

# **Change trends in economic situation of large scale agricultural companies after Poland's accession to the European Union<sup>1</sup>**

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**Abstract:** The article aims to analyse chosen economic data on Polish agriculture and its role in home economy. Moreover, it presents research findings on change trends of chosen aspects of economic condition in agricultural companies in Poland after its accession to European structures. The analysis comprises the years 2004-2012. Economic subjects under analysis were registered in the “Ranking of 300 best agricultural companies”. The paper analyses values of chosen economic ratios per company. The research has been conducted for agricultural companies in total, as well as for the three singled out groups depending on the criterion of activity (crop, animal or mixed-production orientation).

**Key words:** European Union, agricultural companies, Ranking 300, economic situation, profitability ratios, liquidity ratios

## **Introduction**

In times of ongoing globalization and the consequent growing competition on home and foreign markets stable financial situation of companies has a great significance for their further development. In particular the crisis events of recent years have proved the need for constant control over companies' finances. Literature on the subject draws attention to a number of negative consequences of the global financial crisis that began in the United States (Economic Crisis... 2009, Atkinson et al. 2013, Beachy 2012). The need for permanent control of companies' economic situation applies to agricultural sector as well. Usually, analyses of economic condition of agricultural companies are conducted on the basis of financial reports and ratio analysis (inter alia, Schumacher et al. 2005, Boyd et al. 2007, Grzegorzewska 2013, Grzelak 2013). There are some authors, however, who try to determine financial situation with the use of non-financial ratios (e.g. Jánský, Novák 2002).

## **Significance of agriculture for Polish economy**

Agriculture is a relatively small sector in the economy of the EU-27, accounting for only 1.1% of GDP and 5.1% of employment (Tangermann, von Cramon-Taubadel 2013, p. 5). Similarly to other European countries, also in Poland the capacity of agriculture to create GDP diminished. In the year 2004 the share of agricultural sector, forestry and fishery in the creation of GDP was at the level of 4.0% while in 2012 it amounted to 3.4%, however, which needs to be noted, in 1996 it exceeded 5.5% (Statistical Yearbook ... 2013, p. 701-702). Polish agriculture is an important sector of the economy and it has a decisive influence not only on the socio-economic situation of inhabitants of rural areas, but also on the condition of the environment, the structure of the landscape as well as the diversity of the biological structure of the country (Polish agriculture... 2009, p. 2). Economic progress results in, among other things, the decreasing significance of agricultural activity in economy, which is reflected in the constant decrease in the share of agriculture in the creation of GDP (Karwat-Woźniak 2013, p. 121). However, regardless of the decrease in the share of agriculture in the creation GDP and the total number of people employed, agriculture is the first and irreplaceable link in the food chain of the country. Its role is not diminishing, only its functions are changing (Ziętara 2008, p. 76).

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Particular significance of agricultural sector, both for the domestic and European economies is reflected by the wide range of financial aid from the EU. The objective of these actions is first of all the improvement of competitiveness and innovativeness of Polish agriculture or the well-balanced development of rural areas in the economic, social and environmental context. Thanks to Poland's integration with countries of the United Europe enterprises and agricultural companies gained access to a wide offer of union aid measures, among which there are various forms of support meant for, among others, direct support of agricultural income, modernization of agricultural production, introduction of new technologies, or the improvement of infrastructure. For instance, in the frame of "The Rural Development Programme for 2007-2013" until December 31, 2012 the Agency for Restructuring and Modernisation of Agriculture had paid 41.28 billion PLN to the beneficiaries, that is in 2007 – 130.58 million PLN, 2008 – around 4.7 billion PLN, 2009 – 6.54 billion PLN, 2010 – 8.42 billion PLN, 2011 – 9.96 billion PLN and in 2012 – 11.53 billion PLN (Financing Common Agricultural Policy ..., p. 7). This in turn may be a chance for further development of agricultural sector in Poland. The significance of Poland's membership in the European Union is acknowledged by table 1 which presents comparative analysis of basic data on Polish agriculture in the years 2004 and 2012. In the analysed period agricultural area decreased from 15906.0 thousand ha to 14969.2 thousand ha. The number of agricultural producers increased, though, as well as the number of people working in agriculture. In the years 2004-2012 the number of employed in agriculture increased by over 11% from 2082.2 thousand to 2325.7 thousand people (Statistical Yearbook of Agriculture 2013, p. 220), although it needs to be pointed out that in 1996 employment in agriculture was higher by 40% than at the end of the analysed period. In the years 2004-2012 there was a significant rise in gross output in agriculture (by 62.8%) and in value added gross of this sector (by 230.1%). Moreover, it needs to be emphasised that there also was a significant increase of export and import values of farm and food products (209% and 197% respectively).

Table 1. Basic data on Polish agriculture – comparative analysis of the years 2004 and 2012.

Itemisation	2004	2012
Agricultural area (thousand ha)	15 906.0	14 969.2
Number of individual agricultural companies	2 733 364	1 477 852
Number of agricultural producers	1 782 300	2 106 138
Number of people working/ employed in agriculture (thousand)	2082.2	2325.7
Gross output in MLN PLN	63 337.2	103 114.0
Value added gross in MLN PLN	17 695.0	40 721.7
Value added net per 1 ha of agricultural area in PLN	1 403.0	2 720.0
Export of agricultural products in MLN PLN	288 780.8	603 418.6
Import of agricultural products in MLN PLN	328 192.0	648 127.6

Source: Statistical Yearbook of Agriculture, p. 107-108, 145, 305-306.

Poland's accession to the EU undoubtedly brings a great many of benefits for Polish enterprises and agricultural companies. It cannot be forgotten, however, that competition has intensified as a result of opening European market and free movement of goods, services and capital. Integration processes had an influence on the economic condition of Polish agricultural companies, including those that were registered in the "Ranking of 300 best agricultural companies".

### **Objective and research methodology**

Objective of the research is to analyse economic situation of agricultural companies in Poland after its accession to European structures. The study comprises those economic subjects that were registered in the ranking of 300 best agricultural companies compiled annually by the Institute of Agriculture and Food Economics – National Research Institute in cooperation with the Agricultural Property Agency. The following analyses take into account only economic ratios. The primary research method used by IAFE-NRI for the acquisition of data was a questionnaire sent by post or e-mail. Companies provided information voluntarily, which may to some extent restrict the

representativeness of the researched collectivity. Nevertheless, information derived from this report allows for the evaluation of change trends in the overall economic situation of the researched group of large scale agricultural companies in Poland.

In the classification, the key criterion in ordering the researched companies is synthetic measure. It needs to be noted, however, that over the analysed period the ratios which the measure consists in have changed. Since May 2009 synthetic measure comprises four partial ratios [Ranking 300... 2012, pp.26-27]:

- return on sales ratio (quotient of the profit on sales and the sum of sales revenue from products, commodities and materials)
- value creation index (quotient of return on equity and the cost of own capital),
- added value ratio (relation of net financial result, amortization, agricultural tax and other cost taxes, payments charged on costs, ground rent, compulsory charges on financial result, interest costs and costs of remuneration and benefits to total revenue)
- cash generating ratio (relation of revenue surplus over operating costs to the sum of operating revenue and extraordinary gains).

The method of classification of the researched companies was as follows – higher position in every partial ratio translates into higher position in the main ranking [Ranking 300... 2012, p. 26].

Apart from the position in the ranking, the classification also comprises economic ratios. Economic situation of the companies has been analysed on the basis of chosen economic measures which were included in the “Ranking 300”. In order to upkeep comparability of the data the following paper covers these economic ratios that were presented in each year of the analysed period and whose methodology of calculation was the same (table 2). Moreover, the research excluded fish farms which since 2007 have been classified in the separate “Ranking of the best fish farms”.

Table 2. Calculation formulas of chosen economic ratios included in “Ranking 300”.

Type of ratio	Calculation formula
Total revenue	Profit on sales and equivalent + other operating revenue + financial revenue
ROA ratio	(Net financial result +/- profit (loss) from the disposal of non-financial assets)/ total assets
ROE ratio	(Net financial result +/- profit (loss) from the disposal of non-financial assets)/ own capital
Current liquidity ratio	(current assets – short-term prepayments) / short-term liabilities
Quick ratio	(current assets – inventory – short-term prepayments) / short-term liabilities
Credit capacity ratio	(net financial result -/(+) profit (loss) from the disposal of non-financial assets + amortization)/total liabilities
Level of employment	Average number of people employed in a given year
Agricultural area	Area of land meant for agricultural activity comprises arable lands, permanent grasslands and permanent plantation

Source: on the basis of „Ranking of 300 best agricultural companies in 2012”, p. 26-27.

In view of the numerical amount of the researched collectivity the following article analyses average values for the particular economic ratios. Average values have been presented for both all the companies and for the groups singled out as regards production orientation. On this basis 3 groups have been singled out – crop, animal and mixed-production orientation.

The analysis covered the years 2004-2012. It has been decided that such timeframe will allow for identification of certain change trends in the economics and management.

## Research findings

Information on the resources of the earth and labour in the researched companies was presented in table 3. In the agricultural companies under analysis the average level of employment decreased from 37 to 26 people. The most workers were on average employed in enterprises dealing with animal production. Average level of employment in this group increased from 53 to 88, only in the years 2006 and 2009-2010 there was a decrease in the field. Companies with the lowest level of employment were the ones that produce crop – at the end of the analysed period they employed 20 people, by 11 less than in 2004. From the source material “Ranking 300” it also follows that an average agricultural area reduced from 1053 ha in 2004 to 1022 ha at the end of the analysed period. It needs to be emphasized that the downward trend was noted yearly since 2006. The greatest agricultural area per one company was in those enterprises that dealt with animal production. In this group there was an increase in the area of agricultural land from 1399.87 to 1955.60. In other groups the tendency was reversed – decrease in the area of the agricultural land.

Table 3. Average level of employment and agricultural area in the researched companies in the years 2004-2012.

	2004	2005	2006	2007	2008	2009	2010	2011	2012
<i>Level of employment [people]</i>									
Total	37	49	48	47	43	39	36	36	26
Crop	31	43	42	37	32	32	28	26	20
Animal	53	65	60	66	68	67	61	68	88
Mixed	37	48	51	51	48	39	39	42	31
<i>Agricultural area [ha]</i>									
Total	1 053.00	1 143.14	1 220.92	1 161.22	1 132.00	1 110.00	1 088.00	1 081.64	1 022.00
Crop	922.28	966.03	1 048.63	952.90	1 003.58	1 000.53	926.23	898.63	798.06
Animal	1 399.87	1 491.73	1 518.48	1 569.00	1 661.37	1 470.03	1 428.98	1 501.79	1 955.60
Mixed	1 075.30	1 181.75	1 279.57	1 227.59	1 131.30	1 110.56	1 242.28	1 221.21	942.59

Source: own study on the basis of „Ranking of 300 best agricultural companies” for 2004-2012.

When evaluating economic situation of the companies, one had to define the primary values of companies’ profitability. From the conducted analyses it follows that in the years 2004-2012 the average sales revenue increased from 6322.7 thousand PLN to 11285.5 thousand PLN (table 4). It needs to be emphasized that in the years 2008 and 2010 the greatest fall in the values was noted and it amounted to 4.8% and 4.1% respectively. Since 2011 the average level of total revenue in agricultural companies began to increase again, and at the end of the analysed period it amounted to 11285.5 thousand PLN (9.5% more than a year ago).

The highest level of total revenue per one company was noted in companies dealing with animal production. Its value increased over three times in the analysed period. In 2012 average total revenue in this group of companies was at the level of 37 262. 3 thousand PLN and it was over three times higher than in companies dealing with mixed production and over five times higher than in crop companies in case of which in the whole analysed period the values were lower.

In the years 2004-2012 in the researched agricultural companies ROA ratio was usually at the level above zero. It indicates that in majority the researched collectivity achieved positive net financial result. However, it needs to be emphasized that a fall in ROA ratio was visible in the years: 2005 and 2007-2009. In 2009 in the case of 22 companies from “Ranking 300” there were negative ROA ratios, which resulted from the net loss. Though, since 2010 another increase in the average value of the ratio was noted, which at the end of the period was at the level of 12.06%. It needs to be pointed out that in 2004 the level of ROA ratio was similar for all companies, regardless of their type, but in 2008 in the group of companies dealing with animal and mixed production there was a much lower capability of generating profit through financial resources than in the group of crop companies. In the last year in these two groups tendencies in the field were favourable. The levels of ROA ratio increased in these economic subjects to 11.43% and 11.78% respectively.

Similar tendencies as in ROA ratio were in ROE ratio. It needs to be emphasized that in majority the researched companies achieved positive financial results. In 2009 there was no return on equity in 22 companies, however, in the consecutive years the unfavourable situation applied only to a few enterprises. In 2009 the ROE ratio decreased significantly, though, in the years 2010-2012 the situation improved greatly. Similarly, the highest level of ROE ratio was in crop companies, when it comes to other groups of companies, they enjoyed lesser ability to generate profit on equity.

Table 4. Average values of total revenue, ROA and ROE ratios for the researched companies for 2004-2012.

	2004	2005	2006	2007	2008	2009	2010	2011	2012
<i>Total revenue [thousand PLN]</i>									
Total	6322.7	7 735.7	8 207.1	9 172.0	8 734.1	8 727.0	8 369.8	10 305,9	11 285.5
Crop	5 074.7	6 504.9	6 915.8	7 925.4	7 271.5	7 108.1	6 534.9	7 013,5	6 897.3
Animal	9 870.8	12 130.1	11 245.8	11 991.8	13 185.9	13 351.0	15 542.3	20 751.6	37 262.7
Mixed	6 489.6	7 493.9	8 466.7	9 454.9	9 104.9	8 940.2	8 409.9	11 406.7	10 020.2
<i>ROA [%]</i>									
Total	22.95	18.45	19.06	13.24	7.29	6.14	8.47	9.96	12.06
Crop	22.64	18.78	19.43	15.48	8.97	7.38	10.32	12.30	16.73
Animal	21.88	17.64	17.33	7.59	5.56	2.92	4.38	5.56	11.43
Mixed	23.43	18.38	19.18	12.91	6.17	5.78	6.83	7.69	11.78
<i>ROE [%]</i>									
Total	22.96	11.66	14.89	21.42	11.76	9.96	13.29	16.24	17.31
Crop	30.25	12.68	17.80	26.26	15.39	11.80	16.38	20.77	23.67
Animal	13.86	8.67	7.98	10.01	6.31	3.55	6.70	7.92	17.88
Mixed	33.28	11.70	14.31	20.46	9.49	10.02	10.40	11.77	17.96

Source: own study on the basis of „Ranking of 300 best agricultural companies” for 2004-2012.

Liquidity ratios are another aspect of the evaluation of economic situation of companies in „Ranking 300”. Current liquidity ratio measured as a relation between current assets and current liabilities was in the researched collectivity much above the limit values. Its average level increased from 6.58 to even 15.0 at the end of the analysed period (table 3). The greatest ability to cover short-term debts with the use of current assets was in companies dealing with crop production. Much lower average values of the ratio in question were noted in companies dealing with animal production – since 2008 they were almost two times lower than in crop producing companies. It needs to be noted, however, that the level of current liquidity ratio per one company in the whole analysed period was above the limit value, which in the case of agricultural sector amounts to around 3.0 [Runowski 2008, s. 161].

Similar tendencies were noted as regards the relation between current assets, excluding their most liquid constituent that is inventory, and short-term liabilities. In the analysed period its level increased on average from 3.27 to 9.40. Once again, the greatest ability to pay off current debts was observed in companies dealing with crop production. The lowest level of the ratio was in subjects dealing with animal production.

Table 5. Average values for liquidity ratios in the researched companies in the years 2004-2012.

	2004	2005	2006	2007	2008	2009	2010	2011	2012
<i>Current liquidity ratio</i>									
Total	6.58	7.80	7.98	8.00	8.06	9.55	12.03	10.96	15.01
Crop	7.66	8.41	8.13	8.33	9.27	11.99	14.60	14.90	19.30
Animal	4.44	9.49	5.75	4.90	5.99	5.19	7.95	4.44	4.70
Mixed	6.23	6.92	8.38	8.63	7.39	8.54	9.01	6.84	13.22
<i>Quick ratio</i>									
Total	3.27	3.83	4.53	4.64	3.61	5.50	7.76	6.40	9.40
Crop	4.24	4.59	5.42	5.02	4.12	7.42	9.76	9.00	13.12
Animal	2.01	4.02	3.20	2.76	3.15	2.78	4.69	2.11	2.30

Mixed	2.81	3.24	4.18	4.86	3.23	4.50	5.35	3.78	7.68
<i>Credit ratio</i>									
Total	1.07	1.17	0.92	1.14	1.05	1.05	1.45	1.89	3.50
Crop	1.05	0.93	1.04	1.40	1.34	1.13	1.75	2.54	4.89
Animal	1.21	1.15	1.20	1.26	1.20	0.81	1.15	0.81	0.80
Mixed	1.05	1.35	0.76	1.44	0.74	1.04	1.00	1.20	3.23

Source: own study on the basis of „Ranking of 300 best agricultural companies” for 2004-2012.

In the „Ranking 300” financial liquidity of the companies under analysis was measured with the use of credit ratio which is a relation of the sum of net financial result and amortization to total liabilities. This ratio shows what part of total liabilities a given economic subject may pay off with the financial surplus. The higher the level of the ratio in question, the shorter time needed for the company to pay off its liabilities.

In the years 2004-2012 in agricultural companies which were registered in “Ranking 300” credit ratio increased from 1.07 to 3.50. At the beginning of the analysed period (2004-2006) its highest level was in companies dealing with animal production. In the consecutive years the first place in the field belonged once again to companies dealing with crop production. At the end of the analysed period the average level of the ratio in question per one company in this group amounted to 4.89. It is borne out by the greatest ability of crop companies to settle liabilities with the use of financial surplus. It has to be pointed out that all companies (crop, animal and mixed production) were characterized by excess of liquidity, even in crisis years.

### **Conclusions**

In the years 2004-2012 favourable change trends were observed in chosen categories and economic ratios in the group of economic subjects that were registered in the „Ranking of 300 best agricultural companies” compiled annually by IAFE-NRI in collaboration with APA.

Total revenue per company increased by 78% over the analysed period. The highest level of total revenue was noted in companies dealing with animal production. Reverse tendencies were observed in the case of ROA and ROE ratios. The highest values of these ratios were in crop companies. In the so-called crisis years in all of the singled-out companies there was a decrease in the levels of ROA and ROE. In 2009 negative values of ROA and ROE were in 22 economic subjects, which constituted 8% of the researched collectivity.

In the analysed period the greatest ability to settle short-term liabilities with the use of current assets (as well as current assets excluding inventory) was observable in companies of the crop profile, and the weakest ability was characteristic of companies dealing with animal production. The lowest values were achieved in time of the sharp economic downturn that is the years 2008-2009. It has to be pointed out, however, that average values for liquidity ratio for all the companies was generally at the level higher than it is suggested in literature on the subject of economics of agricultural companies

To sum up, it may well be stated that the analysed categories and economic ratios improved taking into consideration the years 2004 and 2012. It signifies that Poland’s accession to the European Union was for Polish agricultural companies favourable.

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