# Czech Agrarian Foreign Trade Development in 2000 – 2010

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#### Abstract

The article deals with the issues related to development of the agrarian foreign trade of the Czech Republic within the last decade. The objective of the contribution is to analyse development of the territorial and commodity structure of the Czech agrarian export and import and to determine the most important changes which happened in the course of the analysed period. The article analyses development of the territorial and commodity structure in relation to both Member States of the EU and third countries. It follows from the outcomes that the commodity and territorial structure of the Czech agrarian foreign trade is significantly concentrated. Member States of the EU hold a dominant position both from the point of view of the value of realized exports as well as imports. A slightly higher share of third countries in imports as compared to exports may be explained with the specific structure of the realized commodity structure. As regards development of the commodity structure, it may be stated that it is very concentrated – when a few aggregations comprise more than one half of the implemented sales turnover both with respect to Member States of the EU and with respect to third countries.

**Keywords:** the Czech Republic, agrarian trade, commodity and territorial structure, export, import, EU, third countries, crisis, value

#### Introduction

The agricultural sector represents a very important component of every functional economy (Vološin et al. 2011). Agricultural products, be those that are produced and subsequently consumed within a particular economy, or those that are exported or imported on the contrary, are an important factor leading to a stable development of a society as the whole (FAO 2009; Vošta 2011). Within an economy such as the Czech Republic, the agricultural sector then fulfils an important role in the area of securing supplies of the Temperate Zone products for its own market (Valder et al. 2011). Nevertheless, taking into account the existing development in the area of agriculture that we have been able to study, the size of the agricultural sector has been significantly reduced

over the last 20 years (Střeleček et al. 2011). Recently, the agricultural sector is able to cover only 60 - 70% of the domestic consumption of products of the Temperate Zone (MZe CR 2010). It then follows from what has been stated that the foreign trade with agricultural products plays a key role in the Czech economy to a significant extent. Imports of agricultural and food products do not cover only the domestic consumption of the Temperate Zone products which the Czech Republic is not able to satisfy from domestic resources but they also cover the demand for products with the origin in the Subtropical and Tropical Zones which the Czech Republic is not able to produce at all because of its own production conditions (Pohlová 2011). Taking into account the fact that the demand for agricultural products has been constantly growing in the Czech Republic (Štiková et al. 2009) and because the position of the domestic agricultural sector and food industry has considerably deteriorated over the last few years (Plašil et al. 2010), the fact that both the volume and especially the value of agricultural imports have significantly increased in the last years is not surprising. In this respect, it is all the more so admirable that, despite having no conditions for a pro-export oriented agriculture, the Czech Republic is able to export a volume of its own agricultural and food production which is not negligible (Vološin 2011), and that the Czech Republic is also active in the area of various other pro-export oriented activities related to reexporting or improvement trading.

The Czech agricultural import has been growing very dynamically in the past years (Bašek and Kraus 2009). The agricultural export value has also grown to a not inconsiderable extent, thus preventing any extreme growth of a trade deficit (Kraus 2008). Nevertheless, the fact must be emphasised that the growth of the agricultural import value has been exceeding the growth of the agricultural export value after all, which resulted in a breakthrough of the psychological limit of the negative balance of the Czech agricultural foreign trade to the level of CZK 30 billion (nearly USD 2 billion). The agrarian trade in the past years was affected by a number of changes which have left their marks on its current state, especially on the current form of not only the commodity but also territorial structure (Pohlová 2010). The competitiveness of traded commodities has also been significantly changing (Burianová 2010; Burianová 2011) in the past years both with respect to the export structure itself and especially with respect to the market of Member States of the EU which are the key business partners (Horská 2010) of the Czech Republic as regards agricultural trade. While traditional products and also unprocessed products with a limited degree of value added were winning their position within the commodity structure at the beginning of the 1990s (Lukas and Poschl 2004), currently the situation has improved slightly (Smutka and Belova 2011), which is proven especially with developments in the area of prices per kilogram and the terms of trade. Nevertheless, it is true that the structure of the agricultural export of the Czech Republic has been significantly legging behind the structure of the agrarian trade especially of the EU15 (Bojnec and Ferto 2009; Drabík and Bártová 2008; Caetano and Galego 2006) export oriented countries.

## Materials and Methods

The text deals with the issues of development of the Czech agrarian foreign trade with the aim to identify its commodity and territorial structure, especially any changes which occurred in the past years, both in the period of pre-crisis development (2000–2008) and in the time of the crisis itself (2009), and subsequently in 2010 when it was possible to see a gradual "recovery" from the crisis of 2009. The article itself evaluates development of the Czech agrarian trade not only from the point of view of its own structure and value but also from the point of view of the general commodity trade of the Czech Republic and also with respect to the global and EU foreign trades. As regards methodology, the analysis deals not only with the development of the general Czech agrarian trade but it also analyses the agrarian trade development with respect to the EU27 countries, with a special attention given to the existing differences between the development of the agrarian trade with respect to EU15 countries (old Member States – herein under only as EU15) and with respect to new Member States (i.e. the states that accessed the EU in 2004 and 2007 - herein, the Member States are referred to only as EU12 countries). It is also important to mention that from the analytical point of view, the whole text (wherever the data enabled this) was drawn up with respect to the agrarian trade development and other variables related thereto in the time framework including the period of 2000 - 2010 (year 2011 was excluded from the analysis because the published data do not represent definitive values representing the agrarian trade development in the given year yet. On the basis of experience with estimates published by the Czech Statistical Office in the past years which were adjusted many times, the authors decided to postpone the analysis for 2011 and the drawn up text works with data until 2010).

The authors chose the UN COMTRADE database of the United Nations Organisation as the main data resource for drawing up of their own paper. The database was selected especially due to international comparison reasons because the data characterizing global trade are processed on the basis of the same methodology as the data characterizing the trade in the Czech Republic. The selected database enables to follow development of the agricultural trade commodity structure according to the Standard International Trade Classification (SITC).

S3-00	Live animals	S3-08	Animal feed stuff
S3-01	Meat, Meat preparations	S3-09	Misc. edible products etc.
S3-02	Dairy products, Bird eggs	S3-11	Beverages
S3-03	Fish, Crustaceans, Mollusc	S3-12	Tobacco, Tobacco manufact.
S3-04	Cereals, Cereal preprtns.	S3-41	Animal oils and fats
S3-05	Vegetables and fruit	S3-42	Fixed veg. fats and oils
S3-06	Sugar, Sugr. preptns., Honey	S3-43	Animal, veg. fats, oils, nes
S3-07	Coffee, Tea, Cocoa, Spices		

The data obtained from the above specified database are processed from the point of view of development of the respective value of the realized exchange (in their current process in USD). The analysis itself deals with the issues of the agrarian trade in the Czech Republic against the background of the agrarian

trade in the world and in the EU countries. It has been drawn up on the basis of the basic statistical characteristics such as the basic index, chain index and the geometric mean.

#### Results and Discussion

The value of the Czech foreign trade has been continuously growing within all the segments representing the commodity trade. The respective value of Czech exports increased from about USD 30 billion to more than USD 125 billion during 2000 – 2010. As regards imports, the realized values increased from USD 32 billion to more than USD 125 billion. The Czech foreign trade in 2000 – 2010 may be characterized with a different development as regards the growth of the value of exports and imports in the period before accession to the EU and in the period after accession to the EU. While in the period before accession to the EU the value of imports was growing faster as compared to the growth of the value of exports (which resulted into a trade deficit), in the time after the Czecg Republic's accession to the EU the dynamic of growth of realized exports value increased, when the rate of growth of exports exceeded the rate of growth of imports and the balance of the Czech foreign commodity trade shifted to positive numbers during a very short time. The foreign trade of the Czech Republic was developing in a very satisfactory manner during the years of the general economic growth – especially in the period of 2001 - 2008. The global crisis which affected the global economy in 2009 however had its impact on the Czech trade too (interannually, the value of exports and imports decreased by 23 or 26% respectively). The subsequent growth of contracts realized in 2010 was far from being high enough to compensate the decrease.

If we focus on the structure of the Czech foreign trade, we may state that the trade with processed industrial products dominates it both as regards exports and imports. The second position as regards realized values holds the trade with fuels and raw materials. The trade with agricultural and food production represents the least important segment of the Czech commodity trade as regards realized values (Table 1 shows details of development of the value of the Czech commodity trade).

The long-term share of the agrarian trade in the total value of the Czech foreign trade is about five per cent. In the course of time, the Czech agrarian foreign trade has changed its territorial structure, where trading with the EU27 countries currently makes up the dominant proportion; furthermore, the commodity structure of the realized trade has been restructured due to a gradual growth of the value of processed products with a higher level of added value. Another important change occurring in connection with the Czech agrarian trade after accession to the EU is a significant growth of export dynamics, when the growth of realized exports value has exceeded the growth of the value of imports which has resulted in stabilization of the negative balance of the Czech agrarian trade on the level of about USD 1.7 billion. It is interesting that the share of the agrarian trade in the total commodity trade has begun growing slightly because the rate of growth of the agrarian trade value exceeded

Table 1: Development of the growth rate value of the Czech commodity trade

				Bi	Bil. USD					Inte	r – Annu	Inter – Annual growth rate	
World-Export	2000	2003	2004	2006	2007	2008	2009	2010	2008	2009	2010	Geomean 2000–2004	Geomean 2005–2008
Agriculture	1.11	1.62	2.18	3.25	4.37	5.53	4.84	4.94	1.265	0.875	1.021	1.185	1.262
Fuels and Raw materials	1.91	2.77	3.63	4.96	6.28	8.13	6.94	8.69	1.294	0.854	1.252	1.174	1.223
Processed products	26.03	44.33	59.96	86.93	110.25	132.43	101.10	118.51	1.201	0.763	1.172	1.232	1.219
Total	29.02	48.72	65.77	95.14	120.90	146.09	112.88	132.14	1.208	0.773	1.171	1.227	1.221
World – Import	2000	2003	2004	2006	2007	2008	2009	2010	2008	2009	2010	Geomean 2000–2004	Geomean 2005–2008
Agriculture	1.56	2.43	3.27	4.65	5.99	7.10	6.55	6.65	1.185	0.923	1.015	1.203	1.214
Fuels and Raw materials	4.13	5.28	6.47	10.90	12.03	18.45	11.88	15.19	1.534	0.644	1.278	1.119	1.300
Processed products	26.55	43.52	56.97	78.77	98.80	116.28	86.41	103.85	1.177	0.743	1.202	1.210	1.195
Total	32.24	51.24	66.71	93.43	116.82	141.83	104.85	125.69	1.214	0.739	1.199	1.199	1.208
Source: UN Comtrade, own		processing, 2012	ıg, 2012										

the rate of growth of the total commodity trade in 2005-2008. In 2009, the agrarian trade then proved its better ability to cope with the crisis when the value of the realized exports or imports in the agrarian trade dropped only by 13% or 8% respectively as compared to the general commodity trade the value of which decreased interannually, both in exports and imports, by the above mentioned 23% or 26% respectively. The development is fully in accordance with the fact that agricultural and food products belong among indispensable products with a lower degree of elasticity in relation to the decrease of the global economy and individual incomes.

An important specificity of the Czech agrarian trade is its considerable orientation on the market of the EU27 countries. The countries participate in the resulting realized value of the Czech agrarian trade with more than 85% (91% as regards export and 85% as regards import). The share of third countries (for details on development of trade with third countries see Table 2) is currently marginal, with a long-term tendency to decrease, except for imports of products of the tropical and subtropical character. Nevertheless, also in the case of these products, it is the EU27 countries, playing the role of a reexporter, that have got into a significant trade position. The following Tables 2 and 3 show a detailed overview of the development of the commodity structure of the Czech agrarian trade in the studied period.

Once again, it follows from the above stated data that the commodity structure is dominated by both exports and imports realized with respect to the EU27 countries. Furthermore, the analysis suggests that the Czech agrarian trade is significantly concentrated and that the process of its shaping, especially as regards agrarian exports, has not yet been finished. Furthermore, it follows from the individual data shown in the tables that products that have already been processed or partially processed, thus having obtained a not insignificant value added, make up a significant proportion of agrarian imports. This contrasts with development of the commodity structure of the Czech agrarian export where unprocessed products with minimal prices per kilogram and a limited value added still make up a high proportion (nevertheless, the data characterizing the development after 2006 show some improvement when the proportion of processed products and semi-finished products in the total export exceeded at least 50%).

The following aggregations have been shaping as pillars of the Czech agrarian export over a long period of time: milk, cream and milk products, products from flour and cereals, alcoholic drinks, food preparations, tobacco products, livestock, confections, feedstuff for animals, wheat and chocolate, and products containing cocoa powder (in many cases, the fact that export of the products is done under the management of multinational companies influences the significant position within the export). The share of the above specified aggregations in the Czech agrarian export is around 70%. The following items dominate in the agrarian import: vegetables and products from vegetables, fruit and products from fruit, meat and meat products, milk and milk products, corn and products from corn, coffee, cocoa, chocolate, feedstuff, food preparations, and drinks. The share of the above mentioned aggregations in the total agrarian

Table 2: The analysis of development of the commodity structure of the Czech agrarian export in 2000 – 2010

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					Export	t – Value	- Value in million USD	USD					
CR/EU27	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Sum 2000–2004	Sum 2005–2008
83-00	26.3	34.4	43.4	44.4	111.6	143.1	157.6	198	246.2	213.9	199.5	260	745
S3-01	37.5	59.9	59.7	57.9	114.4	159.1	173	245.8	343.5	320.3	328.4	329.4	921.3
S3-02	92.3	97.9	98	111.4	216.3	322.1	467.2	644.7	747.1	603.6	611	603.9	2181.1
S3-03	24.7	29.5	34.1	42.1	47.7	55.3	63.3	9.77	85.3	83.5	87.4	178.1	281.5
S3-04	145.9	113.1	153	236	205.1	368.9	415.5	637.1	848	827.8	721.4	853.1	2269.5
S3-05	82.6	8.62	85	100.7	163.8	264.6	253.3	338.7	385.2	332	376.1	511.7	1241.8
83-06	41.2	62.8	9.08	9.66	259.4	289.5	248.8	232.9	302.4	234.8	253.8	543.8	1073.7
23-07	86.3	97.3	106	168.6	167.1	205.4	219.3	282	358.7	310.47	334.7	625.4	1065.4
83-08	44.3	50.1	49.2	62.7	77.4	109.6	126.8	185.2	253.4	180.3	251	283.6	675.1
83-09	70.1	81.7	128.2	149.3	192.6	215.4	569	384	490.3	434	346.7	621.9	1358.7
S3-11	113.5	123.8	151	161.5	204.3	248.9	302.8	403.7	451.6	411.1	381.4	754	1407.1
S3-12	8.69	75.4	187.1	85.9	9.68	128.3	105.3	234.1	401.6	355.2	396.1	507.9	869.4
S3-41	1	0.4	0.4	1.1	1.6	1.7	2.6	2.5	3.7	3.4	3.7	4.5	10.4
S3-42	18.1	21.9	11.7	12.5	15.6	47.1	59.6	90	124.7	80	201.7	79.8	321.5
S3-43	11.4	12.1	12.4	17.1	19.5	19.9	20.3	23	38.5	60.1	19.1	72.5	101.6
CR/Others	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Sum 2000–2004	Sum 2005–2008
S3-00	4.2	5.5	3.6	7.2	4.1	6.4	7	8.4	21.6	22.7	32.3	24.7	43.4
S3-01	2.9	8.4	9.7	2.4	1.6	2.5	3.3	5.1	8.4	6.7	15.6	24.9	19.2
S3-02	84.9	108.3	83.1	108.4	8.76	106.7	72.8	116.9	107	62.7	85	482.5	403.4
S3-03	1.1	1.6	1.6	2.2	2	1.5	1.6	1.4	1.7	1.7	1.6	8.5	6.2
S3-04	65.5	6.6	17.2	34.9	48.6	8.86	64.1	38.3	41.1	43.7	48.9	176.1	242.3
S3-05	17.2	16.6	15.2	17.2	24.3	29.9	38.6	34.5	40.2	45.4	41.4	90.4	143.1
23-06	15.9	33.8	23.3	23.7	23	52.5	55	24.8	29.7	41.7	43	119.7	161.9
23-07	2.3	2.7	4.1	9.7	15.5	16.9	17.4	32.6	32.9	30.6	26.9	34.3	6.66
83-08	1.8	4.4	4.9	ಬ	6.4	8.1	8.6	12.6	14.6	15.3	23.3	22.4	45.2
83-09	8.3	7.1	7.9	12.6	23.8	24.8	29.6	36.5	40.5	38.8	38.4	59.7	131.4
S3-11	19.4	20.4	25.2	33.7	36.7	44.2	57.4	71.9	86.5	61.3	63.2	135.3	260
S3-12	14.9	10.3	14.6	11.2	9.3	14.7	6.4	2.9	10	12.8	4.7	60.3	34
S3-41	0	0	0	0.3	0.3	0	0.1	0	0.3	0.2	0	0.7	0.4
S3-42	1.8	2.9	4.8	3.8	1.6	2.4	9.0	2.4	10.4	0.0	0.4	14.9	15.8
S3-43	0.2	0.3	9.0	6.0	0.4	0.5	0.4	0.9	1.6	1.7	1	2.4	3.4
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Source: UN Comtrade, own processing, 2012

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3.0	17.1	0.1	55.9	31.9	42.9	37.6	89.5	11.3	259.1	23.3	47.3	6.5	52.5	1.5	2004	33.3	83.5	22.7	106.3	217.5	251.7	270.9	230.9	108.0	498.3	220.3	55.6	219.2	254.2	18.5	2004	Import	nmodity
2 &	17.0	0.1	49.3	34.7	44.1	35.5	86.1	16.7	322.8	14.4	51.8	0.8	39.9	1.6	2005	33.2	82.4	15.0	142.2	253.4	273.7	259.5	304.6	138.8	654.5	261.7	75.5	313.1	428.8	35.1	2005	H.	structu
3.4	12.9	0.1	60.6	41.7	50.0	35.4	94.1	21.3	281.8	17.4	61.3	1.7	40.2	1.6	2006	32.5	108.7	13.4	166.0	300.3	327.1	278.5	354.1	153.1	828.7	342.1	81.7	392.7	515.1	37.1	2006	Value in million	re of th
4.6	7.7	0.2	71.3	59.6	66.0	37.6	92.5	25.9	377.9	28.9	78.0	1.8	94.3	1.9	2007	39.8	103.2	15.5	261.4	386.3	396.9	347.3	497.7	228.5	984.7	455.2	96.3	544.8	639.9	46.2	2007	1 USD	e Czech
5.9	8.1	0.1	49.9	83.1	67.7	59.3	106.0	29.0	459.2	39.8	98.7	2.1	110.7	2.7	2008	54.8	178.7	28.9	149.0	452.0	526.5	451.1	591.0	197.8	1126.8	563.0	114.3	621.8	839.2	82.6	2008		agrariar
2.7	8.4	0.4	32.8	68.7	69.6	38.1	81.5	15.1	367.9	29.8	91.3	3.2	97.9	1.5	2009	50.7	203.6	25.4	201.8	406.8	485.2	393.0	511.2	211.7	1019.7	480.2	102.4	571.9	882.8	98.6	2009		import
3.6	15.6	0.4	48.2	65.9	69.9	53.9	92.5	16.7	425.8	26.8	99.0	2.1	94.7	1.2	2010	46.1	132.5	20.7	216.5	393.2	488.2	364.0	511.3	199.4	1104.0	486.3	95.6	605.2	893.6	81.3	2010		in 2000
10.2	57.0	0.3	268.4	84.7	169.6	189.2	437.8	38.7	877.7	88.3	205.4	25.7	137.3	5.1	Sum 2000–2004	96.1	312.2	61.3	293.2	646.8	855.1	920.6	761.4	370.7	1843.8	732.0	213.4	629.0	566.5	67.0	$\begin{array}{c} \mathrm{Sum} \\ 2000-2004 \end{array}$		- 2010
16.7	45.7	0.6	231.1	219.1	227.8	167.8	378.8	92.9	1441.8	100.5	289.9	6.4	285.2	7.8	Sum 2005–2008	160.3	473.0	72.8	718.7	1392.0	1524.2	1336.4	1747.4	718.2	3594.7	1622.0	367.7	1872.4	2423.0	201.0	Sum 2005–2008		

import exceeds 85%. It hence follows from what was mentioned herein above that both export and import are highly concentrated to a limited number of aggregations.

It follows from the analysis of exports that the growth rate of the value of realized transactions has increased considerably after accession to the EU. On the contrary, the rate of growth of the value of export to countries outside the EU showed a significantly lower dynamics of growth. While as regards exports to the EU countries, growth was detected for all studied aggregations, in the case of exports outside the EU even a negative rate of development of export values was detected for some aggregations. The most dynamically growing aggregates as regards exports to the EU countries in 2004 – 2008 included (the figures stated in brackets represent the average interannual value growth rate): hardened vegetable fats and oils (68.2%), tobacco and tobacco products (45.5%), cereals (42.6%), milk and milk products (36.3%), feedstuff (34.5%), meat and meat products (31.6%). In the case of the other aggregations, the interannual growth rate in the studied period ranged from 3.9 - 26.3\%. The realized trade value for countries outside EU was also growing and the most important growth of realized exports was detected with respect to the following aggregations: hardened vegetable fats and oils (58.9%), meat and meat products (52.4%), livestock (51.8%), animal and vegetable greases and oils (40.7%). The interannual growth rate for the other aggregations ranged from 1.8 – 23.9%. The export of the fish and fish products and cereals aggregations even showed a decrease in the value within the studied period as compared to the period before accession to the EU.

As regards the growth of the agrarian import of the Czech Republic, it is appropriate to state that a very dynamic growth of the value of imports from the EU countries was generally registered after accession to the EU, especially in the case of the following aggregations (the figures stated in brackets represent the average interannual value growth rate in 2004-2008): livestock (45.4%), meat and meat products (34.8%), milk and milk (29.8%), stimulants (26.5%), cereals (26.4%), vegetables and fruit (22.6%) and drinks (20.1%). Generally, it may then be stated that in the case of the other studied aggregations, growth was detected ranging from 6 to 20%. As regards countries outside the European Union, in the same period, the most significant import growth dynamics was detected for the following aggregations (once again, the figures stated in brackets represent the average interannual value growth rate in 2004–2008): drinks (27.1%), sugar and confections (26.7%), livestock (20.5%), fish and fish products (20.2%), animal and vegetable fats and oils (18.9%) and fruit and vegetables (15.4%). As regards most of the other aggregations, the value growth was detected, although not as dynamic as it had been with respect to the EU countries (4-14%). There were three aggregations for which even a significant decrease in the realized value was detected as compared to the period before accession to the EU. This also applied to imports: tobacco and tobacco products, hardened fat and oils and milk and milk products.

# Impacts of the Crisis on the Commodity and Territorial Structure of the Czech Agrarian Trade

The crisis of 2009 impacted the economy of the Czech Republic and its foreign trade in a very significant manner, not excepting the trade with agricultural products. As it has already been stated herein above, the agrarian trade of the the Czech Republic decreased by more than ten per cent at the time of the crisis, while the value of export related to the EU Member States decreased more than the value of imports. As regards countries outside the EU, the development was exactly reversing (export decreased less than import).

As regards Member States of the EU, the crisis impacted exports of all aggregations, except for animal and vegetable fats and oils. The most dramatic decrease was detected in the case of exports of hardened fats and oils (36%), feedstuff (29%), sugar and products containing sugar (23%), milk and milk products (20%), fruit and vegetables (14%), stimulants (13.5%), livestock (13.2%), food preparations (12%) and drinks (11%). For the most part, it was then a decrease of aggregations that are important for the Czech Republic. The crisis-generated decrease of exports related to countries outside the EU was not so drastic. One half of aggregations even registered a growth of the realized export value despite the crisis (sugar, tobacco products, fruit and vegetables, fats and oils, cereals, livestock, feedstuff and fish and fish products). On the contrary, the most significant decrease of the value was registered for the following aggregations: hardened vegetable fats and oils (90%), milk and milk products (42%), animal oils and fats (38%), drinks (30%), meat and meat products (20%), stimulants (7%).

As it has already been mentioned, the crisis did not affect only exports but also imports. As regards Member States of the EU, the crisis affected imports of the following aggregations most: cereals (15%), stimulants (13.5%), feedstuff (13%), animal fats and oils (12%), fish and fish products (10%), drinks (10%); furthermore, a decrease was detected as regards milk and milk products, food preparations and some specific fats and oils. On the contrary, despite the crisis, imports were growing for: tobacco and tobacco products (35.5% – especially due to the influence of the growth of production of the Philip-Morris tobacco concern), livestock (19.4%), vegetable fats and oils (14%), sugar (7%) and meat and meat products (5.2%). As regards imports from third countries, the crisis impacted the majority of realized transactions within nearly all the aggregations, except for animal and vegetable fats and oils, milk products and food preparations. The most significant decrease of import was detected in the case of the following aggregations: selected fats and oils (55%), sugar (48%), feedstuff (36%), tobacco and tobacco products (34%), cereals (25%), stimulants (23%), fruit and vegetables (20%), drinks (17%), meat and meat products (11.6%) and fish and fish products (7.5%). Generally, it is hence obvious that imports from countries outside the EU have dropped more significantly as compared to imports from Member States of the EU, probably due to the effect of the Common Agricultural Policy and the Common Commercial Policy of Member States of the EU.

When analysing the decrease in the agrarian trade value in 2009, it must be stated that the value of both the agrarian export and agrarian import did not decrease only due to a decrease in the demand for agricultural products because trading in them at the time of the crisis generally shows a low level of elasticity, but the trade value decrease was especially influenced by a decrease in the prices of agricultural commodities which suffered a significant fall especially at the turn of 2008 and 2009 (FAO 2012).

#### Development of the Agrarian Trade in 2010

The year of 2010 was characterized by gradual renewal of the global economy growth which was thus slowly "recovering" from the crisis of the previous year. The agrarian trade in that year recorded global growth of its value; nevertheless the growth was significantly lower as compared to the growth rate of the general commodity trade. In the case of the agrarian trade of the the Czech Republic, growth of the value of both export and, of course, import is apparent. The growth was however not able to compensate the decrease of the value from the previous year both as regards Member States of the EU and countries outside the EU's internal market. Generally, it may be stated that the Czech exports to Member States of the EU in 2010 grew by 1.4% as compared to 2009. In this respect, it was positive that the value of imports did not grow. In the case of the trade with countries outside the EU, growth of the value of exports and imports by 10.2% and 11.8% respectively was registered. In this respect, it is obvious that the trade with third countries, which is, to a considerable extent, based on exports of products with a higher value added on one hand and imports of specific products which the market of the Czech Republic is not able to produce on the other hand showed a considerably better ability to cope with impacts of the crisis as compared to the market of Member States of the EU, which, subsequently after the crisis had subsided, fell into other problems related to the imbalance of its own fiscal and monetary policy.

Generally, it may be stated that most prosperous with respect to Member States of the EU in 2010 was the export within the following aggregations (the interannual value increase is stated in the brackets): vegetable fats and oils (150%), feedstuff (39%), vegetables and fruit (13.3%), tobacco and tobacco products (11.5%), sugar (8.1%) and stimulants (7.9%). Growth ranging from 1.2% to 6.6% was registered for other aggregations. On the contrary, negative development of the value of export to Member States of the EU in 2010 was registered for livestock (-6.7%), drinks (7%), cereals (-13%), food preparations (-20%) and selected animal fats and oils (-70%). As regards countries outside the EU, the year of 2010 was characterized by growth of the value of the following aggregations: meat and meat products (133%), feedstuff (52%), livestock (42%), milk and milk products (35.6%), cereals (11.8%), sugar (3.3%)and drinks (3.1%). A decrease of the export to third countries in 2010 was contrariwise registered in the case of all the other aggregations, while the most noticeable decrease was in the case of animal and vegetable fats and oils, tobacco and tobacco products and stimulants.

As regards import, we may once again state that there are certain differences between development of the value of imports from the EU countries and from countries outside the EU. If we analyse development of the commodity structure of imports from Member States of the EU, we find out that imports in 2010 grew most dynamically (the interannual growth rate is given in the brackets) in the following cases: vegetables and fruit (8.3%), tobacco and tobacco products (7.3%) and milk and milk products (5.8%). Growth (about 1%) was also detected in the case of cereals, meat and meat products and food preparations. On the contrary, a significant decrease of imports was detected in the case of vegetable and animal fats and oils (in the range of 10 -35% according to the type), livestock (about 18%). The value of imports from countries outside the EU was developing in a more dynamic manner as compared to Member States of the EU. The growth of imports was registered in the case of 10 out of the 15 studied aggregations. The most significant growth was charged to the account of the following aggregations: vegetable fats and oils (16-85%), tobacco and tobacco products (47%), feedstuff (41.5%), vegetables and fruits (15.7%), stimulants (13.6%), sugar and products containing sugar (10.5%) and fish and fish products (8.4%). A decrease in the value of imports from countries outside the EU then occurred in the case of especially the following imports: livestock (-20%), cereals (-10%), drinks (4%) and meat and meat products (3.2%).

The above specified development explains the significantly higher dynamics of the growth of the negative balance of the agricultural foreign trade with respect to third countries as compared to Member States of the EU in 2010. Furthermore, it is obvious that the crisis led rather to damping of demand for processed food products (the majority of which come from the EU countries) and, contrariwise, the trade with unprocessed agricultural production or agricultural production which had been processed only to a minimum extent was affected by the crisis only marginally (the production is then the subject matter of the major part of the trade exactly from countries outside the EU). As regards the growth of the value of agrarian trade in 2010, it is appropriate to mention, as it was mentioned with respect to 2009, that development of the value of contracts realized both in export and import transactions was influenced rather by the growth of prices of traded goods than by the growth of volumes of concluded transactions. Graph 1 clearly shows that the prices of food started to grow once again in 2010 and subsequently the growth was even more manifested through the value of contracts concluded in 2011.

# Development of the Commodity Structure of the Czech Agrarian Trade with Respect to Member States of the EU

The subsequent part of the text deals with the issues of mutual trade with agricultural food products which is realized between the Czech Republic and individual Member States of the EU which is the most important trading partner of the Czech Republic (for details see Table 4). The table stated herein below contain data about development of the agrarian export and import in

2000 – 2010. The table contain data not only about bilateral trade between the Czech Rrepublic and individual Member States of the EU but, for comparison reasons, there are also presented data about development of agrarian export and import as regards all trading partners and also groups of the EU15 and EU12 countries.

Generally, it follows from the presented data that in the long-term perspective the most important trading partners of the Czech Republic as regards exports are the following countries: the Slovak Republic, Germany, Poland, Hungary, Austria, Italy, Great Britain, France and the Netherlands. In 2005 – 2010 alone, the countries participated in the Czech agrarian export with 80%(in the case of trading only with the EU27 countries, their share reached even 90%). As regards agrarian import, the most important partner countries were as follows: Germany, Poland, Slovakia, Italy, the Netherlands, Spain, Austria, Hungary, France and Belgium. The share of these countries in the total value of agrarian imports directed to the Czech Republic achieved about 75% in 2005– 2010 alone. As regards imports realized only from the EU27 countries, the contribution of the above mentioned countries oscillates on the level of 90% or more. If, besides the share of individual Member States, we are also interested in the dynamics of growth of the value of realized transactions, then the following may be stated: At the time after accession of the Czech Republic to the EU, the Czech Republic showed the highest dynamics of growth of its agrarian export with respect to the following partner countries: Portugal, Luxembourg, Cyprus, Italy, Sweden, Malta, Ireland, France, Denmark and Romania. The growth rate of the value of agrarian export to our traditionally strong export destinations was under the average of the EU27 countries in its majority. As regards the agrarian import in the same period, the highest dynamics of the value growth was shown in the case of the following partner countries: Portugal, Romania, Poland, Ireland, Belgium, the Netherlands, Luxembourg and Austria. The share of our traditionally strong import partners was under the average of the EU27 countries, except for Poland and Austria, as it was in the case of exports.

It follows from what was mentioned herein above that as regards the growth dynamics of the Czech agrarian trade, the statuses of the EU12 and EU15 countries differ. In the case of the agrarian export it is obvious that the growth rate of realized transactions is higher as regards the EU15 countries as compared to the EU12 countries.

If we are interested in the impact of the crisis on the territorial structure of the Czech agrarian export and import as regards Member States of the EU, the following may be stated: as regards exports, the crisis of 2009 most impacted trading with the following partners (a change of the value in percent): Poland (-28%), Lithuania (-24.5%), Finland (-23.3%), Greece (-21.7%), Bulgaria (-21.3%), Hungary (-20%), Estonia (-17.4%), Slovakia (-15.2%), the Netherlands (-10.4%). In the case of other countries, a decrease of the value of exports was detected up to 10% (Spain, Great Britain, Slovenia, Austria, Denmark, and Romania). Contrariwise, the crisis of 2009 had no negative impact on exports to the following countries: Luxembourg, Malta, Ireland, Latvia,

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			Export in mil. USD	mil. USD					Import in mil	nil. USD		
	2000	2002	2004	2006	2008	2010	2000	2002	2004	2006	2008	2010
Austria	32.2	46.0	107.6	162.8	279.6	299.9	70.6	75.7	135.8	225.9	349.3	298.2
Belgium	38.5	86.0	85.5	50.9	74.0	81.4	36.7	53.8	79.0	121.1	176.5	216.8
Bulgaria	3.5	8.3	14.0	15.2	24.4	30.0	2.7	6.3	12.3	14.9	21.2	19.6
Cyprus	0.1	0.4	0.2	0.8	0.7	1.8	2.7	4.6	6.9	2.4	3.1	2.0
Denmark	2.7	3.7	10.7	16.7	34.2	34.7	30.4	33.5	55,9	59.0	82.6	86.5
Estonia	1.5	5.0	10.1	6.6	7.4	5.6	2.1	2.4	2.7	4.2	5.0	4.0
Finland	1.6	2.1	7.8	12.1	42.5	18.4	3.9	5.5	5.7	19.0	16.3	10.4
Francie	14.7	24.2	33.7	60.4	105.6	126.4	60.1	83.8	120.2	172.6	244.8	250.5
Germany	193.2	256.3	388.1	736.7	1057.2	880.9	2537	376.9	729.1	991.2	1674.1	1535.0
Greece	2.4	3.3	11.1	20.7	21.8	12.7	22.0	32.0	37.9	66.7	84.7	67.6
Hungary	24.4	45.8	141.1	153.8	285.2	216.1	72.1	88.1	132.6	189.0	300.9	265.2
Ireland	0.5	1.2	5.6	5.2	118	21.7	9.8	9.0	17.8	27.0	44.6	49.8
Italy	9.7	14.1	63.1	104.9	396.2	356.6	92.4	122.4	1829	287.9	4430	390.4
Latvia	2.4	5.2	6.2	15.3	10.5	9.6	1.2	2.0	3.5	4.7	5.7	4.4
Lithuania	9.8	10.8	12.5	14.8	28.6	27.2	1.5	2.0	6.3	11.5	8.7	9.9
Luxemburg	0.1	0.1	0.2	0.1	0.1	1.8	0.0	0.1	0.5	1.1	0.5	1.2
Malta	0.3	0.0	0.2	0.3	0.2	0.8	0.0	0.0	0.4	0.1	0.2	0.0
Netherlands	29.9	35.7	62.5	61.4	91.8	82.0	57.6	72.3	154.0	237.8	411.2	386.2
Poland	166.1	144.8	211.2	348.3	605.7	4806	125.0	164.3	321.4	695.3	968.2	1007.5
Portugal	0.5	0.5	0.4	1.1	2.9	5.8	0.5	0.9	2.0	3.4	24.0	38.4
Romania	13.3	16.5	29.4	50.3	108.2	87.1	1.7	4.1	3.8	8.0	28.2	28.2
Slovakia	264.4	412.6	548.5	877.1	1555.6	1431.5	148.2	242.9	309.1	433.2	589.7	499.9
Slovenia	15.5	9.0	17.0	24.0	30.6	45.1	2.9	3.1	3.1	3.1	4.4	6.4
Spain	9.3	11.6	18.0	27.8	35.0	41.9	91.8	131.7	196.7	266.0	357.4	343.8
Sweden	4.9	7.7	12.2	26.0	68.5	54.6	8.5	10.2	15.7	21.0	39.2	32.0
UK	23.4	36.7	89.2	91.1	201.8	157.7	25.7	26.3	55.2	65.1	94.0	83.9
Source: UN Comtrade, own processing, 2012	ntrade, owi	ı processir	ng, 2012									

Portugal, France, Cyprus, Belgium and Sweden. In the case of the first four mentioned countries, even a record increase of the trade value was detected despite the crisis: Luxembourg about 695%, Malta about 600%, (and Ireland about 62.8%, and Latvia about 51.3%. If we concentrate on development in the area of the territorial structure of agrarian exports in a more detailed manner, it may be stated that the crisis most significantly impacted exports from new Member States of the EU (a decrease by 17.7%) and contrariwise the export to the EU15 countries was influenced to a minimum extent (a decrease by 6.6%).

The following year of 2010 was then characterized with a renewed growth of the value of realized exports. While in 2009, the value of exports to 17 out of 27 Member States of the EU decreased interannually as compared to 2008, in 2010, an interannual increase of the value of realized exports was recorded with respect to 14 out of 27 Member States of the EU. Nevertheless, it is important to emphasize that hardly one tenth of the decrease of the value of exports in 2009 was compensated with their increase in 2010 (while as regards Member States of the EU, there was the decrease by more than 12.4% in 2009 and the increase of the value of exports in 2010 achieved only 1.4%). If we focus on the dynamics of development of the value of exports in 2010, it may be stated that the export which was growing most dynamically was export to the following Member States of the EU: Luxembourg (347%), Cyprus (137%), Portugal (61%), Bulgaria (56.3%), Slovenia (55.6%), Spain (32%), Lithuania 26%), Austria (13.1%), Ireland (12.9%), and growth of the value of exports up to ten per cent was also recorded with respect to Poland, Slovakia, France, Denmark and Belgium. Contrariwise, a decrease of the value of exports was recorded in 2010 as regards the following cases: the Netherlands, Italy, Hungary, Germany, Estonia, Great Britain, Romania, Sweden, Greece, Latvia, Finland and Malta. In this case, it follows from the results that export to the EU12 countries in 2010 showed better development as compared to export to the EU15 countries. While the export to EU12 grew by 6.8% interannually, in the case of the EU15 countries the value of realized trade decreased by about 3.8%.

If we turn our attention from agrarian export to agrarian import, the following may be stated about the development of its territorial structure with respect to the EU27 countries: in 2009, the Czech agrarian import was considerably subdued. In the interannual comparison, its total value decreased by about 7.7%, a decrease by about 5.6% was then related to Member States of the EU, while a more significant decrease was recorded in the case of imports from the EU15 countries (-7.4%). In the case of the EU12 countries, imports decreased only by 1.8%. In common with agrarian export, the following year of 2010 brought about revival when the value of the total import increased by 1.5% interannually. However, the growth was not high enough to compensate the decrease from the previous year. A relatively interesting finding concerning the territorial structure of the Czech agrarian import with respect to the EU15 and EU12 countries is that in 2010 the development swapped as regards the value of agrarian import in the case of the EU12 and EU15 countries as compared to 2009. In the case of the EU15 countries, growth of the value of

imports by about 1.3%, contrariwise, a decrease by about 2.8% occurred for the EU12 countries. If we focus on development of imports from individual Member States of the EU to the Czech Republic in 2009 and subsequently in 2010, the following may be stated: in 2009, the value of imports decreased in the case of 17 out of 27 countries (arranged in the order from the most significant decrease to the least significant decrease: Malta, Cyprus, Greece, Sweden, Great Britain, Finland, Latvia, Italy, Romania, Austria, the Netherlands, Hungary, Bulgaria, Germany, Slovakia, Estonia, and Spain). Contrariwise, in the other Member States of the EU was recorded growth of the value of imports. The trend then reversed in the subsequent year of 2010, when the value of agrarian import started to increase once again for the majority of Member States of the EU. The value growth was obvious for 13 out of 27 studied countries. A decrease was recorded only in the case of the following countries: Finland, Estonia, Slovakia, Latvia, Ireland, Denmark, Spain, Hungary, Austria, Portugal, Poland, Sweden and Germany.

## Conslusion

It follows from the results of the executed analysis that the Czech Republic has been becoming more dependent on the agrarian trade with the EU27 countries. As regards third countries, the trend of stagnation of mutual commercial exchange has been more or less continuing. Although the value of the realized agrarian trade has been growing dynamically, we have to state that the negative balance of the agrarian trade has not managed to be decreased over a long period of time because the growth rate of agrarian export is very close to the rate of growth of agrarian import. Over a long period of time, the most important trading partners of the Czech Republic are Germany, Slovakia, Poland, Hungary, Austria, i.e. the countries that are immediate neighbours of the Czech Republic. Generally, it may be stated that both the commodity and territorial structure of the Czech agrarian trade are very concentrated and not too much diversified. The ten most important aggregations of the Czech agrarian trade contribute more than one half to agrarian export and import. Another problem of the Czech agrarian trade is a significant difference as regards prices per kilogram applied in the case of realized export and import operations. Generally, it may be stated that prices per kilogram of realized imports exceed the prices per kilogram of realized exports due to a higher level of the value added included in the imported commodities. From the point of view of the future development of the Czech agrarian trade, it may be stated that because the Czech agricultural sector, especially the livestock production, has been considerably suffering under the pressure of the foreign competition, the trend of decreasing self-sufficiency of the Czech Republic in the area of agricultural production typical for the temperate zone will continue. The trend is sure to result in growth of not only the volume but also the value of imported commodities. The Czech Republic may withstand this trend only by means of a growing share of products with a higher level of added value within realized agrarian exports. It may be nevertheless expected that the negative balance of agrarian trade will deepen even more during the upcoming years. To a certain extent, this will also be influenced with growing prices of food both on the European and global market. The crisis from 2009 affected the Czech agrarian trade only to a limited extent. Also both exports and imports were reduced, their decrease was however not so dramatic as compared to the decrease of the foreign trade operations concerning for example processed industrial products. Agrarian trade showed a lower level of sensitivity with respect to fluctuations on the global market, which is fully in accordance with the general characteristics related to agricultural and food goods, having an unmistakable position from the point of view of a consumer.

If we focus on the changes that occurred during the past decade within the territorial structure of the Czech agrarian export and import, it may be stated that export and import to Member States of the EU have been strengthening significantly. The trend of the constant growth of the share of Member States of the EU in the value of export and import was interrupted only with the onset of the global crisis at the end of the studied decade. If we focus on the structure of exports and imports in more detail, we will find out that, as regards exports, both the new and old Member States of the EU participate equally in the commodity structure of the Czech agrarian export. This is however not the case for agrarian import because the share of the EU15 countries exceeds the share of the EU12 countries by more than twofold. As regards individual Member States, it may then be stated that as regards the above mentioned most important trading partners the territorial structure of realized trades has not been changing in any significant manner. If any changes occur, they rather concern the order of less important partners, where either a larger number of less important transactions or, vice versa, only several transactions of a larger scope, which however have a one-off character, are sufficient for impacting the share of the countries or overcoming a share of another country, also as regards the value.

The commodity structure of the Czech agrarian export and import shows a significant stability over time. In the long-run, the most important items of the Czech agrarian export include milk and milk products, drinks, cereals, and tobacco and tobacco products (as regards third countries, the share of export of sugar and products containing sugar and also export of fruit and vegetables and selected food preparations is not insignificant either).

On the other hand the pillars of imports are the following: fruit, vegetables, meat and meat products, milk and milk products, stimulants and food preparations (especially with respect to the EU countries). As regards countries outside the EU, then it may be stated that the commodity structure was substantially influenced at the time of preparations of the Czech Republic for EU accession and furthermore as a result of accomplished the Czech Republic's accession to the EU.

Hence, the crisis of 2009 had a minimal impact on the commodity structure of imports from third countries. Currently, imports of fruit and vegetables are at the forefront as regards third countries, followed by imports of meat and meat products, fish and fish products, stimulants and last, but not least

food preparations also. A higher proportion of third countries in the territorial structure of the Czech import as compared to the Czech export structure is explained exactly by the realized commodity structure because the Czech Republic imports many products from these countries which it is not able to produce on its own and even the market of the EU countries is not self-sufficient as regards their production.

With respect to the development of the value of Czech agrarian exports and imports in the years before the crisis (the periods of 2000-2004 and 2005-2008), it may be stated that the Czech agrarian export or import, as the case may be, were able to maintain a high rate of growth of their own value, in comparison with trade development as regards both the market of the EU countries and the global market. In the studied periods, the Czech agrarian export was growing by 18.5% and 26.2% on average every year, and the agrarian import was growing by about 20.3% and 21.4% annually – which are very good results, taking into account development of the value of the global market (9.9% and 15%) and the EU market (12.8% and 13.3%), especially from the point of view of realized export. The global economy crisis then also impacted the agrarian market, not excepting the Czech agrarian trade. Agrarian exports and imports were reduced by about 12.5% or 7.7% respectively. The development then fully corresponded to the development on the global and European market (a decrease of the agrarian trade by 10.7% or 10.6% respectively). In the subsequent year of 2010, when the trade growth was gradually renewed, the agrarian trade of CR reacted with interannual growth of the realized value by 2.1% for exports and by 1.5% for imports. In this respect, it must be however stated that the renewed rate of growth of the value of the agrarian trade did not reach the level of the interannual growth of the global agrarian trade (10.3% – the high growth is given especially by the sharp growth of the prices of agricultural commodities on the global market. The fact is then in full accordance with the development on the internal market of the EU where the value of the trade with agricultural products also grew minimally in 2010 (3.1% – lower rate of growth of trade in Member States of the EU is given by its isolation from the global market through the implemented Common Agricultural Policy and the Common Commercial Policy of the EU). Hence, the growth of prices on the global market was not fully reflected in the growth of prices on the internal market of the EU, where the prices had been lower in comparison with the global market even before the crisis, and the global market only started catching up with the prices of the internal market of the EU, failing however to even them up by far until now. As regards the development of the Czech agrarian export, it is appropriate to state that it has even not achieved the level of the mentioned growth value of the agrarian trade of Member States of the EU; hence, it follows that the dynamic drive which had been driving the growth of the Czech agrarian trade before accession to the EU and especially at the time after accession to the EU has been exhausted already and it may be expected in the upcoming years that the Czech agrarian trade will more or less copy the development on the market of the EU countries.

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# Vývoj agrárního zahraničního obchodu České republiky v letech 2000-2010

Zpracovaný článek se věnuje problematice vývoje agrárního zahraničního obchodu České republiky v rámci poslední vývojové dekády. Cílem příspěvku je analyzovat vývoj v oblasti teritoriální a komoditní struktury českého agrárního exportu a importu a vymezit nejvýznamnější změny, které nastaly v průběhu sledovaného období. Článek v tomto ohledu analyzuje vývoj teritoriální a komoditní struktury a to jak ve vztahu k zemím EU, tak i ve vztahu ke třetím zemím. Z výsledků vyplývá, že komoditní a teritoriální struktura českého agrárního zahraničního obchodu je výrazně koncentrovaná. Země EU dominují jak z hlediska hodnoty realizovaných exportů, tak i importů. O něco vyšší podíl třetích zemí na importech v porovnání s exporty lze vysvětlit specifickou skladbou realizované komoditní struktury. Ve vztahu k vývoji komoditní struktury lze uvést, že ta je velmi koncentrovaná – několik málo agregací tvoří více než polovinu realizovaného obratu obchodu a to jak ve vztahu k zemím EU, tak i ve vztahu ke třetím zemím.

Klíčová slova: Česká republika, agrární obchod, vývoj, trend, komoditní a teritoriální struktura, export, import, EU, třetí země, krize, hodnota

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