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EFFICIENCY OF FUNCTIONING LARGE AREA COMPANIES IN POLAND

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In the article are examined connection between the type's activity of subject's menage and scale of production, operating efficiency, and size of companies of area.

У статі розглядаються зв'язки між видом діяльності суб'єкта господарювання та масштабом виробництва, операційної ефективності та розміром компаній області.

Raising of problem is in a general view. On the basis of the neoclassical economy understanding of efficiency results from a concept of economic welfare. According to this concept, the highest level of economic welfare is achieved basing on a market mechanism, which allows to maximization of producer's and consumer's surpluses. Maximization of economic welfare is achieved when there is a balance between supply and demand on the perfect competitive market.

In this case efficiency means a degree of approximation of a quantity and price of goods on particular market to a balance quantity and price possible for obtaining in conditions of the perfect competition.

According to wide understanding of economic efficiency of a company, it means the best production and turnover results. Company's efficiency is usually measured with use of partial performance indicator of engaged material and nonmaterial resources.

Aims of the article. The main aim of the research was to determine relations between a kind and scale of activity, and operation efficiency in large area companies.

Exposition of basic material. The following research methods were used in order to realize this aim:

- documentary method;
- literature study method;
- expert method with use of an interview questionnaire;
- statistical methods (statistical description, correlation analysis, regression analysis);
- method of financial reports analysis;
- zero unitarization method.

The zero unitarization method was used for complex evaluation of financial efficiency in researched companies. It allows to using a synthetic measure, influencing on increase in clarity and a level of results comparability. Examining one synthetic indicator in spite of a set of analytical indicators allows to finding total influence of many activities (parameters) on results of conducted operations in the field of outsourcing.

The research was conducted in large area farms on the area of north-western voivoships. Data was collected from 60 companies, different in case of a scale of a carried activity and an economic size. A number of research entities was constant in all years. The table 1 presents the main features characterizing the researched population.

Companies participating in the research had more than 100 ha of farmland. It was relatively large entities, with a developed organisational structure. The majority of companies to 300 ha constituted one-unit entities whereas in the group of more than 300 ha there were more entities with two or three units.

About 40% of researched companies changed the area of farmland in the researched period, of which more then 25% decreased area of their activity and only 15% increased it.

Table 1.

Characteristic of companies

Specification	Selected parameters of companies' description in years			
	2005	2006	2007	2008
Average area of farmland (ha)	598.95	591.73	582.25	575.97
Median	470.50	454.50	460.50	460.50
Average number of ESU	281.01	251.42	260.45	247.23
Median	169.98	149.98	150.93	164.25
Employment (number of persons/100 ha of farmland)	2.62	2.67	2.71	2.71
Median	2.25	2.24	2.19	2.23
Value of assets in thousand zl	4692.39	5116.28	5654.60	6289.73
Median	2996.00	3316.00	3931.00	4240.00

Source: own study

The average area of researched farms declined from 599 ha of farmland in 2004 to 576 ha in 2007, which constitutes 4%. Decreasing influence of this phenomenon has been observed recently which can prove that the largest intensity of changes in the agrarian structure took place after the accession to the EU.

The conducted research shows that employment in the researched companies measured in a number of persons per 100 ha of farmland was at the similar level in the researched period, which can prove optimization of this factor in the post-accession period [Jarka 2004]. The highest labour productivity was noted in the companies of 300-500 ha of farmland. This indicator was about 16% higher than in the smallest farms and about 8% higher than in the largest farms in particular years. Relatively low income was gained from running trade activity.

Expanding reproduction of assets took place in the researched period. The assets value raised by over 34% and its largest increase took place in the group of the smallest companies (by more than 50%). On the other hand, the largest companies increased the value of their assets by 29% which was caused mainly by raise of expenditures for modernisation. The table 2 presents the value of investment expenditures and the rate of investment in entities by area groups.

Table 2

Value of investment expenditures and rate of investment in years and area groups of companies

Specification		Values of indicators in years in area groups		
		100 – 300 ha	301-500 ha	500 ha
Values of expenditures (thousand zl/company)	2005	84.39	135.15	691.63
	2006	272.00	165.54	893.29
	2007	344.70	601.46	780.79
	2008	232.87	243.08	832.71
Rate of investment (investment expenditures/amortization)	2005	2.10	2.20	1.42
	2006	6.08	1.89	1.90
	2007	5.76	6.53	1.94
	2008	3.15	2.31	2.16

Source: own study

Generation and regeneration of fixed assets in large area farms is one of the most difficult problems in a sphere of their management.

It results mainly from low profitability of agricultural companies and as a result - small capacity to assets accumulation. On the other hand agricultural production is characterized with large assets consumption and seasonal use of a part of production assets, especially machines and devices used in plant production. That is why decisions on an investment activity must take into account a real need of companies in the field of selected investments as well as possibilities of gaining external sources for their financing. In the analyzed period the highest investment expenditures took place in the companies with the largest areas. It results mainly from the value of assets in this group.

The highest increase in total income per one employee took place in the smallest companies (150%) in the period 2004-2007. The value of this indicator was conditioned both by the relatively low level of employment in this group of companies as well as values of income, mainly from sale. The value of the rest operational income, resulting from direct payments was comparable per an area unit. It worth indicating that there is a higher rate of increase in the average wage in comparison to total income per employee (table 3).

As it was indicated by Runowski labour costs are in a group of costs, which have quicker rising tendency in long-time period than the rest of factors of production. It means that companies using hiring labour force must conduct further optimization of employment and implementation of more labour-saving technologies. A relatively high level of substitution of live labour with objectified labour in this group can be evaluated with use of the rate of investment. Rational use of hired labour force in agriculture results mainly from seasonal character of labour demand during a year. Keeping a lower level of employment allows to forming efficiency of the labour factor in these agro-technical periods when there is natural decrease in demand for it.

This indicator is the most synthetic one so it has large information capacity. Its value is conditioned by the profit margin, return on assets as well as financial leverage effect. In the researched population the high assets rotation was characterised for companies from a group to 300 ha of farmland. At the same time these entities reached the highest return on owner's equity with the high level of turnover profitability.

Table 3

Efficiency indicators of labour

Indicators in area groups of companies	Indicators value in year				Average in the period	Rate 2004=100
	2005	2006	2007	2008		
Average wage with liabilities per employee in thousand zl per year						
100-300	24.11	30.47	33.89	40.94	32.35	169.82
301-500	24.78	25.15	26.30	31.87	27.02	128.60
>500	30.34	31.49	32.84	36.42	32.77	120.02
Total costs per employee in thousand zl per year						
100-300	214.49	173.38	214.49	266.93	217.32	177.13
301-500	166.93	167.64	173.56	203.62	177.94	121.98
>500	185.84	202.39	208.93	238.75	208.98	128.47
Total income per employee in thousand zl per year						
100-300	267.56	215.90	267.56	309.60	265.16	150.13
301-500	213.75	191.41	225.23	294.42	231.20	137.74
>500	225.68	229.42	237.79	275.40	242.07	122.03
Proportion of wages with liabilities in total costs						
100-300	15.69	16.82	16.75	17.63	16.72	112.37
301-500	16.69	16.20	16.53	17.16	16.64	102.81
>500	19.24	18.93	19.58	19.31	19.27	100.35
Total income per 1 zl of labour costs						
100-300	11.65	13.31	12.28	12.99	12.56	111.47
301-500	9.02	7.87	9.12	9.91	8.98	109.91
>500	7.95	7.64	7.96	8.78	8.08	110.48

Source: own study

The method of zero unitarization allows to complex evaluation of financial efficiency in researched companies. The research procedure consists of the following phases:

- defining of diagnostic features,
- normalization of values of selected measures,
- aggregation of individual indicators,
- building the aggregated indicator.

Table 4 presents values of the complex performance indicator in different companies according to the scale of their operation.

Table 4

Value of the complex performance indicator in years

Area groups of companies in ha	Complex performance indicator in years				Average value of the complex performance indicator in years
	2005	2006	2007	2008	
100-300	0.644	0.581	0.599	0.585	0.602
301-500	0.559	0.547	0.497	0.500	0.525
>500	0.483	0.499	0.488	0.479	0.487
Total in researched population	0.562	0.542	0.528	0.522	0.538

Source: own study

The value of the complex performance indicator in companies was influenced by particular partial indicators concerning the period of the research. Their analysis proves that there were fluctuations in values of particular return indicators. It is possible to notice that substantial growth of financial efficiency took place from 2004 – the Polish accession to the European Union.

The highest values of the complex performance indicator were achieved in companies of the smallest scale of operation, next were units of medium scale of operations. The lowest values of the complex performance indicator were noted in companies operating on areas more than 500 ha. It is worth indicating that if the value of the aggregated indicator is closer to one, then company's operation is more similar to the assumed model characterized with the highest level of efficiency in all researched areas.

Conclusions.

1. The research shows that employment in examined companies, measured in a number of persons per 100 ha of farmland, was on the similar level in the researched period, which can proves optimization of this factor in the pre-accession period.

2. The highest level of labour productivity was noted in the companies of 300-500 ha of farmland. This indicator was about 16% higher than in the smallest farms and about 8% higher than in the largest farms in particular years.

3. The expanding reproduction of assets took place in the researched period. The value of assets raised by over 34% and the largest increase took place in the group of the smallest companies (by more than 50%).

4. The financial efficiency analysis was conducted according to the accepted research methods with use of the zero unitarization method. The complex performance indicator was calculated. The highest values were characteristic for companies of the smallest scale of operation, next there were entities of the medium scale of operation. The lowest values of the complex performance indicator were noted in companies operating on more than 500 ha of farmlands. It is worth indicating that if the value of the aggregated indicator is closer to one, then company's operation is more similar to the assumed model characterized with the highest level of efficiency in all researched areas.

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