

Development of agricultural foreign trade in the countries of Central Europe

Vývoj agrárního zahraničního obchodu zemí střední Evropy

MIROSLAV SVATOŠ, LUBOŠ SMUTKA

*Department of Economics, Faculty of Economics and Management,
Czech University of Life Science, Prague, Czech Republic*

Abstract: This paper analyses the development of agricultural foreign trade in Austria, Hungary and the Czech Republic with the aim of uncovering the changes that have impacted the Central European agricultural trade over the ten year period (1999–2008). It issues from the results of the analysis of agricultural trade in the aforementioned countries, which has changed dramatically in terms of the commodity structure, the territorial structure and primarily the value structure. The main changes to have caused most of the changes to the individual characteristics of agricultural foreign trade in the particular countries under analysis are the process of the EU enlargement, the adoption of obligations to ensue from the EU membership and the concentration in the internal market of the EU countries. We can see the actual changes in the commodity and territorial structure of the trade carried out in the individual countries under analysis. The changes which have occurred resulted in a dominant share of the member countries of the EU 27 in the agricultural trade of the individual countries under analysis.

Key words: Czech Republic, Hungary, Austria, agricultural trade, development, comparison, trend

Abstrakt: V příspěvku je analyzován vývoj agrárního zahraničního obchodu Rakouska, Maďarska a České republiky s cílem odhalit změny, které postihly střeoevropský agrární obchod v posledních deseti letech (1999–2008). Z výsledků analýzy vyplývá, že agrární obchod výše zmíněných zemí velmi výrazně změnil svou jak komoditní, tak i teritoriální a zejména pak hodnotovou strukturu. Hlavní změny, které způsobily většinu změn jednotlivých charakteristik agrárního zahraničního obchodu jednotlivých analyzovaných zemí, jsou proces rozšíření EU, přijetí závazků vyplývajících z členství v EU, dále orientace na vnitřní trh zemí EU. V případě jednotlivých analyzovaných zemí lze pozorovat faktické změny v komoditní a teritoriální struktuře realizovaného obchodu. Změny, ke kterým došlo, vyústily v dominantní podíl členských zemí EU 27 v rámci agroobchodu jednotlivých analyzovaných států.

Klíčová slova: Česká republika, Maďarsko, Rakousko, agrární obchod, vývoj, komparace, trend

Foreign trade is historically the oldest and still important part of the external economic relationships. Its impact on the economic development of the individual countries has deepened considerably namely during the whole period after the WW2, in the last decades the international trade development belongs among the most dynamic elements of the world economy development. At that, it represents not only the dynamic development on the quantitative level, but also, from the viewpoint of the

structural changes of the individual countries, the complex international trade flows. In harmony with the conclusions of the classical, neo-classical as well as modern foreign trade theories, it can be stated that at present foreign trade belongs to the decisive factors influencing economic growth of both the individual countries as well as the world economy (Jeníček and Krepl 2009).

Agrarian foreign trade represents a significant part of the world economy even if its share in world trade

Supported by the Ministry of Education, Youth and Sports of the Czech Republic (Project No. MSM 6046070906).

is consistently decreasing and currently it moves at the level of about 5% to 7%. For the EU countries, agrarian trade in both forms of the intra-trade and the extra-trade represents a very important part of the Common Trade Policy and the Common Agrarian Policy. Presently, agrarian trade of the EU countries has become a very significant proportion of the world trade with agrarian production. The share of the EU in the world agrarian export and import value is very high (Svatoš and Smutka 2009).

The paper analyses the development of agricultural foreign trade within Central Europe between 1999 and 2009. The period under analysis brought about a number of changes at the global and the regional level, which influenced considerably the current appearance of agricultural trade (in terms of the commodity and territorial structure) in all countries of the world, including those of Central Europe. The past ten years were very fertile in the terms of changes in the area of the global and regional trade. The appearance of agricultural trade in the countries of Central Europe was influenced by the process of the global trade liberalisation. It was also influenced by the accession negotiations which occurred between the EU and the twelve European countries that joined the EU in 2004 and 2007. The state of the trade in the countries of Central Europe was also significantly influenced by the process of removing the barriers to trade, which culminated at the moment all candidate countries entered the EU. Agricultural trade in the countries mentioned was also influenced by the changes that arise from the common policies to concern agriculture and trade within the EU and from the gradual reform of them.

Accepting the Common Agricultural Policy (CAP) led to unprecedented changes in the economic environment – in agriculture as well in processing industry. New members lost the possibility to regulate the original price level of agricultural products supported by the national border protection and export subsidies (Tomšík and Rosochatecká 2007).

It was further influenced by the changes in the ownership structure of a whole range of production units in the individual countries. Moreover, the current state of agricultural foreign trade is affected by the multinational chains that operate in the retail and on the wholesale markets of the individual states.

AIMS AND METHODOLOGY

From the methodical perspective, the article analyses the development of agricultural foreign trade in three selected Central European countries, with the

aim of ascertaining how the changes mentioned have affected the development of agricultural trade within the region. The aim of the paper is to uncover the differences or indeed similarities in the development of agricultural trade within Central Europe and to make reference to the common determinants which influenced the development of the structure and value of agricultural trade in the countries selected.

The article analyses agricultural trade in the following three countries: the Czech Republic, Hungary and Austria. All the selected countries have the following features in common. They all joined the EU relatively recently – Austria in 1995, the Czech Republic and Hungary in 2004. All these countries were members of an integrative grouping before their accession to the EU – Austria was a member of the EFTA and the Czech Republic and Hungary were members of the CEFTA. Vital flows of trade with the EU countries were already in existence in all 3 countries before the accession to the EU and were influenced prior to the accession by the gradual liberalisation of the mutual trade that culminated at the moment the individual countries joined the EU.

An important factor in deciding to include the aforementioned countries in the analysis was the similar development of the position of the agricultural sector within the national economy. The scope of the agricultural sector has continually declined in all three countries, its share falling at the expense of the growth of industry and services. Another common feature is the similar size of the individual countries, their almost identical population and the fact that all three countries lie in the same area and neighbour to each other. Agricultural trade in all the countries under analysis is influenced by the development of the EU Common Agricultural Policy and the Common Trade Policy. It is further influenced by the development of the situation on the common EU market. One significant element contributing to the attractiveness of the topic selected is the fact that the analysis allows us to compare the impact of the changes of the past ten years on three different types of economies. First of all, we can monitor how the changes which have occurred influenced the development of agricultural trade in a state which has been a member of the EU for a longer time, and to compare the differences in the development with the states that entered the EU only recently. An analysis of the countries selected also allows us to monitor how the structure of agricultural trade is developing in a country which is a part of the EUROZONE (Austria) and in countries which continue to use their own national currencies (Hungary and the Czech Republic). The analysis allows us to grasp certain

developmental trends that are currently ongoing in the Czech Republic and in Hungary. The fact is that there are certain trends similar to the Austrian experience. This ensues from the comparison of the development of agricultural trade in both countries in question with the Austrian agricultural trade following the accession to the EU (Austria has been a member of the EU common market for much longer than the Czech Republic and Hungary).

The article looks at the development of the commodity and territorial structure of foreign trade in the individual countries selected. The analysis is compiled in EURO (data expressed in standard prices) and partly in the national currencies of the individual countries under analysis (with the aim of calculating the real changes in the value of agricultural trade. The currencies analysed are the koruna (crown – CZK) in the case of the Czech Republic, the forint in the case of Hungary (HUF) and the Euro in the case of Austria – the value of trade was converted using the deflator published by the World Bank for prices in 2000 (WDI on-line).

The paper looks at the development in the value and volume of agricultural foreign trade and goes on to analyse the changes which have occurred in the terms of the territorial structure (extrastate, intrastate).

The development in the commodity structure is also analysed. The analysis is based on the methodology of the harmonised customs system that monitors the agricultural and food industry products within the 24 aggregations outlined below:

LIVE ANIMALS (HS01), MEAT & EDIBLE MEAT OFFAL (HS02), FISH & CRUSTACEANS (HS03), DAIRY, EGGS, HONEY, & ED. PRODUCTS (HS04), PRODUCTS OF ANIMAL ORIGIN (HS05), LIVE TREES & OTHER PLANTS (HS06), EDIBLE VEGETABLES (HS07), ED. FRUITS & NUTS, PEEL OF CITRUS/MELONS (HS08), COFFEE, TEA, MATE & SPICES (HS09), CEREALS (HS10), MILLING INDUSTRY PRODUCTS (HS11), OIL SEEDS/MISC. GRAINS/MED. PLANTS/STRAW (HS12), LAC, GUMS, RESINS, ETC. (HS13), VEGETABLE PLAINTING MATERIALS (HS14), ANIMAL OR VEGETABLE FATS, OILS & WAXES (HS15), ED. PREP. OF MEAT, FISH, CRUSTACEANS, ETC (HS16), SUGARS & SUGAR CONFECTIONERY (HS17), COCOA & COCOA PREPARATIONS (HS18), PREPS. OF CEREALS, FLOUR, STARCH OR MILK (HS19), PREPS OF VEGS, FRUITS, NUTS, ETC. (HS20), MISC. EDIBLE PREPARATIONS (HS21), BEVERAGES, SPIRITS & VINEGAR (HS22), RESIDUES FROM FOOD INDUSTRIES, ANIMAL FEED (HS23) and TOBACCO & MANUF. TOBACCO SUBSTITUTES (HS24).

Simplicity dictates that the changes are monitored as they happened from the perspective of the value and volume within the following four groups: trade in the products of plant production (HS06, HS07, HS08, HS09, HS10, HS11, HS12, HS13, HS14), trade in the products of animal production (HS01, HS02, HS03, HS04, HS05), trade in plant and animal fats and oils (HS15) and trade in processed food products (HS16, HS17, HS18, HS19, HS20, HS21, HS22, HS23 and HS24).

The analysis also focuses on the comparison of changes which have occurred within certain other selected qualitative and quantitative indicators relating to foreign trade. We will look at the development of the position of agricultural trade within the national economy and consider the dynamics of the development in the agricultural exports and imports of the individual countries (this is done using basic and chain indices, whereby both the basic and the chain indices are calculated in current and in fixed prices for 2000). The development of the average year-on-year growth rate of the individual factors monitored in the text is calculated using geometric averages, which have proved to be most appropriate with respect to the actual developmental trends. The results of the individual analyses compiled are set against each other with the aim of identifying different trends and similar trends in all the countries under analysis, the purpose being to grasp the development of agricultural trade within Central Europe to date and to point to the probable onward development of agricultural trade, particularly in the Czech Republic and Hungary.

RESULTS AND DISCUSSION

The development of agricultural foreign trade in the selected countries of Central Europe

Austria, the Czech Republic and Hungary are typical representatives of Central Europe (the following data was compiled for 2008). Their agricultural foreign trade has a similar structure, history and development. The countries under analysis have common historical links, but we should be aware that there are considerable differences between the individual countries in terms of economic advancement. There are also considerable differences between the individual countries under analysis from the perspective of the position of the agricultural sector. Agriculture in Austria represents 1.7% of GDP (around 5.5% of the economically active population are employed in this sector). In the Czech Republic, the share of agriculture in GDP is around 3% and around 3.6% of the economically active

population work in this field. In Hungary, the share of agriculture in GDP is around 3.5% and around 5% of the economically active population work in this field (WDO online, World Bank).

Agricultural trade is a very specific element of the national economy in all the countries under analysis. Although agricultural trade only accounts for a minimal contribution to the creation of GDP, it remains an important phenomenon in all the countries under analysis. In the case of Austria and the Czech Republic, it is a necessity since agricultural production in both countries only covers domestic consumption of basic agricultural and food products at the level of almost 70%. The situation is entirely the opposite in Hungary, since Hungary generates considerable agricultural surpluses, mainly in terms of primary production, thanks to the excellent soil and climatic conditions. Agricultural trade also plays a prominent role due to the fact that agricultural sector in all individual countries is only able to stock the market with products from the moderate climatic zone – tropical and sub-tropical products must be entirely imported.

The position of agricultural foreign trade

The share of the turnover of agricultural trade in the turnover of the total trade was relatively stable between 1999 and 2008. In the case of Austria, the share of the turnover in agricultural trade in the total trade was somewhere around 6%, in that there was a slight upward trend reflected in the share of around 7.2% in 2008. This development is primarily based on the increasing influence of trade in the processed products. In the case of Hungary, the share of the turnover in agricultural trade in the total trade was somewhere around 5–6% between 1999 and 2008. In the Czech Republic, meanwhile, the share of agricultural trade was somewhere around 5%.

However, it is important to mention that although the share of the turnover in agricultural trade in the overall foreign trade has not changed in the long-term, we can see the following results if we analyse the development of shares of export and import flows in the statistics to concern agricultural foreign trade and overall foreign trade.

The share of Austrian agricultural exports in the overall exports continues to grow. Whereas in 1999 the share of agricultural exports in the overall export was somewhere around 5.2%, it had risen to almost 7% by the end of 2008. This development was based on an above-average increase in the value of agricultural exports (in particular the exports of processed food products), which were somewhere around 11% dur-

ing the period in question. The share of agricultural exports in the total export in Hungary gradually fell in spite of the high year-on-year growth rate (11%), which copied the trend in Austria. Whereas in 1999 the share of agricultural trade in the total trade was somewhere over 9%, it was not even 8% by the end of 2008. The share of agricultural trade in the total trade in the Czech Republic remained at around 4% throughout the period in question (in that the average growth tempo of value reached around 16%).

The situation involving agricultural imports developed as follows. The share of agricultural imports in the total import rose in Austria and Hungary. In Hungary, it rose from 3.5% to 5.3% between 1999 and 2008 (the value of imports changed by 17% on average year-on-year) and in Austria from 6% to 7.3% (the year-on-year change in the value of imports reached 8.5% during the period in question). However, the share of agricultural imports in the total imports in the Czech Republic fell to 5.5%, whilst the year-on-year growth tempo reached 14%.

This development resulted in the following trends in agricultural foreign trade in the individual countries. In Austria and the Czech Republic, where the growth tempo of exports has been higher than the growth tempo of imports for a long time, there was stabilisation in the development of the balance of agricultural trade. Both countries were able to stabilise the negative balance of agricultural trade (to 500 million Euro in the case of Austria and to around 1 thousand million Euro in the Czech Republic). In the case of Hungary, the influence of the extensive structural changes that affected Hungarian agricultural and food sector led to the stagnation of exports and by contrast, to a considerable increase in imports.

Tables 1 and 2 offer information on the development of the actual values of flows of agricultural foreign trade in the individual countries under analysis. The following facts ensue from the data shown. Although, as already mentioned, the share of agricultural trade in the total trade is low in the individual countries, its value continues to rise in all countries under analysis. The value of extrastate trade carried out (the statistics include flows of foreign trade between the EU member states and countries which are not the EU members) and the value of the intrastate trade (statistics of foreign trade within the common market of the EU countries) are both rising.

Development of the structure of agricultural trade

The following changes occurred in the individual countries in terms of agricultural exports. Whereas

in Austria, a member of the EU since 1995, there was a gradual stabilisation of the share of the intrastate trade in the total value of agricultural trade at around 80% (there was even a noticeable increase in the share of the extrastate trade from 17% to 21% between 1999 and 2008), in Hungary and the Czech Republic, there was a considerable strengthening of the share of trade done within the current membership base of the countries of the EU. The share of the value of the intrastate exports rose in the Czech Republic from 80% to 92%, and from 72% to 82% in Hungary. Nonetheless, it is important to stress the high growth dynamic of the values of exports in all countries under analysis. The growth of the total exports, the extrastate exports and the intrastate exports indices reached the following values (basilar index 2008/1999): 264/321/253. The situation in the Czech Republic was as follows: 399/159/458; and in Hungary: 269/177/305. It therefore ensues from the data shown that agricultural trade in the newly-accessed countries can be characterised by a high degree of orientation on the EU market, in that the export growth dynamic on these markets considerably exceeds the growth dynamic of trade with third countries. The trend in Austria, in comparison with the other countries under analysis, is quite the opposite, in that the extrastate export growth dynamic exceeds the intrastate dynamic, which is mainly based on the different commodity structure of Austrian exports, something we shall examine in a later part of this paper.

Orientation on the EU common market predominates in the case of agricultural imports in all countries under analysis, as is the case with agricultural exports. In Austria, the intrastate share fell from 95% to 85% in the recent years, which is mainly based on the fact that the Austrian market opened itself up to import initiatives realised as a part of agreements with the APC countries and with the countries of the Balkan Peninsula. There was a considerable strengthening of imports from the EU member states in the Czech Republic and Hungary as a result of their accession to the EU. This is particularly evident in the case of Hungary, where the share of the EU 27 member states in agricultural imports rose from 54% to 91% between 1999 and 2008. The effect of the EU Common Agricultural and the Common Trade Policy was therefore seen in full in Hungary. There was a highly distinctive digression from trade with third countries, in that trade done became subject to the tough protective import measures within the EU. Moreover, the Hungarian market was entirely opened up to imports from all EU member states (both existing members and newly-acceding mem-

bers). Another problem was the significant decline in agricultural production in Hungary, given that here, in a country previously self-sufficient in the whole range of agricultural commodities, the level of self-supply was seriously restricted, the Hungarian market primarily opening up to processed foods from the EU countries. We can also see a significant strengthening of the share of imports from the EU 27 countries in the Czech Republic, but the increase in this share is not as considerable as in the case of Hungarian imports. The share of the current EU states in agricultural imports to the Czech Republic rose from 71% to 92% between 1999 and 2008. One important factor influencing the import side of agricultural trade in all the countries under analysis is the growth dynamic of the intrastate in comparison with the extrastate trade. A clear trend in favour of the extrastate over intrastate trade is evident in Austria (298/198 – basilar index 2008/1999). This is mainly based on the fact that the Austrian market opened up to the imports from certain “preferential destinations” and that Austria is a considerable re-exporter, in that a whole range of products enter Austria as raw materials and semi-finished products, before leaving the country in the form of processed final products – i.e. exports with a high added value. In the Czech and Hungarian cases, we can see the clear predominance of a trend towards an increase in the value of the intrastate imports over extrastate imports (basilar index 2008/1999, the Czech Republic – intrastate 418/extrastate 82; Hungary – intrastate 709/extrastate 83), whereby there was actually a decrease in the value of imports from third countries in consequence of the application of the common EU policies, since both countries had to terminate the validity of a whole range of business contracts allowing a host of world countries to place their goods on the markets in both countries in 2004.

As for the fundamental developmental trends, we should also point out that there is a significant difference in the development of the values of agricultural trade between the Czech Republic and Hungary. Whereas in Austria and the Czech Republic, there is a predominance in favour of export over import (basilar index 2008/1999, Austria – 264/208, the Czech Republic – 399/321), the opposite has been the case in Hungary in the recent years, in that the increase in the value of imports (the value of the 2008/1999 basilar index reached 421) was considerably higher than the increase in the value of exports (basilar index 2008/1999 – resultant value of 321). This trend is primarily based upon a massive increase (basilar index 2008/1999) in the value of imports from the current EU 27 countries, where the growth index

in the case of Hungary (710) saw an enormous rise in comparison with the Czech Republic (418) and Austria (197).

The result of all this is the subsequent development in the resultant balance of agricultural trade in the individual countries. Both Austria and the Czech Republic have long had a negative balance of agricultural trade, whereas in Hungary we can see a positive balance of agricultural trade over the long term. While in Austria the negative balance of agricultural trade has long been reduced by the Austrian pro-export involvement, which leads to a long-term prevalence of the growth tempo of exports over the growth tempo of imports, there is a clear trend of stabilisation of the negative balance at around 1 thousand million Euro in the Czech Republic. Hungary is in a somewhat different situation, when the balance of the intrastate agricultural trade fluctuates quite considerably (between 1999 and 2008 movement was recorded of between three million Euro and more

than 1 200 million Euro). In the case of the balance of agricultural trade with third countries, therefore, we primarily see a continual increase in the positive balance thanks to the significant reduction of imports from these countries. This positive balance rose from EUR 175 million to EUR 707 million between 1999 and 2008 (we can see a similar trend in the improvement of the subsequent balance of trade with third countries in all countries under analysis, although the improvement of the balance of trade in Austria and the Czech Republic is not as marked as in Hungary). The following therefore applies from the intrastate balance perspective: Austria and Hungary stabilised their respective balances at a level of EUR –1 thousand million and EUR +1 thousand million respectively. However, there is a clear and significant increase in the negative balance in the Czech Republic, rising between 1999 and 2008 from somewhere around minus three hundred million Euro to around minus one thousand million Euro.

Table 1. Development of the selected countries' agrarian export value (in current prices)

Export (in mil. EUR)		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total agrarian export value	Austria	3 241	3 622	4 218	4 531	5 152	5 667	6 378	7 172	7 831	8 581
	Czech Republic	1 077	1 341	1 453	1 461	1 533	1 946	2 641	2 806	3 497	4 299
	Hungary	2 151	2 424	2 810	2 811	2 841	3 102	3 428	3 755	4 905	5 801
Value of Extrastat	Austria	544	570	802	868	929	1 141	1 445	1 795	1 762	1 749
	Czech Republic	214	270	272	232	255	261	362	313	309	342
	Hungary	598	741	833	865	795	780	862	935	876	1 061
Value of Intrastat	Austria	2 697	3 052	3 417	3 663	4 223	4 526	4 933	5 376	6 069	6 832
	Czech Republic	863	1 071	1 180	1 229	1 277	1 686	2 279	2 493	3 188	3 956
	Hungary	1 553	1 682	1 977	1 946	2 046	2 322	2 566	2 820	4 030	4 741

Source: EUROSTAT, own processing

Table 2. Development of the selected countries' agrarian import value (in current prices)

Import (in mil. EUR)		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total agrarian import value	Austria	4 399	4 647	5 207	5 453	5 747	6 220	6 624	7 256	8 313	9 159
	Czech Republic	1 634	1 821	2 029	2 240	2 423	2 984	3 479	3 980	4 666	5 256
	Hungary	919	1 092	1 242	1 366	1 481	2 008	2 508	2 754	3 226	3 878
Value of Extrastat	Austria	448	504	578	600	654	714	823	1 068	1 256	1 338
	Czech Republic	470	497	536	536	585	436	369	306	341	388
	Hungary	422	424	451	461	453	348	262	255	307	354
Value of Intrastat	Austria	3 951	4 142	4 629	4 853	5 092	5 506	5 802	6 188	7 056	7 821
	Czech Republic	1 164	1 325	1 493	1 704	1 838	2 548	3 110	3 674	4 325	4 867
	Hungary	497	668	791	904	1 028	1 659	2 247	2 499	2 919	3 524

Source: EUROSTAT, own processing

Changes in the commodity structure of agricultural exports

Table 3 offers a brief outline of the development and differences in the commodity structure of exports and imports in the individual countries under analysis. The position of the individual commodity aggregation of the harmonised customs tariff rate within flows of exports and imports carried out as a part of agricultural foreign trade is clear from the table. The dynamic of the development of the trade operations of the individual commodity

aggregations ensues from the data. The resultant analysis of the development of the growth dynamic of exports and imports of individual aggregated groups of commodities and products is shown in Tables 4 and 5.

The following findings ensue from the data shown. The highest growth dynamic in the foreign trade operations of the individual countries in the case of agricultural exports is for the following groups of goods and products. The dominant position in terms of growth tempo in the case of Austrian exports is maintained by plant and animal fats and oils, followed

Table 3. Development of the selected countries' agrarian exports and imports commodity structure (in current prices)

	Austria				Czech Republic				Hungary			
	1999	2008	1999	2008	1999	2008	1999	2008	1999	2008	1999	2008
mil. EUR	export value		import value		export value		import value		export value		import value	
HS01	86.39	122.77	61.99	215.33	34.26	196.96	11.67	60.26	90.44	221.04	14.76	115.24
HS02	405.05	931.64	341.67	692.22	26.71	164.12	47.73	564.66	459.68	718.94	19.43	297.62
HS03	5.01	15.44	109.05	167.25	25.13	58.74	35.60	92.44	11.42	4.07	12.75	29.14
HS04	412.89	966.41	317.62	616.86	151.17	587.56	55.43	404.44	85.73	261.23	31.92	295.27
HS05	20.37	40.33	50.72	69.32	6.69	21.36	23.90	46.85	66.85	46.17	19.73	28.32
HS06	12.56	39.71	237.00	310.64	3.48	11.69	40.50	125.40	13.21	28.36	21.51	65.21
HS07	77.65	163.22	275.55	456.51	16.86	80.02	111.51	357.51	132.97	187.91	19.85	124.76
HS08	91.92	327.63	466.42	817.89	25.14	93.42	193.46	470.25	75.53	123.68	58.14	228.89
HS09	85.36	211.83	216.49	363.29	15.44	52.90	71.61	133.23	32.30	44.62	78.36	94.74
HS10	153.91	311.80	83.08	205.40	68.17	301.89	39.14	97.39	238.27	275.96	29.50	118.09
HS11	45.15	125.99	35.56	76.27	40.76	129.88	9.93	44.47	38.83	103.34	3.30	28.62
HS12	48.15	191.83	84.21	303.27	138.73	336.00	41.12	113.50	102.09	500.50	39.89	118.95
HS13	7.37	6.38	18.98	37.60	6.17	37.97	9.90	41.73	0.25	1.50	7.83	10.73
HS14	2.30	2.39	1.64	3.55	0.08	0.19	1.60	1.30	5.51	5.20	0.68	0.79
HS15	61.88	202.27	112.90	462.16	44.33	162.70	68.84	217.70	108.97	226.44	56.24	229.43
HS16	63.47	254.42	151.48	301.80	22.23	109.01	42.28	170.54	95.34	138.00	9.80	120.10
HS17	131.12	198.57	143.15	311.70	33.73	232.44	48.87	152.41	28.92	230.06	18.59	200.63
HS18	176.42	349.03	232.82	361.75	28.89	162.79	82.21	244.50	24.12	69.13	50.22	177.13
HS19	216.86	592.83	328.52	659.11	48.32	224.99	88.87	352.26	30.87	122.48	40.76	229.14
HS20	261.41	618.18	306.61	626.25	32.40	90.17	91.88	262.34	231.62	457.79	44.39	163.26
HS21	119.16	530.64	284.82	694.54	61.01	365.64	168.21	422.96	59.25	284.90	65.74	324.86
HS22	566.96	1865.78	265.04	867.12	112.08	409.31	76.09	390.86	109.50	282.64	27.83	283.66
HS23	109.47	296.61	193.22	341.73	30.87	187.14	137.32	351.52	67.77	418.88	182.70	427.73
HS24	80.01	215.76	80.30	197.51	104.25	281.99	136.36	137.18	41.15	48.46	65.04	165.65
Total	3 240.84	8 581.46	4 398.84	9 159.07	1 076.9	4 298.88	1 634.03	5 255.7	2 150.59	5 801.3	918.96	3 877.96

Source: EUROSTAT, own processing

by processed food products (the main elements are exports of the following aggregations: HS21, HS22, HS16). The share of both the groups mentioned in the Austrian agricultural exports reached around 55% in 1999 and rose to 60% during the period from 1999 to 2008. Although the value of trade conducted rose by the average of 9% and 7% per annum respectively. In the case of exports of plant and animal products, it is important to point out the decline of their share in the overall trade from 45% to 40% (the main exports in the period in question were as follows: HS02, HS04, HS08, HS12).

Exports of processed food products and animal products dominate Czech exports from the perspective of the growth dynamic of the subsequent realised value. The most significant rises were seen in the development of the commodity aggregations HS23 and HS22, HS21, HS19, HS18, HS17 and HS16 and further HS01, HS02 and HS04. The share of their

value in the total value of exports rose from 44% and 22.6% to 48% and 24% between 1999 and 2008 (in that, it is important to stress that the increase was primarily caused by the export of meat, and in particular slaughtered animals and live animals). In the case of exports of plant produce, we saw a significantly lower growth rate in comparison with the aforementioned two aggregates, and the share of exports of plant produce in the total agricultural production fell from 30% to 24%. (The main items in the export of plant produce remain the following aggregations: HS 10, HS11 a HS12. It is important to emphasise the high volatility of trade in cereals in particular, where the volume of exports depends on the development of the harvest, which is affected by the weather.)

Hungary saw very significant changes in the structure of agricultural exports over the ten years under analysis. Most affected by change from the perspec-

Table 4. Basic development tendencies of the analysed countries' agrarian export (in current prices and in constant prices – basic year 2000)

Export total	Constant prices (2000)				Current prices				Share in total agrarian export (%)	
	index 2008/1999	inter annual growth rate			index 2008/1999	inter annual growth rate			1999	2008
		1999– 2008	1999– 2003	2004– 2008		1999– 2008	1999– 2003	2004– 2008		
Austria										
Animal production	1.9	1.07	1.08	1.07	2.23	1.09	1.1	1.09	28.69	24.20
Crop production	2.24	1.09	1.1	1.09	2.63	1.11	1.11	1.11	16.18	16.09
Vegetable and animal oils and fats	2.78	1.12	1.08	1.16	3.27	1.14	1.09	1.18	1.91	2.36
Foodstuff products	2.42	1.1	1.12	1.09	2.85	1.12	1.14	1.11	53.22	57.35
Total agrarian trade	2.25	1.09	1.11	1.08	2.65	1.11	1.12	1.11	–	–
Czech Republic										
Animal production	2.32	1.1	1.03	1.16	4.22	1.17	1.09	1.24	22.66	23.93
Crop production	1.83	1.07	0.95	1.17	3.32	1.14	1.02	1.26	29.23	24.29
Vegetable and animal oils and fats	2.02	1.08	0.88	1.28	3.67	1.16	0.93	1.37	4.11	3.78
Foodstuff products	2.4	1.1	1.08	1.12	4.36	1.18	1.15	1.2	44.00	48.00
Total agrarian trade	2.2	1.09	1.03	1.15	3.99	1.17	1.09	1.23	–	–
Hungary										
Animal production	1.02	1	0.97	1.03	1.75	1.06	1.05	1.07	33.20	21.57
Crop production	2.08	1.08	1	1.16	3.55	1.15	1.08	1.21	29.71	39.15
Vegetable and animal oils and fats	1.21	1.02	0.88	1.15	2.08	1.08	0.95	1.2	5.07	3.90
Foodstuff products	1.74	1.06	1.01	1.11	2.98	1.13	1.1	1.16	32.01	35.38
Total agrarian trade	1.58	1.05	0.99	1.11	2.7	1.12	1.07	1.15	–	–

Source: EUROSTAT, own processing

tive of the growth dynamic were the exports of plant produce and of processed food production. The values of exports rose for both items at the average of 8% and 6% per annum, respectively. The most prominent pro-growth aggregations are HS22, HS21, HS20 and HS19 and further HS12, HS11 and HS10. The result was an increase in their shares in the total volume of agricultural exports from 30% and 32% to 40% and 35%, respectively. As for the development of exports of animal products, it is important to point out that there was a considerable decline in the share of exports of meat and meat products in the total exports under the influence of the structural and economic problems that affected the Hungarian meat industry. The share of animal products gradually fell from 33% in 1999 to 20% in 2008, influenced by the very low growth rate (2%) in comparison with other items of agricultural exports. HS02 and HS04 remain the principal exports.

Changes in the commodity structure of agricultural imports

We can point to distinctive differences in the individual Central European countries under analysis in terms of the development of the structure and value of agricultural imports. Austria is the biggest importer of the countries under analysis. This is partly based on the fact that Austria carries out a large number of import operations with the aim of subsequently re-exporting (mainly) imported raw materials and semi-finished products. The most dynamic groups of products in Austria in terms of imports are plant and animal fats and oils and final foods and food products (HS22, HS21, HS20 and HS19). The average year-on-year growth rate was somewhere around 15% and 7%, respectively. The share of both aggregates in the total agricultural imports has risen over the long term. Whereas in 1999 the joint share of both

Table 5. Basic development tendencies of the analysed countries' agrarian import (in current prices and in constant prices – basic year 2000)

Import total	Constant prices, 2000				Current prices				Share in total agrarian import (%)	
	index 2008/1999	inter annual growth rate			index 2008/1999	inter annual growth rate			1999	2008
		1999–2008	1999–2003	2004–2008		1999–2008	1999–2003	2004–2008		
Austria										
Animal production	1.7	1.06	1.06	1.06	2	1.08	1.07	1.08	20.03	19.23
Crop production	1.54	1.05	1.03	1.06	1.81	1.07	1.05	1.08	32.26	28.11
Vegetable and animal oils and fats	3.48	1.15	1.05	1.24	4.09	1.17	1.06	1.26	2.57	5.05
Foodstuff products	1.87	1.07	1.06	1.08	2.2	1.09	1.08	1.1	45.15	47.62
Total agrarian trade	1.77	1.07	1.05	1.08	2.08	1.08	1.07	1.1	–	–
Czech Republic										
Animal production	3.7	1.16	1.11	1.2	6.71	1.24	1.18	1.28	10.67	22.24
Crop production	1.47	1.04	1.02	1.06	2.67	1.12	1.09	1.14	31.75	26.35
Vegetable and animal oils and fats	1.74	1.06	1.09	1.04	3.16	1.14	1.16	1.12	4.21	4.14
Foodstuff products	1.57	1.05	1.03	1.07	2.85	1.12	1.09	1.15	53.37	47.27
Total agrarian trade	1.77	1.07	1.04	1.09	3.22	1.14	1.1	1.17	–	–
Hungary										
Animal production	4.54	1.18	1.08	1.27	7.76	1.26	1.18	1.32	10.73	19.74
Crop production	1.78	1.07	1.02	1.1	3.05	1.13	1.11	1.15	28.19	20.39
Vegetable and animal oils and fats	2.38	1.1	1.01	1.18	4.08	1.17	1.1	1.23	6.12	5.92
Foodstuff products	2.42	1.1	1.04	1.16	4.14	1.17	1.13	1.21	54.96	53.95
Total agrarian trade	2.46	1.11	1.04	1.16	4.22	1.17	1.13	1.21	–	–

Source: EUROSTAT, own processing

aggregated groups stood at 48%, this reached 53% by 2008. The share of the value of imports of animal products has long been stable at around 20% (the main items of import are HS02 and HS04). As for the development of the value of imports of plant produce, we see a decline in their share in the total imports which stands in contrast to the continually rising values of imports. (The main items, however, have long been HS06, HS07, HS08 and HS09. The most dynamically increasing were primarily HS10 and HS12.)

In the case of imports to the Czech Republic, we can say that the most dynamically developing value is

shown by the imports of animal products (in particular meat and meat products (HS02), milk and dairy products (HS04)) and plant and animal oils and fats. The share of both aggregations in total imports has long risen, in that significant increase only occurred after the accession of the Czech Republic to the EU, when a whole range of protective barriers fell against (in particular) Poland and other countries. The share of both aggregations in the total imports rose from 15% to 27% between 1999 and 2008. The most significant Czech import item has long remained processed food products, which have a share of around 47% in the resultant value of imports, but whose share in

Table 6. Analysed countries' basic index of agrarian export and import value development (basic index 2008/1999, in current prices)

Total export						Total import					
Austria		Czech Republic		Hungary		Austria		Czech Republic		Hungary	
HS21	445	HS17	689	HS17	795	HS15	409	HS02	1 183	HS02	1 532
HS16	401	HS02	615	HS23	618	HS12	360	HS04	730	HS16	1 226
HS12	398	HS13	615	HS13	607	HS01	347	HS01	516	HS17	1 079
HS08	356	HS23	606	HS10	536	HS22	327	HS22	514	HS22	1 019
HS22	329	HS21	599	HS12	490	HS10	247	HS11	448	HS04	925
HS15	327	HS01	575	HS21	481	HS24	246	HS13	421	HS11	868
HS06	316	HS18	563	HS19	397	HS21	244	HS16	403	HS01	781
HS03	308	HS16	490	HS04	305	HS17	218	HS19	396	HS07	629
HS11	279	HS07	475	HS18	287	HS14	217	HS07	321	HS19	562
HS19	273	HS19	466	HS11	266	HS11	214	HS15	316	HS21	494
HS23	271	HS10	443	HS22	258	HS20	204	HS17	312	HS15	408
HS24	270	HS04	389	HS01	244	HS02	203	HS06	310	HS10	400
HS09	248	HS08	372	HS06	215	HS19	201	HS18	297	HS08	394
HS20	236	HS15	367	HS15	208	HS16	199	HS20	286	HS20	368
HS04	234	HS22	365	HS20	198	HS13	198	HS12	276	HS18	353
HS02	230	HS09	343	HS08	164	HS04	194	HS03	260	HS06	303
HS07	210	HS06	336	HS02	156	HS23	177	HS23	256	HS12	298
HS10	203	HS05	319	HS16	145	HS08	175	HS21	251	HS24	255
HS05	198	HS11	319	HS07	141	HS09	168	HS10	249	HS23	234
HS18	198	HS20	278	HS09	138	HS07	166	HS08	243	HS03	229
HS17	151	HS24	270	HS24	118	HS18	155	HS05	196	HS05	144
HS01	142	HS12	242	HS14	94	HS03	153	HS09	186	HS13	137
HS14	104	HS03	234	HS05	69	HS05	137	HS24	101	HS09	121
HS13	87	HS14	225	HS03	36	HS06	131	HS14	81	HS14	115

Source: EUROSTAT, own processing

the total imports has fallen, a relatively encouraging piece of news. (The main import items are HS22, HS21, HS20, HS19 and HS18). The share of the imported plant products also fell over the long term from around 30% in 1999 to 25% in 2008, in that the products included in this category of imports can be characterised (with exceptions) as having the lowest growth dynamic (an average of around 4% per annum as opposed to the average growth tempo of Czech agricultural products, which is around 7%). The main import items are HS07, HS08 and HS09.

It was Hungary that saw the most significant changes from the perspective of the development of the value and structure of agricultural imports over the period in question. The imports of animal products (HS01, HS02 and HS04) rose the most dynamically during the period under analysis, at the average of 18% per annum. Imports within all categories of food products and preparations also rose, together with plant and animal fats and oils, at around 10%. The value of imports of plant products rose the least (the main imports being HS07, HS08, HS10 and HS12). Indeed imports of plant products is the most competitive item of agricultural imports in Hungary (from the perspective of own production and the production structure of the Hungarian agricultural sector. Changes resulted in the subsequent share of imports of animal products in the total agricultural imports, rising from 11% to 20%, the shares of animal and plant fats and oils and food products remaining unaltered at 6% and 54% respectively and a significant decline in shares of imports in the case of imports of plant products from 27% in 1999 to the resultant 20% in 2007.

Table 6 provides data on the dynamic of the development of the value of individual items of agricultural exports and imports in the individual countries under analysis from 1999 to 2008. The data in the table always run from those items with the highest growth dynamic to those with the lowest growth dynamic (growth is expressed using a 2008/1999 basilar index).

Growth dynamic and exchange relations

In terms of the development of exchange relations, we are able to use the knowledge acquired to say that the development dynamic of exports in comparison with imports behaved in the following manner in the individual countries under analysis. We can see in the case of Austria a long-term prevalence of the growth rate of exports over imports in eighteen of the twenty-four aggregations under analysis. The only exceptions here are with regard to the following

commodity aggregations: HS01, HS10, HS13, HS14, HS15 and HS17. These are predominantly commodity aggregations with a lower level of the added value, in which a whole range of imports are carried out with the aim of the onward processing and use.

The Czech Republic shows a predominance of exports over imports in 17 of the 24 commodity aggregations from the perspective of the development of exchange relations. Only the following aggregations show a higher growth dynamic for imports in comparison with exports: HS02, HS03, HS04, HS11, HS12, HS20 and HS22. These are mostly non-competitive imports. However, in the case of HS02 and HS04, this development is very unpleasant since it concerns the items for which the Czech Republic long showed a predominance of exports over imports. Unfortunately, however, both these aggregations are negatively inclined towards the interests of the Czech Republic following accession to the EU, both in terms of trade and production.

We can see in the case of Hungary, that the exchange relations and mainly the dynamic of the entire development of the foreign trade realised comes down strongly in favour of imports. Only in the following five of the twenty-four commodity aggregations under analysis was Hungary able to maintain the prevalence of exports over imports (expressed both in terms of exchange relations and from the perspective of the development of the growth dynamic): HS09, HS10, HS12, HS13 and HS23. These are mostly exports in the sphere of plant production. In all other commodity aggregations, there is a trend towards the prevalence of imports over exports, leading to the deteriorating position of agricultural trade and the agricultural sector as a whole within the Hungarian economy.

CONCLUSIONS

Although all countries under analysis are found within the same region and have roughly the same number of inhabitants, there are considerable differences in relation to the territorial and commodity structure of their agricultural trade. Austria is the country with the least favourable conditions for the development of agriculture, yet is the leader in the field of agricultural trade among the selected countries. Austrian agricultural exports and imports reach approximately the same values as the trade in the Czech Republic and Hungary combined. Austria exceeds both these countries quite considerably in terms of the value and primarily the quality of agricultural exports and imports realised. The main pillars of export in the case of Austria are finished products with a high

added value. The import of processed products also plays an important role, but the nature of Austrian imports is also influenced by the import of a whole range of raw materials and semi-finished products that are in turn processed by the Austrian processing industry and which are subsequently exported mainly within the countries of the EU 27. The past ten years of development in Austria led to the strengthening of the role of agricultural trade within the national economy and a significant increase in the value and volume of exports and imports and further it showed that the country is developing its business relations on the internal EU market and more recently also outside this common market. We can also see in Austria an increase in the volume of trade that was typical just after the expansion of the EU to include a further 12 members in 2004 and 2007. However, the development trend now is more in line with the development before the EU enlargement.

We can see that the past decade has influenced the appearance of agricultural trade in the Czech Republic quite dramatically. The value and more importantly the structure of trade have changed considerably. There was a considerable growth in terms of the development of the values of exports and imports, something that was primarily enhanced when the Czech Republic joined the EU (if we compare the growth rate of exports and imports before the accession (1999–2003) and after the accession (2004–2008), we arrive at the following figures: exports 3%/15%, imports 4%/9%). So the Czech Republic copied the Austrian experience of the period prior to the accession and immediately after the accession to the EU. There is a clear and distinctive increase in exports that exceeds the import growth dynamic and which therefore contributes to the stabilisation of the situation in the development of the balance of agricultural trade, which is beginning to stabilise. The development in the sphere of liberalisation, not just within the Czech Republic but within the EU as a whole, led to a situation in which the current agricultural trade is not simply a matter of the Czech Republic and Czech organisations. A large part of trade flow is controlled by the multinational companies, which results in changes to the structure of trade, which in turn is manifested on the one hand by a fall in exports of certain commodity aggregations traditional for the Czech Republic, but on the other by the fact that the Czech Republic is currently experiencing a change in the structure of exports in which the share of food products is rising slowly but surely. It is important from the perspective of the development of imports to point out the significant increase of imports for which the Czech Republic is not the final consump-

tion destination, but which are further processed in the Czech Republic and subsequently exported again (for example, bananas, tobacco etc.).

In Hungary, we are left with no option but to say that the country's agricultural trade has been strongly affected by the development following the accession to the EU, even though the volume and value of exports rose considerable after Hungary has joined the EU. The growth rate in the period following the accession to the EU (2004–2008) rose dramatically in comparison with the period prior to the accession (1999–2003), both in relation to exports (+11% as opposed to –1%) and imports (+16% as opposed to +4%). It is important to point out that Hungary is the only one of the countries under analysis in which the import growth rate has long outstripped the export growth rate, as a consequence of which the resultant balance of agricultural trade in Hungary is not as positive as it might be expected of a country that is traditionally oriented towards agricultural exports. We can say from the perspective of the development of the commodity structure that the traditional bastion of Hungarian exports, meat and meat products, has lost its position quite dramatically and that the share of processed products for export does not have any too great a value in Hungary. Hungary is closer to a transition economy than to an advanced economy in terms of its agricultural trade.

In conclusion, we can say that the years 2004 to 2008 had a major influence on agricultural trade within the countries under analysis. We can maintain in general that the Czech Republic in particular has the potential to mirror the example of Austria, but that it is difficult to estimate the future development in Hungary since in comparison with the Czech Republic and Austria, the analysis shows certain specifics that are different in comparison with the development in those countries. However, what all these economies have in common, is the fact that the values and volumes of import and export operations realised continue to rise and that there have primarily been qualitative changes to the export structure, in which the share of processed food products has risen considerably. We can also say that the individual countries are beginning to specialise in what is for them a typical commodity structure and they are building ever-broadening competitive advantages primarily in the EU market. The countries are continually specialising, meaning an improvement in the competitiveness of their agricultural exports. As for imports, here we can see a significant increase within all commodity aggregations, which is related to the fact that the countries are importing both raw materials for their processing industries and processed products

for the needs of their own rising consumption. One significant phenomenon to influence the appearance of agricultural trade is the considerable increase in the re-exports and refining business.

In conclusion, however, it is important to stress that agricultural trade as we know it is currently being influenced in all countries under analysis by the existence of the common EU policies, which shape the character of agricultural trade quite considerably mainly due to the fact that the vast majority of import and export operations are carried out in this internal market. This means that the agricultural market of the EU countries is a sort of special market in the world market (something like a bottle within a bottle). The fact that there are specific conditions here based on the conditions of the common market also allows the countries under analysis to successfully develop their foreign agricultural trade operations. However, we should also point out that although the governments of the individual countries strongly influence the situation of the agricultural sectors of their respective states, their influence on the volume and value of foreign trade operations is limited since such operations are fully controlled by (primarily) multinational organisations that do not monitor the local development or interests, but which are only concerned with the development on the multinational/global scale. This greatly impedes the position of the individual national governments and principally the position of agricultural producers in terms of domestic and foreign sales of their produce. In extreme cases, this leads to a situation in which the multinational companies exert their predominance over the national companies and gradually force them out of the market. The result of this development is the fact that it is currently very difficult to talk of the national foreign trade; as trade is indeed carried out by the organisations with registered offices in the individual countries, but the profits on trade flow out

to the countries in which these organisations have their parental bases.

REFERENCES

- Jeníček V., Krepl V. (2009): The role of foreign trade and its effects. *Agricultural Economics – Czech*, 55: 211–220.
- Svatoš M., Smutka L. (2008): The analysis of external trade development among the Czech and Slovak Republics, Hungary, Poland and the Ukraine. *Agricultural Market and Trade*, Warsaw; ISBN 83-89503-62-x.
- Svatoš M., Smutka L. (2009): Influence of the EU enlargement on the agrarian foreign trade development in member states. *Agricultural Economics – Czech*, 55: 233–249.
- Tomšík K., Rosochatecká E. (2007): Competitiveness of the Finnish Agriculture after ten years in the EU. *Agricultural Economics – Czech*, 53: 448–454.
- Comtrade database. United Nations Commodity Trade – Statistics Database. Available at <http://comtrade.un.org/db/default.aspx> (Quoted 14/01/2010).
- EUROSTAT database. European Commission, Agricultural trade statistics. Available at http://eabouteuropa.eu/agriculture/agrista/tradestats/index_en.htm (Quoted 19/01/2010).
- FAOSTAT database. Food and Agricultural Organization of the United Nations, Roma. Available at <http://faostat.fao.org/site/444/default.aspx#ancor> (Quoted 13/01/2010).
- International Trade Statistics 2008 (2008). WTO; ISBN 978-92-870-3407-6.
- The State of Food and Agriculture (2008). FAO, Roma; ISBN 978-92-5-105980.
- WDI. World Bank database. Available at <http://ddp-ext.worldbank.org/ext/DDPQQ> (Quoted 14/01/2010).

Arrived on 4th March 2010

Contact address:

Miroslav Svatoš, Luboš Smutka, Czech University of Life Science Prague, Kamýcká 129, 165 21 Praha 6-Suchdol, Czech Republic
e-mail: svatos@pef.czu.cz; smutka@pef.czu.cz
