ACTA UNIVERSITATIS AGRICULTURAE ET SILVICULTURAE MENDELIANAE BRUNENSIS

Volume 63 191 Number 5, 2015
http://dx.doi.org/10.11118/actaun201563051739

COMPARISON OF AGRICULTURAL TRADE IN SELECTED GROUPS OF COUNTRIES – COMPARISON OF REAL RESULTS

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Abstract

SMUTKA LUBOŠ, ŘEZBOVÁ HELENA, TOMŠÍK KAREL, SVATOŠ MIROSLAV. 2015. Comparison of Agricultural Trade in Selected Groups of Countries – Comparison of Real Results. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis,* 63(5): 1739–1748.

The world trade is a dynamically changing in the long term horizon, its total value as well as share in the global economy are continuously growing. Despite the growth in agricultural trade, the gaps among various groups of countries and regions are becoming deeper. More and more countries loose its self-sufficiency or its netto export status and become dependent on imports. On the other hand, there exists another limited group of countries controlling most of the world exports. The aim of the article is to identify differences in changing values of agricultural trade among selected groups of countries. An accent is given primarily on an identification of differences relating to the real value of trading streams. These differences are defined not only in relation to the absolute value, but also to values recalculated per capita, active farmer or agricultural respective arable land. The results indicate extreme differences between developed and developing countries, just in favour of developed countries, which control an important share of the world agricultural trade. There is worth noting that despite the fact that developed countries affect essentially the character of the world agricultural market, there exist huge differences among them. They can be illustrated on the EU-15 and EU-13 countries. The differences relate not only to the value of agricultural trade but they can be observed when analysing the trade dynamics and productivity in relation to the production factors labour and land.

Keywords: agricultural trade, world, groups of countries, development, trends differences, comparison

INTRODUCTION

The world trade is a dynamically changing in the long term horizon, its total value as well as share in the global economy are continuously accelerating. The total value of the world trade grew up in the period 2005–2013 from about USD 10 trillion to more than USD 18 trillion (if just trade in goods taking into account). This shows that the turnover of the world trade in relation to GDP increased from about 35% to almost 50%. Not only the total trade value, but also its commodity and territorial structure is dynamically changing (Valder *et al*., 2011). In global, a gradual shift away from transactions based on an exchange of raw goods and value of closed contracts is replaced by trade of semi-finished and finished products of higher value added (Horska *et al*., 2014). An extremely strong position of the countries of the North in world trade has been reduced within last years at the expense of developing countries and their growing export performance. It applies mostly countries in eastern and southern Asia. Trade is becoming one of the most important pillar of growth in the global economy. The current unprecedented global economic growth is determined by sharing resources, production factors, comparative advantages, (Morrow, 2010) and scientific research progress (Řezbová, Škubna, 2012) (Špička, 2013). Currently, the world trade is developing in all its segments. Not only trade in raw materials, industrial products and services, but also world trade in agricultural products is

growing very dynamically (Soukup *et al*., 2014). Growing population and its purchasing power are the main determinants of this growth. It is worth noting that the growing purchasing power affects not only a physical demand volume, but also its structure. While demand was based primarily on raw or low-processed agricultural products in the past, demand for semi-processed or finalized goods is dynamically growing currently (Serrano, Pinilla, 2014). World agricultural trade is unusually dynamic in its value growth and its structure is becoming increasingly heterogeneous (Vosta, 2012). The growth is positively influenced by relatively high agricultural subsidies ant the trade value, volume and structure are influenced by massive policy of protectionism (compared to other sectors) (Patnaik, 2005). Agricultural trade differs from the other segments of trade in goods with a less dynamic process of liberalization (Margulis, 2014), which, in context with policies focused on food security and self-sufficiency (Erokhin *et al*., 2014), deforms agricultural markets (Burnett, Murphy, 2014). Agricultural market belongs thus to the one of the least liberalized segment of the global economy (Rehner *et al*., 2014).

The aim of the article is to identify differences existing in the agricultural trade value among selected countries. An accent is placed primarily on differences identification relating to the real value of trade streams.

Differences are defined only in relation to the development of their own values (and not only in absolute value), but also in values converted on per capita basis, as well as active farmer and agricultural, respective arable land. An emphasis is put on identification of the most important trends formed within the world agricultural trade.

MATERIALS AND METHODS

The article analyses the time series 2005–2013. This period has been chosen due to EU-enlargement in 2004 by 10 new member states and another enlargement by three countries in following years. The article compares agricultural trade development of chosen subjects (CZSO, 2015): EU-28, EU-15 (old member states entering the EU before 2004), EU-13 (new member states joining the EU after 2004); third countries consisting of: the rest of the world (except EU-28), EFTA, CIS, developing economies and OECD.

Agricultural and food trade of these groups is methodically defined by the Harmonised system (HS) dividing the agricultural and food trade into 24 aggregations. The data used come from UN Comtrade.

From the analytical perspective, the paper is focused on export and import values, turnover as well as trade balance. The values are analysed mostly in constant prices (USD, 2005). Conversion of current process into constant prices (USD, 2005) is provided according to the World Bank methodology.

Elementary statistical and mathematical analyses are used to evaluate time series and data (Hindls *et al*., 2007). Time series are complemented by an annual growth, respective growth index is determined (through chain index). The growth index is expressed as percentage and illustrates the percentage increased value of the time series at a time point compared to the previous period. The calculation is following (%):

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

Geometric means of chain indices is used to analyse the average growth within individual time series and to summarize the whole development trend of the surveyed period (Hindls *et al*., 2007). Based on their averages – geometric means, an average growth/decline rate of exports and imports may be identified for the whole surveyed period. An advantage of using the geometric mean is the fact that it calculates both annuals positive and negative increments. The calculation is given as follows:

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

Next indicator used is the import coverage ratio (Hindls *et al*., 2007). This indicator gives an information about mutual relation between exports and imports, not only at the level of the total agricultural trade but also at the level of aggregations representing the structure of the Czech agricultural trade. The indicator informs about how many percent of agricultural imports is covered by exports:

$$\text{Import coverage ratio (\%): } = \frac{X_{y_i}}{M_{y_i}} .100 \,. \, [\%]$$

RESULTS AND DISCUSSION

The value of the world agricultural and food trade experienced rapid growth from 2005 to 2013. Within this period, the value of the world trade increased (without the EU-single market) from USA 374 billion to more than USD 1.4 trillion. The Tab. I and II give an overview about the value of agricultural trade taking into account defined groups of countries. There is evident that the OECD countries dominate in the world trade. The share of developing countries is significantly lower. The tables show as well, that the EU-28, respective EFTA states linked directly to the single market participate significantly on the world trade and their share is relatively stable. Taking into account the growth of agricultural trade, the highest dynamics has been experienced in case of CIS countries, followed by the new member states, EFTA and developing countries. Traditional EU-countries and OECD states are close to average. In any case, the data show that the value

I: *Agricultural exports for selected groups of countries (USD, current prices)*

USD billion	2005	2007	2009	2010	2011	2012	2013	GEOMEAN
CIS	7.29	13.76	24.46	24.64	32.27	44.98	44.66	1.254
EU-13	23.74	36.73	43.08	48.66	60.66	64.37	73.04	1.151
EU-15	297.11	378.30	389.33	409.05	487.13	473.97	513.33	1.071
EU-28	320.85	415.03	432.41	457.71	547.79	538.34	586.37	1.078
OECD	469.19	606.15	639.74	694.84	829.84	829.92	887.12	1.083
World Total	674.24	897.17	987.34	1 136.17	1 378.61	1 394.52	1 421.54	1.089
EFTA	10.86	14.37	16.32	18.84	21.25	20.55	22.89	1.098
Developing countries	205.05	291.02	347.59	441.33	548.77	564.59	534.43	1.127

Sources: UN COMTRADE, own calculations (2014)

II: *Agricultural imports for selected groups of countries (USD, current prices)*

USD billion	2005	2007	2009	2010	2011	2012	2013	GEOMEAN
CIS	20.99	33.82	41.44	48.52	57.21	60.97	65.36	1.153
EU13	25.64	40.22	45.22	47.79	58.28	57.33	61.92	1.117
EU15	314.03	403.10	409.93	424.69	504.48	480.24	514.09	1.064
EU-28	339.67	443.32	455.15	472.47	562.76	537.57	576.01	1.068
OECD	530.61	669.60	685.44	731.72	877.58	859.42	898.89	1.068
World Total	674.24	897.17	987.34	1 136.17	1 378.61	1 394.52	1 421.54	1.089
EFTA	11.98	15.79	17.17	18.04	21.45	21.02	22.45	1.082
Developing countries	162.99	257.42	314.66	400.28	499.19	477.91	433.09	1.130

Sources: UN COMTRADE, own calculations (2014)

III: *Foreign agricultural trade balance (USD, current prices)*

USD billion	2005	2007	2009	2010	2011	2012	2013
CIS	–13.70	–20.07	–16.98	–23.88	–24.95	–15.99	–20.70
EU13	–1.90	–3.49	–2.14	0.88	2.38	7.04	11.11
EU15	–16.92	–24.80	–20.60	–15.64	–17.35	–6.27	–0.76
EU-28	–18.82	–28.29	–22.74	–14.76	–14.97	0.77	10.36
OECD	–61.42	–63.44	–45.69	–36.88	–47.74	–29.49	–11.78
EFTA	–1.12	–1.42	–0.84	0.80	–0.21	–0.48	0.44
Developing countries	42.05	33.60	32.93	41.06	49.58	86.68	101.34

Sources: UN COMTRADE, own calculations (2014)

of agricultural exports grew in all surveyed groups of countries. Another finding related to agricultural and food imports shows that CIS countries grow very dynamically, as well as developing countries and the EU new member states.

The results indicate that individual groups of countries transform positively their own foreign trade; it grows mostly on intraregional basis. This explains the positive relation between the growth of exports and imports values. All groups of countries report higher growth of exports than imports (the results are confirmed in Tab. IV and V providing an overview about agricultural exports and imports in constant prices). This results in a stabilisation or growth of a positive trade balance within all region. Developing countries were able to more than double their positive balance, CIS countries stabilised their negative balance at about USD 20 billion, EU-13 and EFTA reached a positive trade balance and EU-15, and respective OECD reduced their negative balance.

The Tabs. IV–VI give a more realistic overview about the agricultural trade of surveyed groups of countries. While the above presented tables inform about the agricultural trade in current prices, the following ones translate the values into constant prices (USD, 2005). They provide findings that complete about mentioned facts. First, the growth rate in real terms reaches about two thirds of the world agricultural trade growth. While the world agricultural trade grew by 8.9% annually (expressed in USD current prices), it was just by 5.8% in constant prices. This resulted into a lower but not insignificant growth of physical value of the agricultural trade during the surveyed period, when the value jumped from USD 674 billion to 1,062 billion (in constant prices 2005). It can be stated that about two-thirds growth in agricultural

IV: *Value of agricultural exports for selected groups of countries (constant prices, USD 2005)*

USD billion	2005	2007	2009	2010	2011	2012	2013	GEOMEAN
CIS	7.29	9.54	17.20	14.74	16.29	22.04	21.25	1.143074
EU13	23.74	29.26	33.80	38.02	44.41	50.74	55.20	1.111227
EU15	297.11	328.81	338.06	365.07	409.45	420.45	437.88	1.049674
EU-28	320.85	358.54	372.70	404.49	455.67	473.32	495.58	1.055847
OECD	469.19	555.25	571.74	609.56	689.91	700.16	749.70	1.060333
World Total	674.24	795.29	837.45	915.67	1032.43	1048.00	1062.26	1.058466
EFTA	10.86	12.56	13.58	14.64	14.19	14.22	15.63	1.046586
Developing countries	205.05	233.01	256.24	289.14	323.63	329.78	308.52	1.052394

Sources: UN COMTRADE, own calculations (2014)

V: *Value of agricultural imports for selected groups of countries (constant prices, USD 2005)*

USD billion	2005	2007	2009	2010	2011	2012	2013	GEOMEAN
CIS	20.99	23.44	29.14	29.02	28.88	29.88	31.10	1.050359
EU13	25.64	32.04	35.48	37.34	42.67	45.19	46.79	1.078095
EU15	314.03	350.36	355.95	379.03	424.03	426.02	438.53	1.042625
EU-28	339.67	382.98	392.30	417.53	468.12	472.65	486.82	1.046018
OECD	530.61	613.37	612.59	641.91	729.60	725.05	759.65	1.045875
World Total	674.24	795.29	837.45	915.67	1032.43	1048.00	1062.26	1.058466
EFTA	11.98	13.80	14.29	14.02	14.32	14.55	15.33	1.031319
Developing countries	162.99	206.10	231.97	262.24	294.39	279.15	250.02	1.054937

Sources: UN COMTRADE, own calculations (2014)

VI: *Balance of agricultural foreign trade (constant prices, USD 2005)*

USD billion	2005	2007	2009	2010	2011	2012	2013
CIS	–13.70	–13.91	–11.94	–14.28	–12.59	–7.84	–9.85
EU13	–1.90	–2.78	–1.68	0.69	1.74	5.55	8.40
EU15	–16.92	–21.56	–17.89	–13.96	–14.58	–5.56	–0.65
EU-28	–18.82	–24.44	–19.60	–13.04	–12.45	0.68	8.76
OECD	–61.42	–58.11	–40.83	–32.35	–39.69	–24.88	–9.96
EFTA	–1.12	–1.26	–0.71	0.64	–0.16	–0.36	0.33
Developing countries	42.05	30.12	27.75	31.97	35.73	61.75	72.64

Sources: UN COMTRADE, own calculations (2014)

exports, respective imports value, compared to the analysis conducted in current prices, is typical for most of surveyed countries. The analysis carried out at constant prices also shows that the growth rate of agricultural trade in developed countries exceeds the growth rate of the value of agricultural exports in developing countries; furthermore, the growth rate in the value of agricultural trade in developing countries significantly exceeds the growth rate in the value of agricultural imports of developed countries. Significant differences between economies of western European and eastern European countries result in the EU and EFTA countries. The eastern European countries achieve significantly higher dynamics in growth in their own agricultural trade comparing to the western European countries. Agricultural trade balance is developing more positively for developed countries which gradually increase their self-sufficiency and thus the ability to export. They reduce their negative balance over time which has been shifted into a positive trade balance in many cases (EU-28, EFTA). The dynamics of such deficit reduction in these countries even exceeded the growth rate dynamics of the positive trade balance of developing countries as a whole. Relatively inconsistent results regarding the comparison of the trade on intergroup basis point towards the fact that individual countries are developing mutual trade. This is evident in relation to the EU countries and also to CIS countries.

The above presented results can be summarized using the information in the Tabs. VII and VIII. They provide an overview about shares of individual groups of countries in the world agricultural market, respectively they provide an overview about imports coverage. The Tab. VII indicates that OECD countries control the biggest share of the world agricultural trade value, mainly through their control of food

VII: *Share of individual regions in the world agricultural market (constant prices, USD 2005)*

Share on exports	2005	2007	2009	2010	2011	2012	2013
CIS	1.08%	1.20%	2.05%	1.61%	1.58%	2.10%	2.00%
EU13	3.52%	3.68%	4.04%	4.15%	4.30%	4.84%	5.20%
EU15	44.07%	41.34%	40.37%	39.87%	39.66%	40.12%	41.22%
OECD	69.59%	69.82%	68.27%	66.57%	66.82%	66.81%	70.58%
EFTA	1.61%	1.58%	1.62%	1.60%	1.37%	1.36%	1.47%
Developing countries	30.41%	29.30%	30.60%	31.58%	31.35%	31.47%	29.04%
Share on imports	**2005**	**2007**	**2009**	**2010**	**2011**	**2012**	**2013**
CIS	3.11%	2.95%	3.48%	3.17%	2.80%	2.85%	2.93%
EU13	3.80%	4.03%	4.24%	4.08%	4.13%	4.31%	4.40%
EU15	46.58%	44.05%	42.50%	41.39%	41.07%	40.65%	41.28%
OECD	78.70%	77.13%	73.15%	70.10%	70.67%	69.18%	71.51%
EFTA	1.78%	1.74%	1.71%	1.53%	1.39%	1.39%	1.44%
Developing countries	21.30%	22.87%	26.85%	29.90%	29.33%	30.82%	28.49%

Sources: UN COMTRADE, own calculations (2014)

VIII: *Imports coverage (constant prices, USD 2005)*

USD	2005	2007	2009	2010	2011	2012	2013
CIS	34.73%	40.70%	59.03%	50.79%	56.41%	73.76%	68.33%
EU13	92.59%	91.32%	95.26%	101.82%	104.08%	112.28%	117.97%
EU15	94.61%	93.85%	94.97%	96.32%	96.56%	98.69%	99.85%
EU-28	94.46%	93.62%	95.00%	96.88%	97.34%	100.14%	101.80%
OECD	88.42%	90.52%	93.33%	94.96%	94.56%	96.57%	98.69%
World Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
EFTA	90.65%	91.01%	95.03%	104.42%	99.09%	97.73%	101.96%
Developing countries	125.81%	113.06%	110.46%	110.26%	109.93%	118.14%	123.40%

Sources: UN COMTRADE, own calculations (2014)

trade, which consist of higher share of value added in contrast to agricultural commodities exported by developing countries. However, due to the low unit prices typical for this segment and due to the effect of tariff escalation which is the subject of criticism of developed countries, developing countries are not able to increase their own share in world exports. EU countries, respectively EFTA countries, control their share in world exports. CIS countries were able to double their share in the world market, which indicates that they increase continuously their own production and mostly export potential, mainly through their own intraregional trade. Developed countries including transition economies CIS tend to reduce their share in world imports; developing countries participate more and more on imports despite their export potential and a positive balance of the agricultural trade. This fact is given by the very dynamically growing demand and inappropriate and unbalanced commodity structure of their own agricultural trade. While unprocessed commodities predominate on exports and often also cash crops, processed food products with higher value added and much higher nutrition value prevail on imports. Contrary, developed countries base their exports on finalized goods and import primarily raw materials and not competitive products, which cannot be produced due to climatic conditions.

The Tab. VIII gives an overview about imports coverage by exports. Imports coverage soars extremely in CIS countries, EU-13, OECD and EFTA states. EU-15 is a group, where this indicator remains unchanged in long-term horizon which constrict own production and export, further developing countries which export potential has been disappearing. Import coverage indicates that developed counties are increasingly arresting themselves as exporters on the world market. Another finding shows that individual groups of countries try not to lose control over their own agricultural market. This leads to deforming both own and the global agricultural market. Good examples are EU countries, EFTA and CIS countries. In the case of CIS countries (mainly Russia), there is evident an effort to promote the growth of own production and to achieve stabilisation not only at the level of the own market but also in relation to the regional market.

Characteristics of the World and Regional Agricultural Trade in Relation to Population

The Tabs. IX–XIV gives a relatively unique overview enabling real comparison of agricultural foreign trade performance in the case of monitored countries. The data enable to compare different regions on the basis of simple ratios which convert results achieved in the field of foreign trade into a per capita basis, respectively on active farmer, hectare of agricultural or arable land. The results show an extreme predominance of developed countries over developing ones. While developed countries reach an export per capita of about USD 600, or USD 23.000 per active farmer, it is only USD 53, respectively USD 238 in developing countries (constant prices, USD, 2005). In this respect, there is a need to stress not only existing differences in physical values of exports, but also the disparity in the annual growth rate achieved in values. While the OECD counties increased annually the value of exports (per capita or per active farmer) by 5.4%, respectively by 8.6%, this ratio reached 3.9%, respectively 4.7% in developing countries. Similar situation can be observed in the case of above mentioned exports, but also imports. OECD countries import per capita or per active farmer the value about USD 600, respectively USD 23,246. Developing countries in this respect import just USD 42–43, respectively USD 193 (constant prices, USD, 2005). Presented results can illustrate one important fact: the growth rate of the agricultural export value per capita and per active farmer exceeds in OECD countries essentially the growth rate of the agricultural import value, the opposite is true in the case of developing countries. This gives a conclusion, that developed countries strengthen steadily their position in the global agricultural market. These results also show that developed countries are (in converted values) much more active and do not avoid sharing comparative advantages. In the case of developing countries, the activity in agricultural trading is extremely low despite the fact that they represent almost 5/6 of the world population. These countries not only refuse opening their markets to imports, but also their export potential tends to be reduced. According to WTO and FAO data, more than 50 countries lost its net export status and changed into netto-importers in the last 50 years. More than 2/3 of them are developing countries.

Besides, there is worth to stress the position of countries participating in the EU single market. The European single market involves not only EU-member states, but also EFTA countries. Results of agricultural trade of EU and EFTA exceeds essentially not only the results of agricultural trade in developing countries, but also results in agricultural trade in OECD countries. The results show that above mentioned countries achieve exports per capita USD 978, respectively USD 1,158 and imports per capita USD 960, respectively USD 1,136. Recalculated on a per active farmer basis, the results reach extreme high values. In the EU, the exports reach about USD 51,000 and imports USD 50,200; EFTA countries experience

IX: *Value of agricultural exports by capita (constant prices, USD 2005)*

USD per capita	2005	2007	2009	2010	2011	2012	2013	GEOMEAN
CIS	26.71	34.96	62.63	53.34	58.56	78.88	75.66	1.139
EU13	220.45	273.52	317.59	357.99	418.26	478.78	521.92	1.114
EU15	764.54	836.54	851.58	916.27	1024.00	1052.01	1092.04	1.046
EU-28	646.48	717.03	740.35	801.55	900.48	936.08	977.98	1.053
OECD	391.59	456.90	463.87	491.47	552.56	558.20	594.24	1.054
World Total	103.89	119.67	123.09	133.02	148.24	148.80	149.10	1.046
EFTA	878.84	999.06	1053.44	1123.37	1076.26	1066.27	1158.75	1.035
Developing countries	38.75	42.91	45.99	51.24	56.62	56.97	52.62	1.039

Sources: UN COMTRADE, FAOSTAT, own calculations (2014)

X: *Value of agricultural imports by capita (constant prices, USD 2005)*

USD per capita	2005	2007	2009	2010	2011	2012	2013	GEOMEAN
CIS	76.91	85.89	106.11	105.02	103.82	106.94	110.73	1.047
EU13	238.09	299.51	333.37	351.59	401.87	426.41	442.40	1.081
EU15	808.08	891.37	896.64	951.31	1060.46	1065.95	1093.66	1.039
EU-28	684.40	765.91	779.29	827.40	925.08	934.76	960.69	1.043
OECD	442.85	504.72	497.01	517.55	584.34	578.04	602.13	1.039
World Total	103.89	119.67	123.09	133.02	148.24	148.80	149.10	1.046
EFTA	969.48	1097.69	1108.52	1075.80	1086.12	1091.02	1136.51	1.020
Developing countries	30.80	37.95	41.64	46.47	51.50	48.22	42.64	1.042

Sources: UN COMTRADE, FAOSTAT, own calculations (2014)

XI: *Value of agricultural exports by active farmer (constant prices, USD 2005)*

USD per active farmer	2005	2007	2009	2010	2011	2012	2013	GEOMEAN – inter annual growth rate
CIS	417	555	1024	890	998	1374	1349	1.158
EU13	3821	5067	6269	7298	8817	10429	11744	1.151
EU15	45099	53197	58529	65542	76148	81105	87681	1.087
EU-28	25064	29988	33372	37522	43755	47101	51122	1.093
OECD	11891	14759	15920	17379	20133	20921	22942	1.086
World Total	527	615	640	697	783	791	799	1.053
EFTA	41769	49841	55428	60747	59873	60770	67662	1.062
Developing countries	165	186	201	226	252	255	238	1.047

Sources: UN COMTRADE, FAOSTAT, own calculations (2014)

XII: *Value of agricultural imports by active farmer (constant prices, USD 2005)*

USD per active farmer	2005	2007	2009	2010	2011	2012	2013	GEOMEAN – inter annual growth rate
CIS	1201	1364	1735	1751	1769	1863	1975	1.064
EU13	4127	5548	6580	7167	8471	9289	9955	1.116
EU15	47667	56684	61626	68048	78860	82179	87811	1.079
EU-28	26534	32032	35127	38732	44951	47034	50219	1.083
OECD	13448	16304	17057	18301	21291	21664	23246	1.071
World Total	527	615	640	697	783	791	799	1.053
EFTA	46077	54762	58326	58174	60422	62180	66364	1.047
Developing countries	131	164	182	205	229	216	193	1.049

Sources: UN COMTRADE, FAOSTAT, own calculations (2014)

much higher results: USD 67,600, respectively USD 66,300. Having look at the EU, differences between the old and new member states can be discovered. While the EU-15 achieves a significantly higher level of trade on a per capita and per active farmer basis, the new member countries experience much higher dynamics of exports which is almost double tan in EU-15. More detailed information can be found in following tables.

The Tab. XIII and XIV provide an overview about the value of agricultural trade converted into a per hectare basis (of arable, respective agricultural land). These results show again extreme differences between developed and developing countries. While the developed countries represented by OECD achieve annually about 1,831 USD per hectare arable and 504 USD per hectare agricultural land, developing counties reach values of USD 313, respectively USD 83. The dynamic of the export growth rate is also much higher in the case of OECD countries. Similar results can be found in the case of agricultural imports. Just the differences between developed and developing countries are not so much significant. Nevertheless, it should be noted that the dynamics of agricultural import value is slightly higher in the case of developing countries in comparison with developed countries.

Comparing the results in relation to active farmers and to land resources, it should be noted that the difference between developed and developing countries are much lower if recalculated per hectare arable, respectively agricultural land than per active farmers. The results confirm the fact that developed countries have on average much higher productivity of labour in agriculture than developing countries. In the case of results recalculated per hectare is such disproportion not evident (although the results are extremely unfavourable for developing countries). The results also show significant difference existing in an attitude to agriculture in both groups of countries. While in OECD countries prevails intensive agriculture, it is just the opposite in developing countries. When focusing on countries involved in the EU-single market, it can be stated that their exports related to hectare of arable, respectively agricultural land reach extreme values. These results are mainly determined by the nature of their exports, which is much more based on finalized products of much higher value added than on raw agricultural commodities. Export in the EU countries reaches USD 1,831 per hectare arable land and USD 2,656 per hectare agricultural land, in EFTA countries than USD 11,671 per hectare arable land and USD 3,819 per hectare agricultural land. This exceeds essentially the average of developing countries as well as the world average or OECD as a whole. However, it is necessary to emphasize the existing and very significant difference related to foreign trade performance of EU-15 and EU-13. Both groups make evident the same characteristics which was commented in relation to active farmers. While the EU-15 reaches higher value of exports per

XIII: *Value of agricultural exports by arable, respectively agricultural land (constant prices, USD 2005)*

USD/hectare of arable land	2005	2007	2009	2010	2011	2012	2013	GEOMEAN – inter annual growth rate
CIS	38	49	88	76	84	114	110	1.144
EU13	620	766	876	1019	1186	1363	1483	1.115
EU15	4100	4614	4748	5145	5793	5910	6154	1.052
EU-28	2897	3275	3395	3735	4215	4367	4573	1.059
OECD	1098	1338	1389	1508	1702	1709	1831	1.066
World Total	485	577	607	666	747	751	761	1.058
EFTA	7751	9049	9924	10789	10534	10618	11671	1.053
Developing countries	213	242	265	298	331	335	313	1.049
USD/hectare of agricultural land	**2005**	**2007**	**2009**	**2010**	**2011**	**2012**	**2013**	**GEOMEAN – inter annual growth rate**
CIS	13	17	31	26	29	39	38	1.141
EU13	433	540	625	720	840	967	1052	1.117
EU15	2210	2462	2484	2686	3031	3135	3265	1.050
EU-28	1696	1909	1960	2144	2425	2537	2656	1.058
OECD	306	367	382	412	462	471	504	1.064
World Total	137	162	171	187	210	213	216	1.059
EFTA	2618	3035	3339	3827	3717	3475	3819	1.048
Developing countries	57	64	70	79	88	89	83	1.050

Sources: UN COMTRADE, FAOSTAT, own calculations (2014)

XIV: *Value of agricultural imports by arable, respectively agricultural land (constant prices, USD 2005)*

USD/hectare of arable land	2005	2007	2009	2011	2012	2013	GEOMEAN – inter annual growth rate
CIS	108	121	149	148	154	161	1.051
EU13	670	839	920	1140	1214	1257	1.082
EU15	4334	4916	4999	6000	5988	6163	1.045
EU-28	3067	3499	3573	4331	4361	4492	1.049
OECD	1242	1478	1488	1800	1770	1855	1.051
World Total	485	577	607	747	751	761	1.058
EFTA	8550	9942	10442	10630	10865	11447	1.037
Developing countries	169	214	240	301	283	253	1.052
USD/hectare of agricultural land	**2005**	**2007**	**2009**	**2011**	**2012**	**2013**	**GEOMEAN – inter annual growth rate**
CIS	38	42	52	51	53	56	1.049
EU13	468	591	656	808	862	892	1.084
EU15	2336	2623	2615	3139	3177	3270	1.043
EU-28	1795	2040	2063	2491	2533	2609	1.048
OECD	346	406	409	489	488	510	1.050
World Total	137	162	171	210	213	216	1.059
EFTA	2888	3334	3514	3751	3556	3746	1.033
Developing countries	45	57	63	80	75	68	1.052

Sources: UN COMTRADE, FAOSTAT, own calculation (2014)

hectare, EU-13 reaches higher dynamics of growth of export values, related both to arable and agricultural land. This finding can be applied also in relation to the value of agricultural imports. However, it is worth noting the fact that EU-13 reaches much higher dynamics on the side of growth of export values which, in average, more than compensates the growth of import values. It can be concluded that the new EU-member states reach very dynamical increments on the side of the positive trade balance of the agricultural foreign trade.

Besides the above mentioned groups of countries, it is worth to focus an attention on markets of the CIS countries, which are an important outlets of agricultural and food products for many OECD and EU countries. CIS counties reach positive results in growth of value of agricultural exports in last years. The dynamics of the exports growth exceeds essentially the dynamics of imports growth, which leads to stabilization of the negative balance in these countries. Taking into account transformation of their economies (and especially agricultural sector, including agricultural trade), there can be stated that CIS countries increase gradually the productivity of their own foreign trade – with an accent on exports, which are largely carried out on the intra-regional basis. The value of exports grew from about USD 27 to more than USD 75 on per capita basis and from USD 417 to USD 1,349 on per active farmer basis during the surveyed period. This shift represents extremely dynamical growth, high above the average of the other groups of countries. Similar results can be observed in relation to the growth of exports values recalculated on hectare of arable, respectively agricultural land. The CIS countries experienced within the surveyed period an increase from USD 38 to USD 110, respectively from USD 13 to USD 38. Although these values are relatively low comparing to the world average, and mainly comparing to the developed countries, it is necessary to evaluate such trend seriously, because the CIS countries were able to reduce the dynamical growth of imports value, which with respect to the above mentioned trend of export growth makes evident, that these countries increased their own production capacities within last ten years with the aim to achieve a high level of self-sufficiency. This findings are consistent with recent development and crisis in Ukraine, when Russia imposed an import embargo on commodities which are sensitive for Russia and plans to achieve more than 90% self-sufficiency within approximately next ten years.

CONCLUSION

Based on above mentioned facts, it can be stated (with respect to determined aims) following. Despite the transformation processes which influence global economy and trade, the agricultural foreign trade is still controlled by developed countries, which dispose by just 1/6 of the world population, but controls over 2/3 of the value of the world agricultural and food trade. Despite growing value of the total agricultural trade, it is true that mostly developed countries participate in the final results which, in relation to developing countries reach in average a higher dynamics of growth rate of agricultural exports, both at the general level and also in relation to population, respectively active farmer, hectare of arable land or hectare of agricultural land. Developing countries, in contrast to the developed world, experience much higher dynamics of import values, which shows, that their domestic production capacities are not able to cover growing demands and these countries have to increase agricultural and food imports. It results in reduction of dynamics of a positive trade balance in developing counties and opposite trend in developed countries, which are becoming more self-sufficient in recent years. Very interesting findings relate to the agricultural foreign trade of countries participating in the EU-single market. EU-15, EU-13 as well as EFTA reach extreme high values of both exports and imports; the growth rate of the value of agricultural trade in EU-15 and namely EU-13 indicates still growing production and trade potential of these countries. Although these countries ate stagnating currently in production (in relation to disposable agricultural production), their food export grow very dynamically not only due to their own resource basis and processing, but also due to high imports of resources from third countries which are processed in the EU and this production is intended to be sold not only within the EU-single market, but also out of the EU. Very specific findings relate to the CIS countries. Despite these countries lag behind the rest of the world in terms of their total export values, they reach high dynamics in the growth rate and reduce formerly very quickly growing imports. This results into a stabilisation of the negative trade balance which was increasing in the past and strengthening of their own internal markets.

Presented results illustrate as well, that another strengthening the position of developed countries in the field of agricultural trade can be expected for the future. Developing countries can consider as a success if they will not get into troubles due to very dynamically growing home demand and if the exports will not grow dramatically and increase their negative trade balance. Developed countries seem to be the winners in the future agricultural market, mainly due to their limited growth of home demand and free production capacities. The productivity of the agricultural sector, which is very high in comparison to many countries and world regions, will play an important role as well.

Acknowledgement

The article has been developed within the project financed by IGA, PEF, ČZU [IGA project 20151031].

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