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CAPITAL STOCK VALUE DEVELOPMENT IN RELATION TO THE NEW EU COUNTRIES' AGRICULTURAL SECTOR DEVELOPMENT

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Abstract

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This paper will analyse agricultural sector development in individual new EU member states with emphasis on capital stock value development in agriculture. The main objective is to identify the relationship between capital stock value development, and agricultural sector performance in the individual analysed countries. The results of the analysis are as follows. The agricultural sector has significantly changed its structure and position within the national economy of individual new EU member states in the 20 years since the early 1990s. The size of the agricultural sector reduced in each of the analysed countries, resulting in a reduction in the value of the agricultural sector performance. Despite the significant reduction of the agricultural sector in many analysed, some became more efficient in terms of their agricultural sector performance. Individual country's agricultural sectors became more effective and more competitive. Individual country's agricultural sector size and performance development are closely related to capital stock value in agriculture. Both the agricultural sector structure, and agricultural sector production performance are closely related to available capital stock value. In line with the main objective of this paper, the most sensitive segments of the agricultural sector in relation to capital stock are livestock production, land development and the number of economically active persons in agriculture. Regarding sensitivity of agricultural production performance in relation to changes in capital stock value, the most sensitive are livestock production and non-food agricultural production.

Keywords: capital stock, agriculture, production, value, volume, structure, correlation, sensitivity/elasticity, analysis, trend, European Union, new members

INTRODUCTION

The key sectors of any economy around the world are the agricultural sector and food market (Bielik, 2010). Well-functioning agricultural and foodstuff production sectors depend heavily upon capital stock level (Svatoš, 2011). Unless a country makes an appropriate level of capital stock in agriculture, it can be expected that its agricultural sector will stagnate (Mezera, Špička, 2013). It is evident that strong capital flows into the agricultural sector encourage agricultural production levels, both from the point of view of productivity, and efficiency aspects (Žídková, Řezbová, Rosochatecká, 2011). Each of the new EU member states (NMS) have recorded significant changes during the last two decades in the development of their agricultural capital stock structure. (Pieniadz, Wandel, Glauben *et al*., 2010). It is surprising then that according to the FAO (2013) the value of capital stock value related to agriculture hardly changed (when expressed in constant prices).

At the beginning of the 1990s, 38.3% of capital stock value was connected with land development, within 20 years it was only 34%. In the same period the share of capital stock value related to machinery and agricultural equipment increased from ca

38% to about 47%. The share of total capital stock value related to livestock production (fixed assets, inventory, and structures) dropped from ca 18% to ca 13%, and the share of capital stock value related to crops also fell from ca 6.1% to 5.7%.

In general, capital stock in agriculture is a very important part of the economy of the agricultural sector (Ball, Lindamood, Nehring *et al*., 2008). The total value of agricultural capital stock in individual NMS represents about 170–180 bn. USD (in constant prices based on 2005). The value of agricultural production, also expressed in constant prices, represents about 49 bn. USD a year. Thus, capital stock value, and investment activities in general, play a very important role in individual countries agricultural sector performance (Swinnen, Vranken, 2010). The analysis which follows in this paper, proves that there is a significant relationship between the level of capital stock and the agricultural sector's structure and performance development in individual countries. It can be seen that changes in capital stock value, and especially in capital stock structure, have a different impact on each country's agricultural sector – in some countries a strong correlation and sensitivity between capital stock value and agricultural sector development can be seen, in other countries the mutual relationship is weaker, and in some countries the mutual relationship is limited or even hard to detect.

The agricultural sector is frequently influenced by the attitude of individual governments to agriculture (Bartolini, Viaggi, 2013). For many countries, agriculture and its performance and size represent a strategic item in their policy-making activities (Matthews, Buchan, Miller *et al*., 2013). Agriculture is not only an important part of the economy, but is also part of the strategic sector as it satisfies one of the most basic needs of the human population – food (Horská, 2011). The agricultural sector represents a specific sector of the global economy, and its development is no only affected by economic power (supply and demand), but also by political power (Jeníček, 2009). The result of political interventions to agriculture is that the agricultural market is one of the least liberalised markets within the world market (Horská, Hambálková, 2008). The European Union is a significant element within the global agricultural market (Viaggi, Gomez, Paloma, Mishra *et al*., 2013). The EU's Common Agricultural Policy, together with the Common Trade Policy, significantly influences the EU's internal agricultural market, and also global market development (De Castro, Adinolfi, Capitanio *et al*., 2012). Every NMC of the EU is obliged to accept the Common Agricultural and Trade Policies – both have a direct impact on individual countries' agricultural sector performance (Drabík, Bártová, 2008). For some of them the impact of these policies can be positive, for others the impact on their agricultural sector performance can be negative (Ramniceanu, Ackrill, 2007). Accession to the EU for individual countries results in significant changes to their economy, including the agricultural sector (Lukas, Poschl *et al*., 2004). On accession, individual countries' markets become a part of the EU single market, and their legislation related to the agricultural sector must be consistent with EU legislation (Pokrivčák, Drabík, 2008).

It is interesting to see the differences between each NMC in relation to the final impact of capital stock value development on the country's agricultural sector structure, and especially their performance development. When analyzing capital stock value development, many common trends are apparent among all NMS, but also there are huge differences (Blazejczyk-Majka, Kala, Maciejewski, 2012; Boháčková, Hrabánková, 2011) in the their agricultural sectors' sensitivity and correlation, in relation to changes in the value and structure of capital stock.

This paper's main ambition is to analyse agricultural sector development in individual NMS (Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia) with an emphasis on capital stock directed towards agriculture. The analysis provides a basic overview of the development of capital stock value development on one hand, and the agricultural sector's size and performance on the other. The data are drawn from the period before the appearance of the global economic crisis.

MATERIALS AND METHODS

The main objective is to identify the relationship between capital stock value development, and the performance of the agricultural sector in each of these analysed countries. The analysis provides a basic overview of individual countries' agricultural sector development in relation to total agricultural production, production of cereals, crops and livestock production, food production and non-food production. In this case the paper is focused especially on agricultural sector output (agricultural production value development in relation to individual countries' GDP), productivity (agricultural production value and GDP development per person economically active in agriculture), and size development (area of agricultural and arable land development, number of people working in the agricultural sector as a full time job. The number of persons economically active in the agricultural sector is taken from the FAOSTAT database. This figure does not only include farmers, but also other people connected in some way with the agricultural sector. These figures are therefore not in compliance with individual countries' national statistics. The FAOSTAT database was chosen because of the authors' desire to use all data gathered according to the same methodology,The paper also analyses the value of gross capital stock in agriculture development, and in this case the structure of gross capital stock in particular –

meaning the value of gross capital stock in relation to land development, livestock (fixed assets, inventory), machinery and equipment, plantation crops and structures for livestock.

In general, the paper analyses the basic relationships between capital stock value and selected variables related to agricultural sector performance. The correlation between total capital stock value and the following variables is analysed: GDP, total economically active population in agriculture, agricultural land, arable land, agricultural production, production of cereals, crops production, food production, livestock production, agricultural non-food production. The correlation analysis is also focused on the relationships between total capital stock value and individual areas of capital stock distribution (land development, livestock (fixed assets, inventory), machinery and equipment, plantation crops and structures for livestock). Apart from the correlation analysis, the paper also analyses the sensitivity (elasticity) of individual variables in relation to changes in value of total agricultural gross capital stock. The idea of this analysis is to identify the level of individual variables' sensitivity on changes in value of gross capital stock.

The instruments used to manage these objectives are: basic indices, chain indices, geomean calculation, elasticity calculation, and regression and correlation analysis (Hindls, Hronová, Seger, Fischer, 2007). To calculate elasticity it was necessary to conduct the set of regressions, providing basic information about mutual relationships between individual variables (the exogenous variable is gross capital stock value) and individual endogenous variables (agricultural production, cereals production, crops and livestock production, food production, non-food production, number of economically active persons in agriculture, agricultural area and capital stock in relation to land development, livestock production, machinery equipment and plantation crops).

Logarithmic regression was found to be the most suitable form of regression for the analysis. This type of regression directly provides information about elasticities. The main sources of data are databases those of UN FAOSTAT and the World Bank. The general analysed time period is from 1993 to 2007, i.e.: the period before the appearance of the global economic crisis (Junková, Matušková, 2011). All data used in individual analyses (both correlation analysis and elasticity analysis) is conducted on constant prices.

RESULTS AND DISCUSSION

Agricultural Sector Development in New Member States

In the twenty years following the early 1990s, the agricultural sector changed its position in the national economy significantly for each of the New Member States (NMS) (Pieniadz, Wandel, Glauben *et al*., 2010). The share of agriculture in the GDP of the whole group of countries declined from more than 7% to about 4% (EUROSTAT, 2013). The most significant reduction of the agricultural sector's share in relation to GDP was recorded in the Czech Republic, Poland, Bulgaria, Slovenia and Romania where a drop of 40–50% was noted. They were not alone, and, with the exception of Hungary all the analysed countries recorded a significant drop of the share of the agricultural sector in their national economy. The actual value of the agricultural sector's performance in the whole group increased by about 8% (agricultural sector GDP), but production output fell by about 7%. The decline of agricultural sector performance was especially noticeable in Bulgaria, Slovakia, the Czech Republic and Latvia. This was in contrast to Poland Hungary and Slovenia, which were the only countries able to stabilise agricultural production value.

Despite the decline of the agricultural sector's importance within the national economy of all the analysed countries, it must be remembered that its effectiveness and productivity significantly increased, especially in relation to the number of economically active persons in agriculture.

Agricultural GDP generated by all NMS increased within the analysed time period from ca 22 bn. USD to ca 23.8 bn. USD (in constant 2000 prices). Positive growth of agricultural GDP was recorded in Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. Only the Czech Republic, Bulgaria and Romania recorded a negative growth of the agricultural sector's GDP (for details see Tab. I). Considering the agricultural GDP development in individual NMS, it should be emphasised that in all analysed countries, their inter-annual growth rate was lower in comparison with the inter-annual growth rate of each country's economy – which is why the importance of the agricultural sector in relation to the total economy declined significantly in each of the analysed countries. Another specific feature of individual country's agricultural sector development is the significant reduction of the number of economically active persons in agriculture. This reduction, together with significant restructuring of individual countries' agricultural sector, lead to a significant growth of individual NMS' agricultural sector effectiveness.

Each of the analysed countries recorded a significant growth of generated agricultural GDP and production value per person economically active in agriculture within the analysed time period. Considering the agricultural GDP per capita development – the most impressive growth was recorded in Slovenia, Bulgaria, Lithuania, Romania and Estonia (for details see Tab. II). Apart from the Czech Republic, all the NMS recorded a growth of GDP per capita of between 3.2%–10% a year during the analysed time period. The Czech Republic recorded in this case GDP growth

of about 1.5%. In general it can be said that during the analysed time period, NMS more than doubled their agricultural GDP per capita. Taking production value per capita into consideration – the most impressive growth was recorded in Slovenia, Romania, Lithuania, Bulgaria, Hungary and Poland. The comparison of records about agricultural production per capita and agricultural sector's GDP per capita in individual countries confirms that the most progressive growth of agricultural sector effectiveness during the analysed time period was recorded in Slovenia, Bulgaria, Lithuania, Poland and Romania. However, in general it should be emphasised that all analysed countries made significant positive progress in their agricultural sectors effectiveness. Gross agricultural production per capita increased in all areas of agricultural sector activities in individual NMS. The most progressive growth of gross production per capita was noted for crops and especially cereals production. The growth of gross production value per capita in relation to livestock production and non-food agricultural production was significantly lower, and in the case of the Czech Republic the gross production value of non-food agricultural production was negative. It should also be mentioned that the global economic crisis did not affect individual countries' agricultural sector performance so much. In general only the inter-annual growth rate reduced its value in the majority of analysed countries. If we compare individual country's agricultural sector performance in the period before the crisis (1993–2007) with the later period (2008–2011), we can see that total agricultural sector performance is still positive. The whole analysed period 1993–2011 represents one of the most important periods in individual NMS agricultural sector development – individual countries finished the transformation of their agricultural sector and their agriculture became more efficient and competitive.

The explanation of general positive per capita production value development trend is the fact that while the analysed countries as a group of countries recorded an increase of agricultural output value of about 7% in the analysed time period, the number of economically active persons in agriculture in these countries decreased from 9.4 mil. to less than 4.77 mil. – ie.: by about 50% (for details see Tab. VI). The reason for the agricultural sector productivity growth in relation to the number of economically active persons in agriculture is

I: *Agriculture GDP development and GDP value development in NMS in the period 1993–2011 (in bn. USD, in constant 2000 prices)*

Country Name	1993	1999	2004	2007	2008	2009	2011	Basic	Chain
Bulgaria	1.360	1.598	1.525	1.008	1.334	1.207	1.132	0.833	0.989
Czech Republic	2.601	1.921	2.249	1.863	1.957	2.220	2.100	0.807	0.987
Estonia	0.159	0.210	0.243	0.231	0.240	0.255	0.276	1.738	1.033
Hungary	2.070	2.254	3.526	2.478	3.827	3.244	2.744	1.326	1.017
Latvia	0.314	0.290	0.362	0.405	0.406	0.420	0.434	1.379	1.019
Lithuania	0.609	0.605	0.709	0.735	0.757	0.781	0.755	1.240	1.013
Poland	7.994	7.880	8.923	8.332	8.221	9.000	8.864	1.109	1.006
Romania	5.310	5.004	6.335	7.161	7.719	5.474	5.021	0.946	0.997
Slovenia	0.519	0.566	0.582	0.565	0.596	0.546	0.536	1.033	1.002
Slovak Republic	1.100	1.124	1.602	2.054	2.324	2.328	1.955	1.777	1.034
NMS	22.036	21.453	26.056	24.831	27.382	25.475	23.819	1.081	1.005

Source: WDI, 2013

II: *Agriculture GDP per person economically active in agriculture in NMS in the period 1993–2011 (in USD, in constant 2000 prices)*

Country Name	1993	1999	2004	2007	2008	2009	2010	Basic	Chain
Bulgaria	3126	6365	8244	6672	9394	9146	9132	2.921736	1.065101
Czech Republic	4945	4298	5919	5262	5674	6608	6423	1.298875	1.015501
Estonia	1729	2663	3567	3553	3745	4105	4531	2.620729	1.05831
Hungary	3449	4848	8948	6882	11029	9711	8522	2.470575	1.054644
Latvia	1646	2068	2893	3405	3471	3653	3837	2.33139	1.051053
Lithuania	2247	2727	4247	5137	5524	5964	5996	2.668048	1.059425
Poland	1759	2072	2613	2616	2643	2964	2994	1.702833	1.031807
Romania	2199	2738	5064	6892	7901	5950	5785	2.631123	1.058557
Slovenia	14831	26961	44796	62779	66272	68224	76633	5.166904	1.101424
Slovak Republic	3916	4607	7185	9779	11279	11526	9924	2.534179	1.056222

Source: WDI, 2013

the growth of investments especially into machinery and new technologies (in the period 1993–2011 alone, the value of investments in machinery and agricultural equipment in all NMS increased by almost 20%, while the value of gross capital stock into land development, livestock and crops production significantly declined). The number of items of agricultural machine equipment in all the analysed countries increased in the analysed time period from 2.5 million to more than 7 million. The important driver of productivity growth is also scientific progress.

The following Tabs. III and IV provide information about individual NMS gross agricultural production performance development. On the basis of this data it can be said that analysed countries in general recorded a reduction of agricultural sector performance – in this case the lowest level of production in comparison with 1993 was in 2007 (production decline by about 13%) – the current level of production is about 93–94% of production level performance of the year 1993. The reason for the NMS' agricultural sector performance is the reduction of livestock production level. On the other hand NMS recorded a slight growth of crops production and especially a very significant growth of cereals production value (for detail see Tab. IV). Tab. III provides information about the structure of individual analysed countries' gross agricultural production. The basic development trends are very similar for all the analysed countries – the exceptions are Hungary, Poland, Romania and Slovenia. While the other countries recorded a significant reduction of agricultural production sector performance – these countries were able to stabilise their agricultural sector, and some

III: *Gross agricultural production value structure in individual NMS (in constant prices 2004–2006, million US$)*

Country name/production value structure		1993	1999	2004	2007	2009	2011	Basic 2007/1993	Basic 2011/1993	Chain 1993–2007	Chain 1993–2011
Bulgaria	Agriculture	3230	3270	2827	1964	2526	2644	0.6080	0.8186	0.9651	0.9889
Bulgaria	Crops	1403	1532	1802	973	1530	1686	0.6935	1.2017	0.9742	1.0103
Bulgaria	Livestock	1827	1738	1025	992	996	958	0.5430	0.5244	0.9573	0.9648
Czech Republic	Agriculture	5746	4957	4907	4364	4358	4335	0.7595	0.7544	0.9805	0.9845
Czech Republic	Crops	2244	2165	2274	1913	1978	2020	0.8525	0.9002	0.9887	0.9942
Czech Republic	Livestock	3502	2792	2633	2451	2381	2316	0.6999	0.6613	0.9748	0.9773
Estonia	Agriculture	734	513	528	610	621	637	0.8311	0.8678	0.9869	0.9922
Estonia	Crops	280	183	171	237	223	227	0.8464	0.8107	0.9882	0.9884
Estonia	Livestock	455	330	356	373	397	410	0.8198	0.9011	0.9859	0.9942
Hungary	Agriculture	5507	5943	6566	5053	5551	5281	0.9176	0.9590	0.9939	0.9977
Hungary	Crops	2417	3050	3766	2562	3093	3003	1.0600	1.2424	1.0042	1.0121
Hungary	Livestock	3090	2893	2800	2491	2458	2278	0.8061	0.7372	0.9847	0.9832
Latvia	Agriculture	1049	602	673	780	786	767	0.7436	0.7312	0.9791	0.9828
Latvia	Crops	428	268	322	378	372	345	0.8832	0.8061	0.9912	0.9881
Latvia	Livestock	621	335	351	403	414	422	0.6490	0.6795	0.9696	0.9788
Lithuania	Agriculture	1839	1511	1585	1618	1712	1654	0.8798	0.8994	0.9909	0.9941
Lithuania	Crops	874	784	767	716	887	823	0.8192	0.9416	0.9859	0.9967
Lithuania	Livestock	965	727	819	902	825	831	0.9347	0.8611	0.9952	0.9917
Poland	Agriculture	17356	16319	16711	16974	17094	16652	0.9780	0.9594	0.9984	0.9977
Poland	Crops	8779	7553	7954	7370	7848	7126	0.8395	0.8117	0.9876	0.9885
Poland	Livestock	8577	8766	8756	9604	9245	9526	1.1197	1.1106	1.0081	1.0058
Romania	Agriculture	13531	13066	15592	11407	13148	14419	0.8430	1.0656	0.9879	1.0035
Romania	Crops	8033	8029	10437	5936	7961	9530	0.7390	1.1864	0.9786	1.0095
Romania	Livestock	5498	5037	5155	5472	5187	4889	0.9953	0.8892	0.9997	0.9935
Slovakia	Agriculture	2387	2023	1947	1655	1675	1660	0.6933	0.6954	0.9742	0.9800
Slovakia	Crops	1127	997	1040	817	910	909	0.7249	0.8066	0.9773	0.9881
Slovakia	Livestock	1260	1026	907	838	765	751	0.6651	0.5960	0.9713	0.9717
Slovenia	Agriculture	782	848	919	811	783	790	1.0371	1.0102	1.0026	1.0006
Slovenia	Crops	267	297	347	294	281	299	1.1011	1.1199	1.0069	1.0063
Slovenia	Livestock	515	551	573	517	502	491	1.0039	0.9534	1.0003	0.9974

Source: FAOSTAT, 2013

IV: *Gross agricultural production value development in NMS in the period 1993–2011 (in constant prices 2004–2006, million US$) (USD)*

Gross production value	1993	1999	2004	2007	2008	2009	2010	2011	Basic 2007/1993	Basic 2011/1993	Chain 1993–2007	Chain 1993–2011
Agriculture	52161	49052	52255	45236	48894	48254	46284	48839	0.8672	0.9363	0.9899	0.9964
Crops	25852	24858	28880	21196	25530	25083	23480	25968	0.8199	1.0045	0.9859	1.0002
Livestock	26310	24195	23375	24043	23367	23170	22802	22872	0.9138	0.8693	0.9936	0.9923

Source: FAOSTAT, 2013

V: *Gross agricultural production value per person economically active in agriculture development in NMS in the period 1993–2011 (in constant prices 2004–2006, USD/cap)*

Gross Production Value	1993	1999	2004	2007	2008	2009	2010	2011	Basic 2007/1993	Basic 2011/1993	Chain 1993–2007	Chain 1993–2011
Agriculture	5531	6539	8400	8028	8963	9146	9066	9888	1.4515	1.7879	1.0270	1.0328
Crops	2741	3314	4642	3761	4680	4754	4599	5258	1.3722	1.9181	1.0229	1.0368
Livestock	2790	3226	3757	4267	4284	4392	4467	4631	1.5294	1.6600	1.0308	1.0286

Source: FAOSTAT, 2013

VI: *Share of economically active persons in agriculture in total economically active population in individual analyzed countries in the period 1993–2011*

Country name	1993	2007	2011
Bulgaria	5.09%	1.98%	1.45%
Czech Republic	5.10%	3.43%	2.92%
Estonia	6.68%	4.84%	4.33%
Hungary	5.80%	3.58%	3.01%
Latvia	7.43%	5.21%	4.83%
Lithuania	8.22%	4.23%	3.52%
Poland	11.86%	8.34%	7.33%
Romania	10.52%	4.80%	3.63%
Slovakia	5.27%	3.87%	3.43%
Slovenia	1.79%	0.45%	0.29%
NMS	8.94%	5.51%	4.68%

Source: FAOSTAT, 2013

of them were able even to get regional comparative advantage. This can be seen in the case of Poland in particular – which is becoming the central European agricultural tiger.

From the above tables it is apparent that the number/share of economically active persons in the agricultural sector declined significantly (for detail see Tabs. V and VI) in all the analysed countries – whilst the value and volume of agricultural production reduced only slightly in comparison with the reduction of number of people active in agriculture – the result is the significant growth of per capita productivity.

Agricultural sector development in the analysed countries was significantly affected by the reduction of agricultural, and especially arable, land area. The most significant reduction of land area was particularly noticeable in Estonia, Bulgaria, Latvia, Poland, Slovakia and Slovenia. Considering the arable land area, the most significant reduction was recorded in the cases of Estonia, Latvia, Lithuania and Poland (for details see Tab. VII).

VII: *Area of agricultural land development in NMS in the period 1993–2011 (in 1000 ha)*

Country name	item	1993	1997	2001	2007	2011	Basic index
Bulgaria	Agricultural area	6121	6203	5498	5116	5088	0.831237
Czech Republic	Agricultural area	4282	4280	4278	4249	4229	0.987623
Estonia	Agricultural area	1320	1023	890	914	945	0.715909
Hungary	Agricultural area	6130	6195	5865	5807	5337	0.870636
Latvia	Agricultural area	2514	1772	1581	1839	1816	0.722355
Lithuania	Agricultural area	3333	3417	2896	2695.9	2805.9	0.841854
Poland	Agricultural area	18715	18457	17788	16177	14779	0.789687
Romania	Agricultural area	14793	14798	14798	13630	13982	0.945177
Slovakia	Agricultural area	2446	2445	2255	1930	1929.7	0.788921
Slovenia	Agricultural area	560	495	510	498	458.5	0.81875
NMS	Agricultural area	60214	59085	56359	52855.9	51370.1	0.853126

Source: FAOSTAT, 2013

The Relationship Between Investments (Gross Capital Stock) and Agricultural Sector Performance Development in NMS

During the last two decades the agricultural sector in individual NMS was affected by many factors. Available gross capital stock was very important factor influencing agricultural sector size and performance in each of the analysed countries.

The value of gross capital stock (for details see Tab. VIII), as one of the driving forces influencing agricultural sector development in this group of countries, recorded a slight reduction within the analysed time period, of about 5% (from about 181 bn. USD in 1993 to about 174 bn. USD in 2007). Despite the fact that the whole group of countries did not record a significant reduction of available gross capital stock, it must be emphasised that among the individual countries huge differences in gross capital stock value development appeared. A significant growth of value was recorded in the cases of Slovenia, Poland and Lithuania. A significant value reduction was, however, recorded in Bulgaria, Estonia and Slovakia. The Czech Republic, Hungary, Latvia and Romania recorded only a slight decline. Again it must be emphasised that despite the reduction of available gross capital stock, in the case of the majority of analysed countries, the situation is not so critical. If the available value of gross capital stock per person economically active in the agricultural sector in each analysed country is recalculated, it can be seen that the situation is even better in the case of all NMS except Slovakia. The available gross capital stock value significantly increased particularly in Slovenia, Lithuania, Romania, Latvia, Poland and Bulgaria.

Tabs. IX and X provide basic information about the value distribution of gross capital stock in the individual NMS and also about the changes in structure of gross capital stock in individual countries. Analysing the whole group of countries it can be seen that the main changes in available gross capital stock value appeared in relation to livestock production (approx –34%), land development (approx –13%), and plantation crops (approx –11%). Among individual countries huge differences in changes of gross capital stock structure exist.

The value of gross capital stock is closely correlated with individual countries agricultural sector development and performance. The following Tabs. XI, XII, XIII, XIV and XV provide an overview of the relationship between value of capital stock and selected variables related to agriculture.

Despite the fact that huge differences exist between individual analysed countries (both concerning correlation and elasticity of individual agricultural sector characteristics in relation to gross capital stock value development), there are also some similarities. In general in relation to NMS (see Tab. XIII) – it can be said that significant correlations exist between the available value of gross capital stock on one side and national GDP, number

VIII: *Gross Capital Stock value development in individual NMS in 1993–2007 (in constant 2005 prices, USD million)*

Country name/value		1993	1999	2004	2007	Basic	Chain
Bulgaria	Capital Stock	10834	8810	5928	5902	0.5447	0.9575
Czech Republic	Capital Stock	13385	12068	12030	11636	0.8694	0.9901
Estonia	Capital Stock	3215	2805	2228	2189	0.6807	0.9729
Hungary	Capital Stock	11786	11817	11831	11224	0.9523	0.9965
Latvia	Capital Stock	4589	3517	3563	3899	0.8495	0.9884
Lithuania	Capital Stock	8275	8359	8138	8691	1.0503	1.0035
Poland	Capital Stock	71367	72326	72215	78345	1.0978	1.0067
Romania	Capital Stock	46849	44134	42768	42851	0.9147	0.9936
Slovakia	Capital Stock	9024	7179	6674	6187	0.6856	0.9734
Slovenia	Capital Stock	2408	2845	2897	2830	1.1756	1.0116
NMS	Capital Stock	181731	173860	168272	173753	0.9561	0.9968

Source: FAOSTAT, 2013

IX: *Gross Capital Stock – Structure value development in NMS in 1993–2007 (in constant 2005 prices, million USD)*

Gross Capital Stock value – structure	1993	1999	2004	2007	Basic	Chain
Land Development	69524.35	66374.92	61499.71	60362.88	0.868226456	0.989957714
Livestock (Fixed Assets)	25636.14	20196.95	17642.65	17730.64	0.691626743	0.97400743
Livestock (inventory)	4524.03	3564.18	3113.41	3128.93	0.691624503	0.974007205
Machinery & Equipment	68798.32	71733.36	75093.81	81224.31	1.18061473	1.011930266
Plantation Crops	11157.75	10399.77	9539.9	9920	0.889068136	0.991636499
Structures for Livestock	2091.4	1591.24	1382.79	1386.5	0.662953046	0.971066047

Source: FAOSTAT, 2013

X: *Distribution of Capital Stock Value in Agriculture in Individual New EU Members*

Country name	Item	1993	1997	2001	2005	2006	2007
Bulgaria	Land Development	51.13%	49.20%	45.54%	29.88%	29.21%	28.46%
Bulgaria	Machinery & Equipment	13.89%	18.61%	19.50%	28.42%	30.45%	32.30%
Bulgaria	Plantation Crops	6.87%	6.74%	9.23%	10.38%	10.68%	9.96%
Bulgaria	Livestock	28.12%	25.45%	25.73%	31.32%	29.67%	29.28%
Czech Republic	Land Development	25.69%	27.23%	27.83%	29.63%	29.44%	29.44%
Czech Republic	Machinery & Equipment	34.39%	36.43%	39.12%	38.10%	37.76%	37.68%
Czech Republic	Plantation Crops	12.82%	13.71%	13.72%	14.60%	14.74%	14.93%
Czech Republic	Livestock	27.10%	22.62%	19.34%	17.67%	18.06%	17.95%
Estonia	Land Development	23.80%	22.23%	17.41%	19.88%	18.98%	19.94%
Estonia	Machinery & Equipment	52.96%	62.33%	68.63%	63.20%	64.37%	63.96%
Estonia	Plantation Crops	1.69%	2.07%	3.32%	2.72%	2.29%	2.03%
Estonia	Livestock	21.56%	13.38%	10.63%	14.20%	14.37%	14.07%
Hungary	Land Development	47.95%	49.87%	47.90%	45.10%	45.11%	44.83%
Hungary	Machinery & Equipment	23.56%	23.34%	28.28%	31.06%	31.63%	31.80%
Hungary	Plantation Crops	11.83%	11.98%	10.29%	11.17%	10.84%	10.93%
Hungary	Livestock	16.66%	14.81%	13.53%	12.67%	12.43%	12.44%
Latvia	Land Development	24.95%	19.63%	18.72%	20.21%	21.09%	20.74%
Latvia	Machinery & Equipment	53.48%	67.26%	70.67%	69.42%	68.97%	69.89%
Latvia	Plantation Crops	2.53%	1.94%	1.66%	1.71%	1.62%	1.24%
Latvia	Livestock	19.05%	11.17%	8.96%	8.66%	8.32%	8.14%
Lithuania	Land Development	29.30%	29.75%	19.70%	18.42%	17.95%	17.53%
Lithuania	Machinery & Equipment	46.41%	52.54%	64.32%	68.03%	68.66%	69.06%
Lithuania	Plantation Crops	3.20%	3.10%	3.58%	2.69%	2.40%	2.03%
Lithuania	Livestock	21.10%	14.61%	12.40%	10.86%	10.99%	11.39%
Poland	Land Development	22.73%	22.02%	21.42%	19.07%	18.80%	18.43%
Poland	Machinery & Equipment	61.47%	64.08%	65.71%	68.47%	68.95%	69.36%
Poland	Plantation Crops	3.89%	3.33%	3.63%	3.90%	3.74%	3.94%
Poland	Livestock	11.92%	10.57%	9.24%	8.56%	8.51%	8.28%
Romania	Land Development	62.36%	64.08%	68.68%	67.71%	67.77%	67.57%
Romania	Machinery & Equipment	9.53%	9.44%	8.34%	8.25%	8.33%	8.24%
Romania	Plantation Crops	7.44%	7.05%	6.58%	6.81%	6.31%	6.24%
Romania	Livestock	20.67%	19.43%	16.40%	17.22%	17.59%	17.96%
Slovakia	Land Development	55.56%	55.61%	61.14%	63.89%	62.60%	63.69%
Slovakia	Machinery & Equipment	21.78%	21.65%	21.21%	20.54%	21.75%	21.10%
Slovakia	Plantation Crops	5.36%	6.45%	4.21%	3.94%	3.92%	3.99%
Slovakia	Livestock	17.30%	16.29%	13.44%	11.63%	11.73%	11.21%
Slovenia	Land Development	4.53%	3.48%	3.63%	3.87%	3.91%	4.51%
Slovenia	Machinery & Equipment	67.25%	72.83%	73.62%	74.05%	73.56%	72.93%
Slovenia	Plantation Crops	5.21%	4.18%	3.61%	3.38%	3.53%	3.29%
Slovenia	Livestock	23.01%	19.51%	19.14%	18.69%	19.00%	19.27%

Source: FAOSTAT, 2013

of economically active persons in the agricultural sector, available agricultural and arable area and level of livestock production.

Agricultural production and also individual areas accumulating gross capital stock show a different level of sensitivity in relation to changes in total value of gross capital stock value formation in individual countries. In relation to agricultural production, the majority of analysed countries recorded a high level of sensitivity between capital stock and especially the number of economically active persons in agriculture, livestock production value and non-food agricultural production value.

In relation to the distribution of available gross capital stock among individual areas representing the agricultural sector, the highest level of sensitivity

XI: *Correlation between capital stock value development and selected variables representing agricultural sector development in individual countries in 1993–2007*

Correlation Country name	GDP	Economically active persons in agriculture	Agricultural area	Arable land	Agricultural production	Cereals	Crops	Food
Bulgaria	–0.91	0.93	0.88	0.86	0.84	0.15	0.31	0.85
Czech Republic	–0.70	0.69	0.64	0.64	0.72	–0.28	0.43	0.72
Estonia	–0.92	0.88	0.59	0.84	0.37	–0.34	0.43	0.37
Hungary	–0.31	0.24	0.06	0.00	0.28	–0.22	–0.18	0.28
Latvia	–0.22	0.59	0.91	0.92	0.89	0.38	0.74	0.89
Lithuania	0.33	–0.19	0.14	0.33	0.32	0.09	–0.09	0.32
Poland	0.27	–0.28	–0.32	–0.31	–0.28	–0.20	–0.49	–0.28
Romania	–0.62	0.90	0.52	0.49	0.05	0.13	–0.07	0.04
Slovakia	–0.97	0.97	0.78	0.87	0.89	0.30	0.70	0.88
Slovenia	0.70	–0.78	–0.75	–0.93	0.24	0.18	–0.11	0.23

Correlation Country name	Livestock	Non Food	Land Development	Livestock (Fixed Assets)	Livestock (inventory)	Machinery, Equipment	Plantation Crops	Structures for Livestock
Bulgaria	0.94	–0.42	0.99	0.91	0.91	–0.32	0.42	0.49
Czech Republic	0.79	0.42	–0.28	0.70	0.70	0.49	–0.68	0.70
Estonia	0.21		0.84	0.68	0.68	0.84	0.17	0.74
Hungary	0.84	–0.11	0.73	0.68	0.68	–0.12	0.02	0.30
Latvia	0.83		0.92	0.79	0.79	0.25	0.54	0.78
Lithuania	0.65	–0.46	0.31	0.18	0.18	0.38	–0.44	0.14
Poland	0.30	0.33	–0.27	–0.04	–0.04	0.83	0.68	–0.09
Romania	0.47	0.83	–0.35	0.96	0.96	0.97	0.93	0.96
Slovakia	0.95	0.85	0.95	0.97	0.97	0.98	0.84	0.97
Slovenia	0.38		0.01	0.37	0.37	1.00	–0.73	–0.28

Source: FAO 2013, WDI 2013, own calculations and processing 2013

and also correlation is particularly between total available gross capital stock value development/ formation and development of gross capital stock value in relation to land development and livestock production. Crops production and agricultural machinery and equipment are also highly correlated in relation to total gross capital stock value formation but the level of their sensitivity in relation to change of gross capital stock value is much lower in comparison with land development and livestock production gross capital stock value formation. The results included in Tabs. XIV and XV provide quite an interesting view on the whole problem of capital stock value influence on agricultural sector and especially production development in individual NMS.

It is evident that analysis based on values calculated on per capita (person economically active in agriculture) basis confirms the results of the previous analyses especially in relation to the number of economically active persons in agriculture development, agricultural and arable land area development, GDP value development, and distribution of capital stock among individual agricultural sector activities. There is, however, one significant difference between the calculation of elasticity and especially correlation based on total values expression on one side and per capita value expression on the other. While the analysis conducted in relation to total values characterising agricultural sector development in individual countries did not confirm the significant relationship between capital stock value development and agricultural production development in the majority of analysed countries, the analysis conducted at per capita level confirmed a significant relationship between capital stock value/person economically active in agriculture development and agricultural production per capita value development (both in relation to crops production and livestock production). These results are confirmed at the general NMS level (Tab. XIV) and also at the individual NMS countries level (Tab. XV) – in this case there are only two exceptions – Estonia and Slovakia. The analysis conducted at per capita level confirmed that despite a significant reduction of the agricultural sector's size in individual countries leading to a reduction of agricultural production performance – economically active persons in agriculture who were able to keep their positions within the sector are able to accumulate resources and to develop

XII: *The elasticity of selected variables representing agricultural sector in analysed countries in relation to one percent change of capital stock value in the analysed time period*

Elasticity Country name	Agriculture	Cereals	Crops	Food	Livestock	Non Food	Number of economically active persons in agriculture
Bulgaria	0.632	0.174	0.231	0.672	1.079	–0.607	1.429
Czech Republic	1.538	–0.689	0.952	1.536	1.964	4.165	2.381
Estonia	0.271	–0.533	0.508	0.273	0.144	0.000	0.936
Hungary	0.790	–2.041	–1.049	0.788	2.656	–0.711	1.649
Latvia	1.529	0.973	1.233	1.532	1.762	0.000	1.080
Lithuania	0.463	0.234	–0.249	0.470	1.072	–3.977	0.747
Poland	–0.356	–0.645	–1.396	–0.363	0.507	1.155	1.043
Romania	0.113	1.082	–0.282	0.095	0.811	7.402	7.812
Slovakia	0.836	0.401	0.698	0.815	0.977	5.306	0.737
Slovenia	0.126	0.260	–0.121	0.123	0.243	0.000	4.194

Country name	Agricultural land – area	Land Development Capital Stock	Livestock (Fixed Assets) Capital Stock	Livestock (inventory) Capital Stock	Machinery & Equipment Capital Stock	Plantation Crops Capital Stock	Structures for Livestock Capital Stock
Bulgaria	0.221	2.036	0.708	0.708	–0.108	0.241	0.203
Czech Republic	0.015	–0.096	3.107	3.107	1.043	–0.088	3.280
Estonia	0.284	1.466	1.289	1.289	0.764	0.264	1.548
Hungary	0.030	1.760	2.739	2.739	–0.613	0.065	1.750
Latvia	0.875	2.111	2.708	2.708	0.166	2.313	2.944
Lithuania	0.089	1.360	0.589	0.589	0.974	–0.870	0.542
Poland	0.168	–0.495	–0.142	–0.142	1.587	1.696	–0.451
Romania	0.135	–0.095	3.307	3.307	3.019	2.729	2.317
Slovakia	0.191	0.588	1.976	1.976	1.219	2.232	2.131
Slovenia	0.074	0.008	0.147	0.147	1.410	–0.755	–0.117

Source: FAO 2013, WDI 2013, own calculations and processing 2013

the agricultural sector. Capital coming to agriculture is becoming more and more efficient, and per capita production is heavily dependent on them.

In fact it must be highlighted that the results of the sensitivity analysis confirmed the general expectations in relation to agricultural sector. Capital stock in agriculture heavily influenced the number of economically active persons active in agriculture. Nowadays agriculture is more effective than it was two decades ago. The level of capital stock has served to reduce the number of economically active persons in agriculture needed to manage the current level of production Available capital stock also affected agricultural production and especially livestock production performance – especially because livestock production is much more sensitive for capital stock in comparison with crops production – this was confirmed especially on the basis of per capita calculations.

CONCLUSION

The agricultural sector has significantly changed in both its structure and position within the national economy of individual new EU member states during the last two decades. Over the analysed time period, the size of their agricultural sector has been reduced for each of the selected countries, and the volume and value of agricultural sector performance has also reduced (livestock production was especially heavily affected). Despite a significant reduction of the agricultural sector in many of the analysed countries, each country became more efficient in relation to its agricultural sector performance. Individual countries agricultural sectors also became more effective. Both the agricultural sector structure, and also the agricultural sector production performance, are closely related to the investments available (gross capital stock value). When taking into consideration the main objective of this paper – the following conclusions can be drawn:

The value of gross capital stock, as one of the driving forces influencing agricultural sector development in the analysed group of countries, displayed a slight reduction of about 5% within the analysed time period. Capital stock plays a very important role in the structure and production development of the agricultural sector. In the monitored time period, the agricultural sector's characteristics and production value reacted

XIII: *The basic characteristics (elasticity and correlation) existing among capital stock value and selected variables related to agricultural sector in NMS – as a group of countries*

Items	Elasticity/b	Abs unit	R2	Correlation	Significance
Economically active persons in agriculture	5.48509	–57.30268	0.70195	0.83783	YES
Agricultural area (1000 ha)	1.52835	–7.49936	0.62423	0.79008	YES
Arable land (1000 ha)	1.88158	–12.10964	0.67237	0.81998	YES
Agriculture Gross Production Value (constant 2004–2006 million US$)	0.39124	6.06842	0.05617	0.23700	NO
Cereals, Gross Production Value (constant 2004–2006 million US$)	–1.42417	26.35242	0.07317	–0.27050	YES
Crops Gross Production Value (constant 2004–2006 million US$)	–0.12811	11.64926	0.00194	–0.04410	NO
Food Gross Production Value (constant 2004–2006 million US$)	0.39066	6.07148	0.05634	0.23735	NO
Livestock Gross Production Value (constant 2004–2006 million US$)	0.95771	–1.46893	0.58901	0.76747	YES
Non Food Gross Production Value (constant 2004–2006 million US$)	0.52733	–0.74557	0.03068	0.17514	NO
Land Development Gross Capital Stock (constant 2005 prices) (USD million)	1.46220	–6.56678	0.61531	0.78442	YES
Livestock (Fixed Assets) Gross Capital Stock (constant 2005 prices) (USD million)	4.56163	–45.15661	0.86313	0.92905	YES
Livestock (inventory) Gross Capital Stock (constant 2005 prices) (USD million)	4.56163	–46.89118	0.86313	0.92905	YES
Machinery & Equipment Gross Capital Stock (constant 2005 prices) (USD million)	–0.78968	20.74236	0.21123	–0.45959	YES
Plantation Crops Gross Capital Stock (constant 2005 prices) (USD million)	1.80977	–12.60869	0.85365	0.92393	YES
Structures for Livestock Gross Capital Stock (constant 2005 prices) (USD million)	5.10841	–54.28670	0.85721	0.92586	YES
GDP (constant 2005 prices) (USD bn.)	–5.38387	70.97442	0.59470	–0.77117	YES

Source: FAO 2013, WDI 2013, own calculations and processing 2013

very sensitively to changes in individual NMS' capital stock value. The most sensitive segments of the agricultural sector in relation to capital stock are livestock production, land development, and the number of economically active persons in agriculture. Concerning the sensitivity of agricultural production performance in relation to changes in capital stock value, the most sensitive are livestock production and non-food agricultural production. In general, on the basis of the correlation analysis, a very close relationship appears to exist between the agricultural sector and capital stock development – especially in relation to the number of economically active persons in agriculture, size of agricultural and arable area, and livestock production. Individual areas of capital stock are also very sensitive especially in the case of livestock production, and agricultural machinery and equipment.

In conclusion it can be said that capital stock is a very important part of individual countries' agricultural sector development. Its value has stagnated in the majority of analysed countries during the time period under consideration. The only countries which were able to increase the value of gross capital stock were Poland, Lithuania and Slovenia. The other countries recorded a reduction of gross capital stock value – in some cases the reduction was really significant e.g. Bulgaria or Slovakia. The specific factor which characterised the agricultural sector development in individual analysed countries is their ability to improve the efficiency to their agricultural sector. Because of the significant reduction of the number of economically active persons in agriculture, which was accompanied by a much lower reduction of production values, individual countries became more effective both in relation to agricultural output value per capita, and also in relation to value of gross capital stock per capita. In the future it may be expected that capital stock will play the most important role in the agricultural sector restructuring process for each analysed country. Some countries, which have the potential to be competitive both on the European and also the world agricultural market, will encourage the value flow of capital stock into agriculture (e.g. Poland), however it may be expected that some other countries, whose agricultural production potential is limited, will be reducing the capital flows into agriculture, and their agricultural sector position both in relation to the domestic market and also

XIV: *The basic characteristics (elasticity and correlation) existing among capital stock value and selected variables related to agricultural sector in NMS – as a group of countries – per capita value expression analysis*

Items	Elasticity/b	Abs unit	R2	Correlation	Significance
Economically active persons in agriculture	–1.13636	12.50114	0.99094	–0.99546	YES
Agricultural area (1000 ha)	–0.32674	11.98274	0.93837	–0.96870	YES
Arable land (1000 ha)	–0.38141	11.80885	0.90871	–0.95326	YES
Agriculture Gross Production Value (constant 2004–2006 million US$)	0.98844	–1.24137	0.91623	0.95720	YES
Cereals, Gross Production Value (constant 2004–2006 million US$)	1.23561	–3.65074	0.62802	0.79248	YES
Crops Gross Production Value (constant 2004–2006 million US$)	0.97087	–1.87207	0.76232	0.87311	YES
Food Gross Production Value (constant 2004–2006 million US$)	0.98916	–1.24749	0.91671	0.95745	YES
Livestock Gross Production Value (constant 2004–2006 million US$)	0.99818	–1.97348	0.98080	0.99035	YES
Non Food Gross Production Value (constant 2004–2006 million US$)	0.95165	–6.29615	0.76929	0.87709	YES
Land Development Gross Capital Stock (constant 2005 prices) (USD million)	–0.31890	12.09203	0.96262	–0.98113	YES
Livestock (Fixed Assets) Gross Capital Stock (constant 2005 prices) (USD million)	–0.78457	12.38535	0.83980	–0.91640	YES
Livestock (inventory) Gross Capital Stock (constant 2005 prices) (USD million)	–0.78458	10.65076	0.83980	–0.91641	YES
Machinery & Equipment Gross Capital Stock (constant 2005 prices) (USD million)	0.26441	10.37256	0.77890	0.88255	YES
Plantation Crops Gross Capital Stock (constant 2005 prices) (USD million)	–0.27975	10.12018	0.67087	–0.81907	YES
Structures for Livestock Gross Capital Stock (constant 2005 prices) (USD million)	–0.89651	10.20938	0.86836	–0.93186	YES
GDP GDP (constant 2005 prices) (USD bn.)	1.21306	2.14836	0.99298	0.99648	YES

Source: FAO 2013, WDI 2013, own calculations and processing 2013

XV: *Correlation and elasticity existing between agricultural production/person economically active in agriculture and capital stock value/person economically active in agriculture development in individual NMS in the period 1993–2007*

Country name	Agriculture /person economically active in agriculture		Crops /person economically active in agriculture		Livestock /person economically active in agriculture	
	Correlation	Elasticity	Correlation	Elasticity	Correlation	Elasticity
Bulgaria	0.82606	1.24207	0.60739	1.35601	0.87143	1.11332
Czech Republic	0.83691	0.61853	0.76541	0.84912	0.83656	0.44592
Estonia	–0.10834	–0.14284	–0.11428	–0.23271	–0.07805	–0.10291
Hungary	0.91023	1.02337	0.78899	1.24914	0.92614	0.77758
Latvia	0.83039	0.84702	0.91322	1.41678	0.51514	0.38960
Lithuania	0.93392	0.82972	0.68109	0.69110	0.97199	0.95038
Poland	0.91767	0.85396	0.60039	0.43472	0.97081	1.20927
Romania	0.94878	1.13493	0.86957	1.14420	0.98996	1.10274
Slovakia	0.26458	0.36691	–0.01857	–0.01379	0.58884	0.74896
Slovenia	0.99446	0.87211	0.96950	0.84866	0.99405	0.88307

Source: FAO 2013, WDI 2013, own calculations and processing 2013

in relation to the European and world agricultural market will decline (e.g. Slovakia (Kubicová, 2012)).

A very interesting part of the paper is devoted to correlation and elasticity analyses conducted at the per capita level. This analysis focusses particularly on the sensitivity of agricultural production – both crops and livestock production – on changes in total value of capital stock. The results of these analyses proved the existence of a significant relationship between individual

countries' production performance value, and capital stock value development. It was proved that although there is generally no significant relationship between production on one side and capital stock value on the other, at the individual farmers' level a significant relationship exists.

It was also proved in general that much higher correlations and also elasticities exist between capital stock value development on one side and livestock production on the other, than exists in relation to crops production. Crops production in this case is more independent.

SUMMARY

The key sectors of any economy around the world are the agricultural sector and food market (Bielik, 2010). Well-functioning agricultural and foodstuff production sectors depend heavily upon capital stock level (Svatoš, 2011). Unless a country makes an appropriate level of capital stock in agriculture, it can be expected that its agricultural sector will stagnate (Mezera, Špička, 2013). It is evident that strong capital flows into the agricultural sector encourage agricultural production levels, both from the point of view of productivity, and efficiency aspects (Žídková, Řezbová, Rosochatecká, 2011). Each of the new EU member states (NMS) have recorded significant changes during the last two decades in the development of their agricultural capital stock structure. (Pieniadz, Wandel, Glauben *et al*., 2010). It is surprising then, that according to the FAO (2013) the value of capital stock value related to agriculture hardly changed (when expressed in constant prices). This paper will analyse agricultural sector development in individual new EU member states, with emphasis on capital stock value development in agriculture. The main objective is to identify the relationship between capital stock value development, and agricultural sector performance in the individual analysed countries. The results of the analysis are as follows: The agricultural sector has significantly changed its structure and position within the national economy of individual new EU member states in the 20 years since the early 1990s. The size of the agricultural sector reduced in each of the analysed countries, resulting in a reduction in the value of the agricultural sector performance. Despite the significant reduction of the agricultural sector in many analysed countries, some became more efficient in terms of their agricultural sector performance. Individual country's agricultural sectors became more effective and more competitive. Individual country's agricultural sector size and performance development are closely related to capital stock value in agriculture. Both the agricultural sector structure, and agricultural sector production performance, are closely related to available capital stock value. In line with the main objective of this paper, the most sensitive segments of the agricultural sector in relation to capital stock are livestock production, land development and the number of economically active persons in agriculture. Regarding sensitivity of agricultural production performance in relation to changes in capital stock value, the most sensitive are livestock production and non-food agricultural production.

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