfactory trend as well. Although the Czech Republic does not have ideal conditions for the export-oriented agriculture, the country is able to gain comparative advantages, at least at the level of following aggregations: HS10, HS01, HS12, HS24, HS04, HS17, HS15, HS11, HS16, HS22, HS03 a HS13.

Keywords: agricultural trade, CIS, commodity and territorial structure, competitiveness, development, EFTA, European Union, exports, export import coverage, import balance, ODME, third countries, trend

The Czech foreign agrarian trade has experienced essential changes after the country joined the European Union. These changes related to its value, volumes, structure as well as competitiveness (Svobodová 2014). Its strong orientation on the EU-markets leads to a critical dependence of the Czech agrarian trade on the development within the EU (Pohlová 2013). This dependence has both positive and negative aspects (Burianová 2011). The participation of the Czech Republic in the project of the Single Market can be named as one of the positive aspects (more than 500 million customers and a high purchasing power). The high level of liberalisation belongs to other positives (Jeníček and Krepl 2009) as well as the opportunity to penetrate markets in 28 Member States. European producers (positively perceived also by Czech Producers) are also protected from the imports from third countries. This may lead to many controversies, nevertheless, a positive impact can be seen in the elimination of otherwise highly competitive imports (Bojnec and Ferto 2012; Burianová and Belová 2012). On the other hand, an extreme dependence on the economic cycles of the EU-Member States, a considerable over-regulation, a significant distortion of the European agricultural market caused by the rules of the common policies and the regulatory instruments can be some examples of the negative aspects (Bojnec and Ferto 2009).

The Czech agrarian exports experience very positive trends in many aspects in the recent years (Bubáková 2015). The access to the European Union has led to the stabilisation of the negative trade balance and to the dynamic growth of the agrarian export values. The access to the EU also influenced positively the restructuring of the Czech agrarian sector and food industry (Machek and Špička 2014). Foreign direct

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investments helped to strength the competitiveness of many domestic production capacities (Aulová and Hlavsa 2013). The Czech agrarian export is continuously transforming from the exports of raw agricultural products to the exports with a higher level of processing and thus to the products of a higher value added and higher prices (Mezera and Špička 2013). Contrary to this, the imports are often not competitive, in many cases the agricultural and food products from the tropical and subtropical zones (Pohlová 2014).

The agricultural sector of the Czech Republic plays an important role in ensuring the supply of the Czech market by the temperate zone products. Nevertheless, given the recent developments in agriculture, the size of the agricultural sector has been significantly reduced during the last 20 years (Pohlová 2014). Currently, the agrarian sector is able to cover the domestic demand of the temperate zone products by about 70% (Valder et al. 2011; Smutka and Burianova 2013). It can be thus concluded that the agricultural foreign trade is of a high importance for the whole Czech national economy. The import of agricultural and food products does not regard only the domestic demand of the temperate zone products, which the Czech Republic is not able to cover from its domestic capacities, but also the tropical and subtropical products, which cannot be produced in the Czech Republic due to its production conditions (Řezbová and Škubna 2013; Pohlova and Mezera 2014).

MATERIALS AND METHODS

The aim of the article is to analyse the trends in the territorial and commodity structure of the Czech foreign agrarian trade and to identify the changes which have occurred during the last decade. The main emphasis has been put on the period after the accession to the EU. Primarily, such changes are identified that occurred in relation to the EU-Member States and to the third countries.

The article is based on data of the Institute of the Agricultural Economics and Information (IAEI) in Prague, the Czech Statistical Office (CZSO) and the Eurostat. The analysed time series cover the period 2005–2013, focused on the territorial and commodity structure of the Czech agricultural trade. The surveyed period was chosen due to the fact that the Czech Republic was not an EU-Member State in the early 2004 and has joined the EU on 1st May 2004.

The analysis of the commodity structure is based on the international tariff nomenclature for the classification of product HS2. This system enables to classify the commodity structures of the agricultural trade into 24 aggregations (Table 1).

The territorial structure of the Czech agricultural trade is analysed (according to the CZSO methodology) independently in the relation to the EU-countries and to the third countries (non-EU Member States). In this respect, the EU represents three specific territorial groups (EU-28 – the European Union as an integration of 28 states, EU-15 – the so called "old" Member States, and the EU-13 – the so-called "new" member states). The third countries are divided into six territorial groups (third countries as a whole, the EFTA countries, other developed market economies – ODME, the Commonwealth of Independent States – CIS, developing economies and other third countries – the composition of the individual groups according to the CZSO methodology).

Table 1. Commodity structure of the Czech agricultural trade

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

Source: CZSO (2014)

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From the analytical perspective, the article is aimed mainly at the trends in the export and import values and the balance of the agricultural foreign trade. The value of the Czech agricultural trade is analysed in current prices in Czech Crowns (CZK). It is worth noting that the exchange rate oscillated between approximately 23–30 CZK/EUR, respectively 15–25 CZK per USD during the analysed time period (the current exchange rate – February 2015 –reached 27.6 CZK per EUR or 24.3 CZK/USD).

The elementary statistical and mathematical methods are used to fulfil the aims of the article. The methods are used to evaluate the time series and the gained data. The time series are complemented by the calculation of the annual growth rate, respectively, the growth index is calculated (through the chain index). The growth index is usually referred as a percentage and it indicates the percentage increase of the value of the time series at time compared to the previous period. The calculation of chain index (%):

$$k_i = \frac{y_i}{y_{i-1}} \times 100[\%]$$

To analyse the average growth rate within the individual time series, the geometric mean of the individual chain indices is used to sum the development trend for the whole surveyed period. Based on their averaging through the geometric mean, we can get the average growth/decline in the export or import value for the whole surveyed period. An advantage of the geometric mean is the fact that it considers both the positive and negative increments. The calculation of the geometrical mean (%):

$$G = \sqrt[n]{x_1 x_2 \cdots x_n}$$

The next indicator used is the export-import coverage ratio. This indicator gives an information about the relationship between export and import, not just at the level of the total agricultural trade, but also at the level of the aggregation representing the commodity structure of the Czech agricultural trade. The indicator provides information about how many percent of agricultural imports are covered by agricultural exports:

The calculation of the export-import coverage ratio (%):

$$= \frac{X_{y_i}}{M_{y_i}} \times 100[\%]$$

The article evaluates also comparative advantages of the Czech agricultural exports, both in relation to the EU-Member States and third countries. To identify comparative advantages, the Lafay Index (LFI) is used (LFI index – Lafay 1992).

$$LFI^{i}_{j} = 100\left(\frac{x^i_j - m^i_j}{x^i_j + m^i_j} - \frac{\sum_{j=1}^{N}\left(x^i_j - m^i_j\right)}{\sum_{j=1}^{N}\left(x^i_j + m^i_j\right)}\right)\frac{x^i_j + m^i_j}{\sum_{j=1}^{N}\left(x^i_j + m^i_j\right)}$$

x^i_j a m^i_j represent exports and imports of the product "j" realized by a country (Czech Republic) *"i" in relation to a selected trade partner* (Germany). *"N" is the number of analysed items. A positive value of the LFI indicates an existence of a comparative advantage within the analysed trading aggregation. The higher the index value, the higher the level of specialisation of the given country in trade in the given item or group of items. On the other hand, a negative value of the LFI announce an absence of specialisation and comparative advantage* (Smutka and Belová 2011).

RESULTS AND DISCUSSION

Trends in the value and territorial structure development of the Czech agricultural foreign trade

Summarizing the development of the agricultural trade after the accession of the Czech Republic to the EU, a positive trend can be seen. Agricultural exports more than doubled – from CZK 78.5 billion in 2005 to more than CZK 160 billion in 2013; the imports also grew significantly from CZK 103.5 billion to more than CZK 184.6 billion in the same period. In other words, it represents an increment by about CZK 165 billion in the total turnover. Although the value of the Czech agricultural trade grows very quickly, it is worth noting that agricultural trade represents only a marginal share of the total trade of the Czech Republic. The growing trend is also evident in the total trade development (from about CZK 3.7 trillion to nearly CZK 6 trillion), nevertheless, agricultural trade experienced higher dynamics. The share of the Czech agricultural trade rose from 4.3% to 5.7% during the surveyed period. From 2005 to 2013, its average annual rate exceeded the average annual growth of the foreign trade as a whole. While the agricultural trade turnover grew in the period by an average rate of 8.3%, the value of foreign trade as a whole experienced an average growth by 6.2% in the same period. Higher dynamics in the agricultural trade is mainly due to the higher growth

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in the prices of agricultural and food products, and by the changing structure of the Czech agricultural export with a higher proportion of semi-processed and finalized products.

The annual growth rate of agricultural exports reached the level about 9.4%, while the annual growth rate of agricultural imports stood at 7.5%. Such trend led to the stabilisation of the negative balance of the Czech agricultural trade, which stood at about CZK 30 billion. It is worth stressing that the share of the negative balance in the total value of the foreign trade turnover is gradually reducing – from the maximum of about 18% to less than 7% at the moment. Currently, the Czech Republic reaches historically the best results in the development of its agricultural trade balance – the negative balance reaches the level of about CZK 24 billion. The Czech agrarian trade has been constantly profiling itself – both the commodity and territorial structure recorded significant changes within the analysed time period.

The territorial structure, especially, experienced significant changes. Most of the exports and imports are realized with the EU-countries. The share of the EU as the most important partner is currently about 92%. This fact also means a gradual strengthening of the Czech dependence on the EU; in 2005, this share reached already 87%. The Czech Republic realizes about 50.2% of its export relations within the EU with the EU-15 countries, and about 49.8% to the EU-13. In this respect, a gradual strengthening of the EU-15 position as a trading partner is evident, because the share reached just 48% in 2005. Taking into account agricultural imports, the EU plays also a dominant role here. The most important importers are the EU-15 countries (Germany, Italy, Austria, the United Kingdom, France, the Netherlands and Belgium), however, their share is gradually reducing at the expense of the EU-13 (Slovakia, Poland, Hungary etc.). The growth rate of exports is still the highest in relation to the EU-15, followed by the EU-13 and third countries. Concerning imports, the highest growth rate reach the EU-13, followed by the EU-15 and third countries. It must be emphasized that the increasing share of the EU-28 in the Czech agrarian trade performance is threatening its long term stability. Any kind of negative trend or event related to the EU market can affect the structure and value of the Czech agrarian trade. A too high level of dependency on the EU-market does not provide enough stimuli for its inter-regional development. The EU-market is too competitive and too limited for any further growth of the Czech agrarian trade. The EU-market provides only 500 million consumers (there is almost no potential for the population growth) and its consumption is stagnating (the growth of incomes is not transforming into the growth of demand).

The share of third countries in the total Czech agrarian trade has been constantly decreasing. The main reason consist in the accession of the Czech Republic to the EU. As an EU-member, the Czech Republic was obliged to withdraw from many bilateral and multilateral trade agreements related to countries out of the EU. On the other hand, the Czech Republic focused its attention especially on the EU after the accession and the trade contacts outside the EU were underestimated. Also the public authorities did not support trade activities and trade potential related especially to Africa and Asia. Those two regions represents the future of the world agricultural market development. At present already, in Africa and especially in Asia, there live more than 15%, respectively 59% of the world population. The annual population growth in those regions exceeds 50 million people and a significant share of the income growth is transformed into the increasing demand for agricultural products. In terms of the growth rate, the evaluation of the third countries needs a more detailed insight. The Czech Republic reaches very high growth rates of exports (18.3% annually) and imports (16.7% annually) in relation to the EFTA countries, which are also members of the European Single Market. High dynamics is reached also in relation to exports to other developed market economies; the high dynamics related to imports from the CIS countries are evident as well. The Table 2a give an overview about the trends in the value and territorial structure development of the Czech agricultural foreign trade; the Table 3 than inform about the balance of the Czech agricultural trade.

As mentioned above, the Czech Republic reaches a negative and gradually stabilizing balance of the agricultural foreign trade in long-term horizon. This negative balance can be observed in relation to the EU-15 (about CZK 30 billion in recent years), on the other hand, a growing positive balance is reached in relation to the EU-13 (increase from CZK billion to more than CZK 17 billion during the surveyed period). The value of the negative trade balance in relation to third countries has been stabilised at the current level about CZK 12–13 billion (in the case of third countries, it is worth noting the positive

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balance in relation to the CIS and a negative balance in relation to the ODME and developing countries).

When comparing the territorial structure of the Czech agricultural foreign trade in relation to the selected groups of countries, it is worth comparing the general position of the Czech trade to these subjects (Tables 2b and 2c). The Table 2b compares the average annual growth rates of the agricultural and total exports and imports (expressed in USD), gives an overview on the shares of agricultural ex-

Table 2a. Value and territorial structure of the Czech agricultural foreign trade in 2005–2013 (CZK 1000)

	World	EU 28	EU15	EU13	Third countries
Export					
2005	78 519 645	68 675 188	33 647 143	35 028 045	9 844 457
2006	78 542 075	70 509 856	33 882 982	36 626 874	8 032 219
2007	96 879 927	89 049 423	43 250 122	45 799 301	7 830 504
2008	106 930 974	99 367 273	48 873 935	50 493 338	7 563 701
2009	101 707 702	94 287 719	48 904 582	45 383 137	7 419 983
2010	105 364 236	97 198 003	48 160 492	49 037 511	8 166 233
2011	120 380 667	111 320 140	53 359 010	57 961 130	9 060 527
2012	148 308 509	136 231 967	65 906 964	70 325 003	12 076 542
2013	160 594 073	147 063 521	73 864 192	73 199 329	13 530 552
Average annual growth rate	1.094	1.100	1.103	1.097	1.041
Import					
2005	103 522 390	85 004 088	58 609 373	26 394 715	18 518 302
2006	112 736 696	96 088 723	62 838 142	33 250 581	16 647 973
2007	129 333 033	109 718 697	73 182 737	36 535 960	19 614 336
2008	131 048 033	110 340 291	75 171 518	35 168 773	20 707 742
2009	133 735 224	114 775 173	76 942 690	37 832 483	18 960 051
2010	140 007 822	119 590 820	80 846 915	38 743 905	20 417 002
2011	156 673 575	132 924 092	88 463 501	44 460 591	23 749 483
2012	173 025 704	147 663 022	96 010 207	51 652 815	25 362 682
2013	184 673 983	158 884 199	103 023 371	55 860 828	25 789 784
Average annual growth rate	1.075	1.081	1.073	1.098	1.042

	EFTA	ODME	CIS	Developing countries
Export				
2005	377 106	1 507 572	2 921 788	3 932 197
2006	593 599	1 578 957	2 712 570	2 140 286
2007	741 156	1 580 161	2 834 755	2 061 261
2008	853 456	1 452 094	3 002 083	1 420 666
2009	1 100 697	1 773 435	2 505 926	1 374 466
2010	898 419	1 705 389	2 892 409	1 806 359
2011	1 103 938	1 623 530	3 045 412	2 171 669
2012	1 211 224	2 059 259	3 794 238	3 584 793
2013	1 448 676	2 680 258	4 102 073	3 835 517
Average annual growth rate	1.183	1.075	1.043	0.997
Import				
2005	651 530	4 192 245	480 788	10 552 061
2006	814 382	4 007 466	538 173	8 360 570
2007	989 649	4 709 371	527 255	9 893 187
2008	1 076 781	4 646 444	535 268	10 785 178
2009	981 939	4 221 795	496 210	9 837 878
2010	1 275 415	4 696 971	773 072	9 868 153
2011	1 595 985	5 490 230	750 930	11 673 316
2012	2 003 585	5 755 954	721 131	12 345 370
2013	2 236 526	5 902 923	1 185 843	11 918 358
Average annual growth rate	1.167	1.044	1.119	1.015

Source: CZSO (2014)

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Table 2b. Comparison of the selected characteristics of the Czech agricultural trade with other surveyed subjects

	Agric. Export	Agric. Import	Total Export	Total Import	Balance agr. trade USD billion (2013)	Share of agr. Export in total export (%)	Share of agr. Import in total import (%)
	growth rate 2005–2013						
CIS	1.254	1.153	1.108	1.141	–20.70	6.01	12.61
Czech Rep.	1.120	1.101	1.094	1.080	–1.19	5.04	6.55
EU13	1.151	1.117	1.100	1.080	11.11	9.75	8.30
EU15	1.071	1.064	1.047	1.041	–0.76	9.82	10.16
EU-28	1.078	1.068	1.052	1.046	10.36	9.81	9.92
ODME	1.083	1.068	1.055	1.049	–11.78	8.61	8.23
World	1.098	1.085	1.064	1.062	89.56	8.67	7.99
EFTA	1.098	1.082	1.063	1.059	0.44	5.89	7.59
Third countries	1.113	1.100	1.071	1.072	79.21	8.01	6.96
Developing countries	1.127	1.130	1.080	1.091	101.34	8.77	7.54

Source: CZSO (2014), own calculation

ports and imports in the total trade and on the total trade balance. The data make evident that the Czech agricultural foreign trade is highly dynamic in relation to the world and to the EU, both in exports and imports. A higher dynamics of export and import growth can be observed in the case of the CIS, the EU-13 and developing countries. A higher dynamic of agrarian trade growth compared to the total trade growth is typical for all surveyed subjects including the Czech Republic. It is worth underlining that the Czech agricultural trade has the lowest share in the total export and import values from all other subjects.

The Table 2c provides another comparison of the country groups and the Czech Republic. The foreign trade is expressed on the per capita basis. In this regard, the results show that the position of the Czech Republic within the agricultural trade is very specific. The average value of agricultural exports and imports on the per capita basis significantly exceeds the world average; nevertheless, it is below the EU-28 average (especially the EU-15). In relation to other groups of countries, the Czech Republic is above the CIS, the EU13, the ODME and developing countries. However, the negative balance per capita is extremely high in the Czech Republic (a higher negative balance has been found in no other surveyed subject).

Taking into account the most important trading partners of the Czech Republic (individual countries), the territorial structure of the Czech agricultural trade appears to be extremely concentrated. The most important partners are Slovakia, Germany, Poland, Italy, Austria and Hungary. The share of the above mentioned countries in agricultural exports reaches 74%; the share of the top 12 most important partners reaches the level of about 87%. Agricultural imports are highly concentrated as well. The top 16 importers represent the share of about 87% of agricultural imports. The most important importers are

Table 2c. Agricultural foreign trade of the surveyed subjects – per capita basis – selected characteristics

	Agr. Export USD per capita	Agr. export BI	Agr. Import USD per capita	Agr. import BI	Agr. trade balance USD billion	
	2013	2013/2005	2013	2013/2005	2005	2013
CIS	159.02	5.95	232.73	3.03	–50.20	–73.71
Czech Rep.	770.80	2.41	884.37	2.09	–103.29	–113.57
EU13	690.56	3.13	585.50	2.46	–17.68	105.06
EU15	1 280.21	1.67	1 282.10	1.59	–43.53	–1.89
EU-28	1 157.14	1.79	1 136.71	1.66	–37.92	20.44
ODME	703.17	1.80	712.50	1.61	–51.26	–9.33
World	199.53	1.92	186.96	1.75	–2.98	12.57
EFTA	1 697.08	1.93	1 664.65	1.72	–90.93	32.43
Third countries	126.20	2.14	114.23	1.93	–0.09	11.97
Developing countries	91.15	2.35	73.87	2.40	7.95	17.28

Source: CZSO (2014), own calculation

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Table 3. Value and territorial structure of the Czech agricultural foreign trade balance in 2005–2013 (CZK 1000)

	World	EU 28	EU15	EU13	Third countries
2005	–25 002 745	–16 328 900	–24 962 230	8 633 330	–8 673 845
2006	–34 194 621	–25 578 867	–28 955 160	3 376 293	–8 615 754
2007	–32 453 106	–20 669 274	–29 932 615	9 263 341	–11 783 832
2008	–24 117 059	–10 973 018	–26 297 583	15 324 565	–13 144 041
2009	–32 027 522	–20 487 454	–28 038 108	7 550 654	–11 540 068
2010	–34 643 586	–22 392 817	–32 686 423	10 293 606	–12 250 769
2011	–36 292 908	–21 603 952	–35 104 491	13 500 539	–14 688 956
2012	–24 717 195	–11 431 055	–30 103 243	18 672 188	–13 286 140
2013	–24 079 910	–11 820 678	–29 159 179	17 338 501	–12 259 232
	EFTA	ODME	CIS	Developing countries	
2005	–274 424	–2 684 673	2 441 000	–6 619 864	
2006	–220 783	–2 428 509	2 174 397	–6 220 284	
2007	–248 493	–3 129 210	2 307 500	–7 831 926	
2008	–223 325	–3 194 350	2 466 815	–9 364 512	
2009	118 758	–2 448 360	2 009 716	–8 463 412	
2010	–376 996	–2 991 582	2 119 337	–8 061 794	
2011	–492 047	–3 866 700	2 294 482	–9 501 647	
2012	–792 361	–3 696 695	3 073 107	–8 760 577	
2013	–787 850	–3 222 665	2 916 230	–8 082 841	

Source: CZSO (2014)

Germany, Poland, Slovakia, the Netherlands, Italy and Spain. A positive trade balance is traditionally reached in the trade relations with Slovakia, Russia, the United Kingdom and Austria. On the other hand, a considerable high negative balance is reached in the relations with Germany, Poland and the Netherlands.

The Table 4 and 5 give an overview of the most important export and import destinations of the Czech agricultural foreign trade. It is evident that the composition of the territorial export and import structure is very stable. The proportion of the major export and import partners of the Czech agricultural trade are (with a few exceptions) is not changing over time. These exceptions are Italy in the case of imports and the Netherlands in the case of exports. Significant changes can be observed when analysing the agricultural trade balance. The positive trade balance strengthened in the relation to Slovakia, Italy, Austria, the United Kingdom, Romania and Russia, on the other hand, the negative balance increased in relation to Germany, Poland, the Netherlands and Belgium.

Table 4. The most important partners of the Czech agricultural exports (CZK million)

	2005		2013		Agricultural trade balance	
	CZK million	%	CZK million	%	2005	2013
Slovakia	20 221	27.54	40 726.60	25.6	11 638.59	26 073.60
Germany	16 692	22.73	32 303.80	20.3	–5 644.17	–10 677.50
Poland	6 888	9.38	16 804.00	10.6	–5 102.45	–12 212.00
Italy	2 021	2.75	10 925.00	6.9	–3 798.42	1 264.80
Austria	3 714	5.06	9 310.20	5.9	–671.38	1 834.30
Hungary	3 840	5.23	6 745.50	4.2	128.60	–684.20
United Kingdom	1 761	2.40	5 170.50	3.3	569.01	2 282.90
France	1 478	2.01	4 777.90	3	–2 024.64	–1 947.70
The Netherlands	1 558	2.12	3 445.20	2.2	–3 252.90	–8 287.20
Romania	813	1.11	2 867.80	1.8	671	1 901.70
Russia	1 616	2.20	2 449.80	1.5	1 544	2 115.10
Belgium	1 274	1.73	2 385.40	1.5	–1 216.54	–2 967.80
Total	61 875.57	84.26	137 911.70	86.8		

Source: IAEI (2014)

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Table 5. The most important partners of the Czech agricultural imports

Country	2005		2013	
	CZK million	%	CZK million	%
Germany	22 336.11	23.01	42 981.30	23.5
Poland	11 990.74	12.35	29 016.00	15.9
Slovakia	8 582.58	8.84	14 653.00	8
The Netherlands	4 811.32	4.96	11 732.40	6.4
Italy	5 819.18	6.00	9 660.20	5.3
Spain	5 682.27	5.85	9 238.20	5.1
Austria	4 385.08	4.52	7 475.90	4.1
Hungary	3 711.45	3.82	7 429.70	4.1
France	3 502.62	3.61	6 725.60	3.7
Belgium	2 490.31	2.57	5 353.20	2.9
Brazil	2 061.72	2.12	3 376.00	1.8
United Kingdom	1 191.63	1.23	2 887.60	1.6
China	1 255.87	1.29	2 532.50	1.4
Turkey	746.80	0.77	2 147.80	1.2
Denmark	1 340.64	1.38	2 038.70	1.1
USA	1 845.84	1.90	1 986.10	1.1
Total	81 754.16	84.23	159 234.10	87.1

Source: AIEI (2014)

Trends in commodity structure of the Czech agricultural foreign trade

The commodity structure of the Czech agricultural trade has been developing very dynamically in the recent years. The Tables 6 and 7 give an overview about the commodity structure of the Czech agricultural exports and imports.

The most important Czech agricultural export aggregations are the following: HS4, HS10, HS22, HS21, HS24, HS19, HS23, HS15, HS12 and HS17. The share of above mentioned aggregations in the Czech agricultural exports reached in the period 2005–2013 about 70%. Milk and milk products, cereals, food preparations, beverages and tobacco products reach about 40% of the Czech agricultural export. The over-average dynamics of agricultural exports were evident in the case of the aggregations HS14, HS15, HS09, HS23, HS24, HS06, HS16, HS05, HS02 and HS18. The share of these aggregations has increased during the surveyed period from 24% to nearly 40%. On the other hand, the lowest dynamics in growth experienced the exports of the aggregations HS17, HS08, HS20, HS13, HS22, HS03,

Table 6. Commodity structure of the total Czech agricultural exports (world) 2005–2013 (CZK 1000)

HS	2005	2007	2009	2011	2013	GeoMean – inter-annual growth rate
4	10 457 443	15 519 267	12 559 153	15 988 911	19 122 838	1.078
10	6 800 617	7 330 016	8 965 376	12 552 326	13 066 315	1.085
22	7 317 064	10 296 033	10 193 990	8 956 466	12 727 199	1.072
21	6 258 431	7 891 703	9 116 353	9 352 117	12 001 789	1.085
24	3 449 202	4 763 375	6 886 471	8 606 426	10 639 150	1.151
19	3 260 322	4 559 129	5 229 991	6 816 994	9 964 350	1.150
23	2 888 494	3 935 370	3 716 223	6 239 580	9 449 735	1.160
15	2 064 838	3 346 445	3 822 079	4 935 872	9 382 369	1.208
12	4 582 860	7 210 393	6 793 961	5 207 897	9 296 359	1.092
17	8 079 454	5 032 496	5 280 955	6 273 635	8 927 580	1.013
1	3 833 864	4 225 753	4 484 571	5 761 901	7 325 728	1.084
2	2 869 582	3 379 136	3 847 247	5 095 825	6 417 008	1.106
18	2 715 770	3 627 582	3 552 923	4 226 367	5 734 280	1.098
16	1 682 293	2 283 192	3 080 900	3 649 271	4 974 150	1.145
8	3 265 063	2 363 587	2 371 450	2 589 554	3 907 802	1.023
11	1 964 587	2 448 737	3 111 387	3 109 088	3 665 360	1.081
20	2 020 137	2 562 751	2 002 564	2 436 463	2 954 193	1.049
7	1 349 671	2 064 876	2 015 869	2 588 820	2 705 838	1.091
9	824 203	1 341 922	1 436 602	1 998 575	2 697 179	1.160
3	1 292 148	1 332 316	1 312 297	1 795 252	2 347 521	1.077
13	741 945	570 437	973 411	979 716	1 125 122	1.053
5	435 700	513 816	623 637	806 165	1 096 980	1.122
6	328 550	272 070	313 975	361 865	986 472	1.147
14	4 170	2 901	4 003	25 315	31 439	1.287

Source: CZSO (2014)

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HS04, HS11, HS01, HS21 and HS010. Their share has reduced in the monitored period from 66% to 54%. When comparing the character of the aggregations with high and low levels of the export growth rates, it can be concluded that such aggregations come gradually to the fore, which represent processed products with the higher value added.

The commodity structure of imports is very concentrated. The most important import aggregations in the long-term are HS02 (Meat and edible meat offal), HS21 (miscellaneous edible preparations, HS08 (edible fruit and nuts), HS19 (preparations of cereals), HS22 (beverages, spirits and vinegar), HS23 (animal fodder), HS07 (edible vegetables), HS15 (animal and vegetable fats, oils) and HS18 (cocoa and cocoa preparations). These ten aggregations represent about 70% of the agricultural import value. The highest rate of growth (over-average) was experienced by the aggregations HS14, HS11, HS10, HS02, HS15, HS12, HS09, HS16, HS03, HS05, HS04, HS19 and HS01. The above mentioned aggregations have increased the share in the Czech agricultural import from 39% in 2005 to about 47% in 2013. There is evident in this regard, that a dynamic increase of highly processed products typical for the period before accessing the EU has been stopped. Currently, the imports of such aggregations are growing, which are used for a further processing in the Czech Republic.

The Czech Republic maintains a positive balance (Table 8) in relation to the commodity aggregations HS10 (cereals), HS01 (live animals), HS04 (dairy produce), HS12 (oil seeds and oleaginous fruits), HS17 (sugars and sugar confectionery), HS24 (tobacco and manufactured tobacco substitutes) and HS11 (products of the milling industry, malt, starches). The negative trade balance is generated within the aggregations HS02 (meat and edible meat offal), HS08 (edible fruit and nuts), HS07 (edible vegetables), HS20 (preparations of vegetables and fruit), HS06 (live trees and other plants), HS23 (animal fodder), HS18 (cocoa and cocoa preparations) and HS 19 (preparations of cereals). It therefore follows that most of the aggregations of the negative trade balance (Table 8) are represented by the non-competitive products, in many cases from the tropical and subtropical areas.

Table 7. Commodity structure of the total Czech agricultural imports (world) 2005–2013 (CZK 1000)

HS	2005	2007	2009	2011	2013	GeoMean – inter-annual growth rate
2	10 027 359	12 569 481	15 957 485	19 756 548	23 416 416	1.112
4	7 220 951	10 455 049	10 282 424	12 437 741	14 280 438	1.089
21	8 771 029	10 370 625	10 045 308	11 483 875	14 170 417	1.062
8	11 733 000	11 375 335	11 214 648	12 085 118	13 874 020	1.021
19	6 474 465	7 985 387	8 961 995	10 384 088	12 481 957	1.086
22	7 090 946	9 314 117	9 751 606	11 421 294	12 470 470	1.073
23	7 139 113	7 723 863	8 430 205	8 964 346	12 091 975	1.068
7	6 967 224	9 749 147	9 285 586	10 472 681	11 700 135	1.067
15	3 709 860	3 861 715	6 289 721	7 375 174	8 507 994	1.109
18	5 005 132	6 196 283	6 109 259	7 167 255	8 332 342	1.066
24	4 762 263	6 596 839	4 399 332	5 973 665	7 735 146	1.063
20	4 791 564	6 552 509	6 238 452	6 475 143	6 811 053	1.045
17	3 666 696	5 047 409	4 402 732	4 638 795	5 983 609	1.063
16	2 666 028	4 155 727	4 375 721	4 723 841	5 365 416	1.091
12	2 374 083	2 306 664	2 245 143	4 137 284	5 314 060	1.106
9	2 310 525	3 285 918	3 440 663	4 714 661	4 666 842	1.092
3	1 838 499	2 113 732	2 284 224	2 806 716	3 697 716	1.091
6	2 614 307	2 973 683	3 205 286	3 570 384	3 629 773	1.042
10	1 169 670	2 677 064	1 895 392	2 380 460	3 295 159	1.138
1	1 042 658	1 007 645	1 892 524	1 867 680	2 009 130	1.085
5	952 842	1 168 799	1 180 008	1 509 748	1 897 043	1.090
11	627 821	1 117 629	1 104 652	1 337 538	1 793 614	1.140
13	511 416	668 329	672 225	786 354	853 303	1.066
14	27 709	29 807	41 157	119 073	99 698	1.174

Source: CZSO (2014)

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Table 8. Commodity structure of the total Czech agricultural trade balance (world) in 2005–2013 (CZK 1000)

HS	2005	2007	2009	2011	2013
10	5 630 947	4 652 952	7 069 984	10 171 866	9 771 156
1	2 791 206	3 218 108	2 592 047	3 894 221	5 316 598
4	3 236 492	5 064 218	2 276 729	3 551 170	4 842 400
12	2 208 777	4 903 729	4 548 818	1 070 613	3 982 299
17	4 412 758	–14 913	878 223	1 634 840	2 943 971
24	–1 313 061	–1 833 464	2 487 139	2 632 761	2 904 004
11	1 336 766	1 331 108	2 006 735	1 771 550	1 871 746
15	–1 645 022	–515 270	–2 467 642	–2 439 302	874 375
13	230 529	–97 892	301 186	193 362	271 819
22	226 118	981 916	442 384	–2 464 828	256 729
14	–23 539	–26 906	–37 154	–93 758	–68 259
16	–983 735	–1 872 535	–1 294 821	–1 074 570	–391 266
5	–517 142	–654 983	–556 371	–703 583	–800 063
3	–546 351	–781 416	–971 927	–1 011 464	–1 350 195
9	–1 486 322	–1 943 996	–2 004 061	–2 716 086	–1 969 663
21	–2 512 598	–2 478 922	–928 955	–2 131 758	–2 168 628
19	–3 214 143	–3 426 258	–3 732 004	–3 567 094	–2 517 607
18	–2 289 362	–2 568 701	–2 556 336	–2 940 888	–2 598 062
23	–4 250 619	–3 788 493	–4 713 982	–2 724 766	–2 642 240
6	–2 285 757	–2 701 613	–2 891 311	–3 208 519	–2 643 301
20	–2 771 427	–3 989 758	–4 235 888	–4 038 680	–3 856 860
7	–5 617 553	–7 684 271	–7 269 717	–7 883 861	–8 994 297
8	–8 467 937	–9 011 748	–8 843 198	–9 495 564	–9 966 218
2	–7 157 777	–9 190 345	–12 110 238	–14 660 723	–16 999 408

Source: CZSO (2014)

The above mentioned information concerning the commodity structure of the Czech agricultural trade makes evident the positive changes in the field of the value added (Table 9). The proportion of the trade with non-processed items is continuously reducing at the expense of the processed products which reach currently about 72%. From this perspective, it can be stated that the Czech agricultural exports are becoming more similar to the standards of the developed countries and the share of processed products in the total exports is close to the share of the processed imports in the total imports (76%).

The export-import coverage ratio (Table 10) is a positive feature of the Czech agricultural trade in the recent years. The export coverage ratio in relation to the realized imports is improving over time

Table 9. Structure of the agricultural trade by the level of export and import commodity processing (CZK billion)

	2005	2007	2009	2011	2013	Index 2013vs.2005
Imports						
Non-processed total	27.8	32.7	31.8	36.8	41.7	150.0
Processed total	73.9	95.4	99.9	112.6	132.6	179.6
Total	101.7	128.1	131.7	149.5	174.4	171.5
Share of non-processed (%)	27.4	25.5	24.1	24.6	23.9	87.5
Share of processed (%)	72.6	74.5	75.9	75.4	76.1	104.7
Exports						
Non-processed total	22.2	28.2	29.2	33.1	41.5	186.5
Processed total	54.5	67.7	71.3	81.8	109.3	200.4
Total	76.8	96.0	100.5	114.9	150.8	196.4
Share of non-processed (%)	29.0	29.4	29.1	28.8	27.5	95.0
Share of processed (%)	71.0	70.6	70.9	71.2	72.5	102.1

Source: IAEI, Pohlová (2014)

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Table 10. Export-import coverage ratio in total agricultural trade – world (the share of exports in relation to the value of the realized imports) in %

HS	2005	2006	2007	2008	Basic index 2008/2005	2009	2010	2011	2012	2013	Basic index 2013/2009
1	367.70	391.20	419.40	328.10	0.89	237.00	260.50	308.50	277.30	364.60	1.54
2	28.60	25.00	26.90	29.00	1.01	24.10	25.50	25.80	27.30	27.40	1.14
3	70.30	69.90	63.00	63.70	0.91	57.50	63.80	64.00	65.60	63.50	1.10
4	144.80	147.40	148.40	144.90	1.00	122.10	117.50	128.60	126.90	133.90	1.10
5	45.70	50.50	44.00	45.50	1.00	52.90	47.90	53.40	54.40	57.80	1.09
6	12.60	12.70	9.10	9.30	0.74	9.80	11.70	10.10	14.30	27.20	2.78
7	19.40	21.90	21.20	22.40	1.15	21.70	22.20	24.70	25.80	23.10	1.06
8	27.80	19.50	20.80	19.90	0.72	21.10	21.20	21.40	24.90	28.20	1.34
9	35.70	41.30	40.80	39.90	1.12	41.80	49.10	42.40	59.20	57.80	1.38
10	581.40	239.40	273.80	310.40	0.53	473.00	370.50	527.30	427.80	396.50	0.84
11	312.90	311.20	219.10	290.80	0.93	281.70	233.00	232.40	255.80	204.40	0.73
12	193.00	125.20	312.60	296.20	1.53	302.60	170.40	125.90	165.10	174.90	0.58
13	145.10	125.60	85.40	74.30	0.51	144.80	131.00	124.60	109.90	131.90	0.91
14	15.00	17.20	9.70	14.60	0.97	9.70	14.60	21.30	44.20	31.50	3.25
15	55.70	61.20	86.70	72.60	1.30	60.80	91.60	66.90	134.00	110.30	1.81
16	63.10	56.20	54.90	63.90	1.01	70.40	72.40	77.30	87.80	92.70	1.32
17	220.30	176.20	99.70	150.70	0.68	119.90	138.60	135.20	146.70	149.20	1.24
18	54.30	57.50	58.50	66.50	1.22	58.20	56.40	59.00	66.40	68.80	1.18
19	50.40	54.20	57.10	63.80	1.27	58.40	65.10	65.60	71.30	79.80	1.37
20	42.20	40.80	39.10	34.20	0.81	32.10	31.80	37.60	41.80	43.40	1.35
21	71.40	69.60	76.10	86.50	1.21	90.80	82.10	81.40	80.80	84.70	0.93
22	103.20	104.80	110.50	104.60	1.01	104.50	99.80	78.40	94.20	102.10	0.98
23	40.50	43.80	51.00	53.30	1.32	44.10	64.60	69.60	72.50	78.10	1.77
24	72.40	48.90	72.20	207.10	2.86	156.50	157.50	144.10	128.90	137.50	0.88
Total	75.80	69.70	74.90	81.50	1.08	76.10	75.20	76.90	85.90	87.00	1.14

Source: IAEI, Smutka (2014)

from about 79% in 2005 to 87% in 2013. The Czech Republic recorded significant changes especially in favour of its export activities. The self-sufficiency of Czech Republic is increasing and Czech exports are able to compensate/cover a significant part of the total imports. The most positive changes related to the export-import coverage ratio were achieved in the case of the aggregations HS10, HS01, HS11, HS12, HS17, HS24, HS04, HS13, HS15 and HS22. On the other hand, the ability of the Czech export to cover imports of the following aggregations is very limited: HS07, HS06, HS02, HS08, HS14, HS20, HS09, HS05, HS03, HS18, HS23 and HS19. In general, it can be stated that most of aggregations of the Czech agricultural trade, both in the period before the global economic crisis and during the crisis, experienced positive trends in relation to the export-import coverage ratios development. This trend was recorded by 15 aggregations from the total 24 in the period 2005–2008 and by 18 aggregations in the period 2009–2013. Despite of the current economic crisis, the Czech export is constantly strengthening its position in relation to the total agricultural import.

Trends in competitiveness of the Czech agricultural foreign trade

Competitiveness of the Czech agricultural export has been developed in the long-term horizon. There must be distinguished two dimensions of competitiveness – the Single Market of the EU and third markets. Within the EU-market, the Czech Republic is able to achieve comparative advantages in the case of the aggregations HS10, HS01, HS12, HS24, HS04, HS17, HS15, HS11, HS16, HS22, HS03 and HS13. On the other hand, a low level of competitiveness is typical for the aggregations HS02, HS07, HS08, HS20, HS06, HS18, HS19, HS23, HS09, HS05 and HS14. A high level of comparative advantages is experienced in the trade in cereals, live animals, oilseeds, tobacco and tobacco products, milk and milk products. An extreme non-competitiveness can be found out in the

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Table 11. Competitiveness of the Czech agricultural export in relation to the EU-28 and to third countries– LFI index

HS	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU-28									
10	2.982	2.142	2.832	2.773	3.919	3.004	4.729	4.092	3.478
1	2.104	2.146	1.858	1.717	1.479	1.526	1.675	1.498	1.696
12	1.657	0.591	2.631	2.618	2.232	1.181	0.553	1.250	1.360
24	0.172	–0.308	0.244	2.294	1.858	2.290	1.909	1.388	1.357
4	1.698	3.385	2.755	2.011	1.626	1.417	1.632	0.790	1.044
17	3.191	2.196	0.463	1.099	0.575	0.904	0.815	0.862	0.788
15	–0.463	–0.225	0.168	–0.432	–0.632	0.418	–0.413	1.135	0.610
11	0.717	0.885	0.680	0.982	0.920	0.639	0.674	0.604	0.520
16	–0.114	–0.137	–0.131	–0.179	0.133	0.124	0.147	0.244	0.317
22	0.889	1.337	1.279	0.765	1.237	0.861	–0.215	0.066	0.313
3	0.362	0.466	0.305	0.300	0.269	0.388	0.411	0.356	0.300
13	0.090	0.111	0.061	–0.003	0.164	0.155	0.106	0.053	0.086
21	–0.150	–0.068	–0.168	–0.022	0.458	0.127	0.313	–0.099	0.075
14	–0.005	–0.004	–0.004	–0.004	–0.005	–0.006	–0.022	–0.012	–0.013
5	–0.078	–0.038	–0.139	–0.114	–0.072	–0.120	–0.068	–0.100	–0.085
9	–0.234	–0.191	–0.339	–0.395	–0.301	–0.078	–0.198	0.010	–0.093
23	–1.696	–1.181	–1.072	–1.263	–1.504	–0.491	–0.346	–0.524	–0.586
19	–1.322	–0.845	–0.970	–1.070	–1.036	–0.750	–0.849	–0.940	–0.661
18	–0.794	–0.491	–0.749	–0.685	–0.691	–0.776	–0.783	–0.743	–0.681
6	–1.244	–0.999	–1.100	–1.158	–1.109	–1.041	–1.058	–0.920	–0.727
20	–0.953	–0.859	–0.979	–1.221	–1.178	–1.166	–0.911	–0.843	–0.829
8	–0.937	–1.906	–1.714	–1.809	–1.607	–1.609	–1.405	–1.381	–1.246
7	–2.611	–2.704	–2.625	–2.447	–2.370	–2.643	–2.251	–2.060	–2.405
2	–3.262	–3.302	–3.286	–3.758	–4.367	–4.352	–4.446	–4.723	–4.617
Third countries									
4	10.575	7.698	10.941	8.188	5.699	6.892	8.647	9.276	9.691
17	3.570	4.509	1.556	1.806	3.678	3.519	3.038	5.159	4.136
22	2.701	4.365	4.846	4.252	2.796	3.327	2.537	2.620	2.957
12	2.453	3.637	4.220	4.885	4.873	3.878	3.171	2.385	2.134
19	–0.269	–0.098	0.163	0.448	0.155	0.751	0.861	1.165	1.760
23	–1.311	–1.068	–0.507	–0.837	–0.204	–0.052	0.252	0.058	1.727
11	2.152	1.769	1.752	1.498	2.511	2.373	2.186	2.592	1.650
1	0.365	0.381	0.410	0.855	0.686	1.270	1.993	2.087	1.622
13	1.190	0.723	0.238	0.296	1.528	1.290	1.252	0.873	0.927
18	–0.613	–0.549	0.119	0.137	–0.248	–0.064	0.325	0.432	0.363
14	–0.036	–0.035	–0.034	–0.033	–0.051	–0.053	–0.046	–0.041	–0.038
10	8.067	4.700	0.661	0.040	0.305	0.257	0.350	0.643	–0.152
24	–1.417	–2.758	–2.489	–0.695	–0.059	–1.371	–1.006	–1.249	–0.153
6	0.000	–0.417	–0.355	–0.453	–0.522	–0.485	–0.508	–0.493	–0.426
15	–0.788	–0.627	–0.059	0.083	–0.278	–0.607	–0.574	–0.266	–0.478
5	–0.655	–0.644	–0.453	–0.522	–0.471	–0.416	–0.557	–0.621	–0.675
21	–0.820	0.339	1.638	1.755	3.056	2.168	0.141	–0.891	–1.054
20	–1.319	–1.377	–2.055	–2.284	–2.094	–1.900	–1.673	–1.538	–1.496
16	–0.906	–1.177	–2.102	–1.397	–1.894	–1.439	–1.041	–1.497	–1.538
7	–1.900	–2.290	–2.827	–2.370	–2.806	–3.070	–2.186	–1.979	–1.918
9	–2.036	–1.971	–1.496	–1.582	–1.964	–2.413	–2.921	–2.886	–2.423
2	–2.082	–1.696	–2.146	–1.962	–2.191	–1.613	–2.539	–3.650	–2.957
3	–2.061	–2.605	–2.328	–2.449	–2.728	–2.853	–2.928	–3.308	–3.634
8	–14.861	–10.808	–9.692	–9.659	–9.778	–9.390	–8.775	–8.871	–10.025

Source: own calculation (2014)

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trade in meat products, vegetables, fruit and nuts. The Table 11 provides an overview of the comparative advantages of the Czech agricultural trade in relation to the markets of the EU-28.

The Table 11 gives a basic overview of trends in the comparative advantage development concerning the Czech agricultural export in relation to third countries. It is evident that the Czech Republic is able to maintain comparative advantages mostly within the aggregations HS04, HS17, HS22, HS12, HS19, HS23, HS11, HS01, HS13 and HS18. It concerns mainly the exports of milk and milk products, sugars and sugar confectionery, beverages and spirits as well as oilseeds. On the other hand, the non-competitiveness is experienced in the relation to the aggregations HS08, HS03, HS02, HS09, HS07, HS16, HS20, HS21, HS05, HS15, HS06 and HS24. The extreme critical negative values of the LFI were found out regarding the trade in fruit and nuts, fish and sea products, meat and meat products, coffee, tea, mate and spices, vegetables, preparations of fish and crustaceans, preparation of vegetables, fruit and food preparations.

Competitive vs. non-competitive items

Based on the analyses of the Czech agricultural foreign trade, it is possible to divide the export commodity structure into competitive and non-competitive products. The items with a high level of competitiveness were identified on the base of the LFI index analysis (Table 11) and also on the base

Table 12. Czech agrarian trade – competitive items (CZK 1000)

	HS	2005	2007	2009	2011	2013	Total	GeoMean –inter-annual growth rate
Balance								
	10	5 630 947	4 652 952	7 069 984	10 171 866	9 771 156	62 135 259	1.0713
	4	3 236 492	5 064 218	2 276 729	3 551 170	4 842 400	33 095 301	1.0517
	1	2 791 206	3 218 108	2 592 047	3 894 221	5 316 598	31 470 223	1.0839
	12	2 208 777	4 903 729	4 548 818	1 070 613	3 982 299	28 642 475	1.0765
	17	4 412 758	–14 913	878 223	1 634 840	2 943 971	19 381 786	N/A
	11	1 336 766	1 331 108	2 006 735	1 771 550	1 871 746	15 585 159	1.0430
	24	–1 313 061	–1 833 464	2 487 139	2 632 761	2 904 004	10 978 997	N/A
	13	230 529	–97 892	301 186	193 362	271 819	1 080 014	N/A
	22	226 118	981 916	442 384	–2 464 828	256 729	–391 691	N/A
Total		18 760 532	18 205 762	22 603 245	22 455 555	32 160 722	201 977 523	1.0697
Export								
	10	6 800 617	7 330 016	8 965 376	12 552 326	13 066 315	83 714 789	1.0851
	4	10 457 443	15 519 267	12 559 153	15 988 911	19 122 838	131 044 025	1.0784
	1	3 833 864	4 225 753	4 484 571	5 761 901	7 325 728	46 096 966	1.0843
	12	4 582 860	7 210 393	6 793 961	5 207 897	9 296 359	59 028 282	1.0924
	17	8 079 454	5 032 496	5 280 955	6 273 635	8 927 580	61 493 386	1.0126
	11	1 964 587	2 448 737	3 111 387	3 109 088	3 665 360	25 908 615	1.0811
	24	3 449 202	4 763 375	6 886 471	8 606 426	10 639 150	61 873 713	1.1512
	13	741 945	570 437	973 411	979 716	1 125 122	7 741 331	1.0534
	22	7 317 064	10 296 033	10 193 990	8 956 466	12 727 199	88 320 196	1.0716
Total		47 227 036	57 396 507	59 249 275	67 436 366	85 895 651	565 221 303	1.0776
Import								
	10	1 169 670	2 677 064	1 895 392	2 380 460	3 295 159	21 579 530	1.1382
	4	7 220 951	10 455 049	10 282 424	12 437 741	14 280 438	97 948 724	1.0890
	1	1 042 658	1 007 645	1 892 524	1 867 680	2 009 130	14 626 743	1.0854
	12	2 374 083	2 306 664	2 245 143	4 137 284	5 314 060	30 385 807	1.1060
	17	3 666 696	5 047 409	4 402 732	4 638 795	5 983 609	42 111 600	1.0631
	11	627 821	1 117 629	1 104 652	1 337 538	1 793 614	10 323 456	1.1402
	24	4 762 263	6 596 839	4 399 332	5 973 665	7 735 146	50 894 716	1.0625
	13	511 416	668 329	672 225	786 354	853 303	6 661 317	1.0661
	22	7 090 946	9 314 117	9 751 606	11 421 294	12 470 470	88 711 887	1.0731
Total		28 466 504	39 190 745	36 646 030	44 980 811	53 734 929	363 243 780	1.0727

Source: own calculation (2014)

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Table 13. Czech agrarian trade – non-competitive items (CZK 1000)

	HS	2005	2007	2009	2011	2013	Total	GeoMean – inter-annual growth rate
Balance								
	14	–23 538	–26 905	–37 153	–93 758	–68 259	–407 668	1.1423
	5	–517 142	–654 983	–556 371	–703 583	–800 063	–5 862 276	1.0561
	15	–1 645 022	–515 270	–2 467 642	–2 439 302	874 375	–7 419 851	N/A
	3	–546 351	–781 416	–971 927	–1 011 464	–1 350 195	–7 992 222	1.1197
	16	–983 735	–1 872 535	–1 294 821	–1 074 570	–391 266	–10 325 485	0.8911
	9	–1 486 322	–1 943 996	–2 004 061	–2 716 086	–1 969 663	–17 521 108	1.0358
	21	–2 512 598	–2 478 922	–928 955	–2 131 758	–2 168 628	–18 714 924	0.9818
	18	–2 289 362	–2 568 701	–2 556 336	–2 940 888	–2 598 062	–22 839 082	1.0159
	6	–2 285 757	–2 701 613	–2 891 311	–3 208 519	–2 643 301	–24 736 450	1.0183
	19	–3 214 143	–3 426 258	–3 732 004	–3 567 094	–2 517 607	–29 302 006	0.9699
	23	–4 250 619	–3 788 493	–4 713 982	–2 724 766	–2 642 240	–32 028 988	0.9423
	20	–2 771 427	–3 989 758	–4 235 888	–4 038 680	–3 856 860	–34 464 532	1.0422
	7	–5 617 553	–7 684 271	–7 269 717	–7 883 861	–8 994 297	–67 334 455	1.0606
	8	–8 467 937	–9 011 748	–8 843 198	–9 495 564	–9 966 218	–82 474 212	1.0206
	2	–7 157 777	–9 190 345	–12 110 238	–14 660 723	–16 999 408	–107 643 829	1.1142
Total		–43 769 283	–50 635 214	–54 613 604	–58 690 616	–56 091 692	–469 067 088	1.0315
Export								
	14	4 171	2 902	4 004	25 315	31 439	136 228	1.2872
	5	435 700	513 816	623 637	806 165	1 096 980	6 109 747	1.1223
	15	2 064 838	3 346 445	3 822 079	4 935 872	9 382 369	44 399 165	1.2083
	3	1 292 148	1 332 316	1 312 297	1 795 252	2 347 521	14 421 577	1.0775
	16	1 682 293	2 283 192	3 080 900	3 649 271	4 974 150	27 673 759	1.1451
	9	824 203	1 341 922	1 436 602	1 998 575	2 697 179	15 348 951	1.1597
	21	6 258 431	7 891 703	9 116 353	9 352 117	12 001 789	79 094 912	1.0848
	18	2 715 770	3 627 582	3 552 923	4 226 367	5 734 280	35 986 865	1.0979
	6	328 550	272 070	313 975	361 865	986 472	3 771 750	1.1473
	19	3 260 322	4 559 129	5 229 991	6 816 994	9 964 350	53 340 611	1.1499
	23	2 888 494	3 935 370	3 716 223	6 239 580	9 449 735	46 961 789	1.1597
	20	2 020 137	2 562 751	2 002 564	2 436 463	2 954 193	21 111 890	1.0487
	7	1 349 671	2 064 876	2 015 869	2 588 820	2 705 838	19 716 812	1.0908
	8	3 265 063	2 363 587	2 371 450	2 589 554	3 907 802	24 530 542	1.0227
	2	2 869 582	3 379 136	3 847 247	5 095 825	6 417 008	39 024 466	1.1058
Total		31 259 373	39 476 797	42 446 114	52 918 035	74 651 105	431 629 064	1.1150
Import								
	14	27 709	29 807	41 157	119 073	99 698	543 896	1.1736
	5	952 842	1 168 799	1 180 008	1 509 748	1 897 043	11 972 023	1.0899
	15	3 709 860	3 861 715	6 289 721	7 375 174	8 507 994	51 819 016	1.1093
	3	1 838 499	2 113 732	2 284 224	2 806 716	3 697 716	22 413 799	1.0913
	16	2 666 028	4 155 727	4 375 721	4 723 841	5 365 416	37 999 244	1.0914
	9	2 310 525	3 285 918	3 440 663	4 714 661	4 666 842	32 870 059	1.0919
	21	8 771 029	10 370 625	10 045 308	11 483 875	14 170 417	97 809 836	1.0618
	18	5 005 132	6 196 283	6 109 259	7 167 255	8 332 342	58 825 947	1.0658
	6	2 614 307	2 973 683	3 205 286	3 570 384	3 629 773	28 508 200	1.0419
	19	6 474 465	7 985 387	8 961 995	10 384 088	12 481 957	82 642 617	1.0855
	23	7 139 113	7 723 863	8 430 205	8 964 346	12 091 975	78 990 777	1.0681
	20	4 791 564	6 552 509	6 238 452	6 475 143	6 811 053	55 576 422	1.0449
	7	6 967 224	9 749 147	9 285 586	10 472 681	11 700 135	87 051 267	1.0669
	8	11 733 000	11 375 335	11 214 648	12 085 118	13 874 020	107 004 754	1.0212
	2	10 027 359	12 569 481	15 957 485	19 756 548	23 416 416	146 668 295	1.1118
Total		75 028 656	90 112 011	97 059 718	111 608 651	130 742 797	900 696 152	1.0719

Source: own calculation (2014)

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of their trade balance development. Such items are considered as competitive, which are able to reach a positive trade balance or those whose LFI index is positive. (The division of the items into competitive and non-competitive ones represents only rough estimation. An exact identification of competitive and non-competitive commodity structures would require a much deeper analysis beyond the scope of this article).

The above mentioned analyses enable to identify the following competitive and non-competitive aggregations (see the Tables 12 and 13).

Both above mentioned tables describing the last ten years of the Czech agrarian trade enable us to conclude the following statements. The Czech agrarian trade competitive items can be found among the aggregations: HS10, HS04, HS01, HS12, HS17, HS11, HS24, HS13 and HS22. These items are able to generate a positive trade balance. The average annual growth rate of their positive trade balance reached almost 7%. On the other hand, the following aggregations can be considered as the non-competitive items: HS14, HS05, HS15, HS03, HS16, HS09, HS21, HS18, HS06, HS19, HS23, HS20, HS07, HS08 and HS02. All these items generate a negative trade balance. The average annual growth rate of their negative trade balance reached only 3.15%. The trade development of the non-competitive agrarian items trade makes evident that the annual growth of exports is much higher in relation to the annual growth of imports. Although the Czech agrarian trade is in the deficit, its ability to cover imports by exports is increasing.

CONCLUSIONS

Based on the findings concerning the trends in the commodity and territorial structure of the Czech agricultural trade, the following conclusions can be stated. The Czech agricultural trade is developing very dynamically over time. The values of the Czech agricultural exports and imports experience a significant growth, while the export growth rate exceeded the import growth rate in the recent years. Agricultural exports increased from CZK 78 billion in 2005 to more than CZK 160 billion in 2013 and imports rose from CZK 103 billion to more than CZK 184 billion in the same period. With respect to the above mentioned export growth rate (9.4% annually) and import growth rate (just 7.5% annually), the increase in the negative balance value has been stopped in approximately the last ten years, mainly with regard to the EU-15. The current value of the negative balance reaches about CZK 30 billion, even CZK 24 billion at the moment. It is worth recalling that the non-competitive aggregations have a large share in the negative balance.

When looking at the territorial structure of the Czech agricultural trade, it is apparent that its orientation is focusing still more on the EU-countries. These countries are not only the key export and also import partners. The EU share in the Czech agricultural trade reaches about 90% in the long-term. However, this fact points out also a weakness of the Czech agricultural trade. It is a very limited territorial structure undermining the stability of the Czech agricultural trade which becomes fully dependent on the development in the EU. Nevertheless, a strong argument can be found explaining why the Czech Republic in not involved more in trade with third countries. It is the geographic location of the Czech Republic with no access to the sea and to any key port by the inland waterways. For this reason, the trade relations are developed mostly to the neighbour countries which also leads to the transaction cost minimizing. Within the EU, the Czech Republic is oriented strongly on the trade with the new member states. In relation to the third countries, the CIS, the EFTA and the ODME countries belong to the most important export territories. Imports to the Czech Republic from third countries come mostly from the developing countries. When evaluating the last ten-year period, it can be stated that the territorial structure of the Czech agricultural trade is gradually focused more on the EU-countries and such countries, which have the preferential trade agreements with the EU. The future position of the Russian Federation as a trade partner is uncertain due to the sharpening relations and trade sanctions between Russia and the EU.

The commodity structure is profiling significantly in the recent years. The Czech agricultural exports are based on a relatively small number of commodity aggregations, which represent a substantial part of the export value. Among them, there can be found milk and milk products, cereals, beverages and spirits, food preparations, tobacco and tobacco products, preparations of cereals, residues and waste from the food industries, oilseeds, vegetable oils and oils, sugars and sugar confectioneries. The share of processed and semi-processed products increases and it has

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exceeded already 70%. Another positive aspect is also the increasing export-import coverage.

Imports are largely based on the non-competitive products, however, many competitive items can be also found in its structure. The following import aggregations have strengthened their position during the last ten-year period: meat and meat products, milk and milk products, food preparations, fruit and nuts, preparations of cereals, beverages and spirits, animal fodder, vegetables, animal and vegetable oils, cocoa and cocoa preparations, tobacco and tobacco products. These aggregations also contribute significantly to the negative balance of the Czech agricultural trade, which, however, is stabilised in the long-term reaches less than 7% of the agricultural trade turnover – this is a historical minimum from the perspective of the last two decades.

The key aspect of the Czech agricultural trade is its competitiveness, which is continuously profiling. The Czech agricultural market still does not have any profiled structure of comparative advantages and thus it misses a clearly defined commodity structure, especially in relation to the EU-Member States.

Comparative advantages are achieved in case of the aggregations. HS10, HS01, HS12, HS24, HS04, HS17, HS15, HS11, HS16, HS22, HS03 and HS13; on the other hand a high level of un-competitiveness is experienced in case of aggregations HS02, HS07, HS08, HS20, HS06, HS18, HS19, HS23, HS09, HS05 and HS14.

In relation to the third countries, the Czech Republic is able to maintain comparative advantages mostly within the aggregations HS04, HS17, HS22, HS12, HS19, HS23, HS11, HS01, HS13 and HS18. On the other hand, the non-competitiveness is experienced in relation to the aggregations HS08, HS03, HS02, HS09, HS07, HS16, HS20, HS21, HS05, HS15, HS06 and HS24. Extreme critical negative values of the LFI were found out in the trade in fruit and nuts, fish and sea products, meat and meat products, coffee, tea, mate and spices, vegetables, preparations of fish and crustaceans, preparation of vegetables, fruit and food preparations.

When analysing the Czech agrarian trade development, it is possible to identify several positive and also negative features. Among the positive ones, the following can be counted: the increasing export values and volumes, specialization and concentration of the agrarian trade commodity and territorial structure, the increasing share of the processed and semi-finalized products in the agrarian trade commodity structure, increasing added value and unit prices related to the Czech agrarian export, the increasing level of self-sufficiency, the growing positive value of terms of trade, stabilizing of the negative trade balance, the growing import/export covering ratio, the growth of the foreign direct investments into the Czech agrarian export capacities. On the other hand, the negative features are the following: a too high level of the agrarian trade territorial concentration, the constantly increasing share of the EU countries in the Czech agrarian trade vs. the decreasing share of third countries, no direct access to the sea-ports, a low activity of the Czech agrarian traders focused on the export out of the EU, very low activities of the public authorities focused on the support of the Czech agrarian export growth in relation to third countries (the missing conception of the agrarian trade support).

In the future, it can be expected that the competitiveness in the European and world market will rise as a consequence of the continuing process of liberalization. In this respect, the Czech Republic has no choice but to hope that the Czech producers and exporters will be able to cope with the increased competitiveness. Unfortunately, they cannot rely too much on the assistance from the Czech government which has just limited possibilities due to the obligations to the EU and also due to the limited budgetary resources. Nevertheless, it is evident that the Czech agricultural export is able to carve out its positions in the market, especially in the EU, and is also able to maintain such gained positions. A very important factor which influences the character of the Czech agricultural market is its internationalisation. In the future, the substance and structure of the Czech agricultural market will be affected by the foreign capital, which will also direct its further orientation. In any case, the agricultural market is important from the perspective of the national economy stabilisation, but its role as one of the GDP contributor will be limited due to its low share in the GDP (about 3%) and in the total foreign trade (about 5%).

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