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DEVELOPMENT OF PROFITABILITY IN SLOVAK AGRICULTURAL ENTERPRISES IN YEARS 2004-2011

Main objective of the paper is to evaluate the development of profitability in Slovak agriculture based on individual data from the balance sheets and profit and loose statements of all agricultural enterprises in the period 2004-2011. In the analyses we used more than 1100 enterprises in each researched year. For the characteristic the development of profitability we used more ratios from financial analyses, in the first place - Return on Investment, Return on Equity and Return on Sales. A group of profitability ratios shows the combined effects of liquidity, asset management, and debt on operating results. The results presented in this paper could be used as a benchmark for individual enterprises comparison.

KEY WORDS :
Profitability, profitability ratios, benchmarking, agriculture, Slovakia

INTRODUCTION

As stated Serenčéš, P. (2010); the development of Slovak agriculture in recent years has been characteristic by permanent lack of funding, insolvency and a low payment degree. The causality from global economic conditions, the global financial crisis, the specific features of the agricultural sector, market forces working in agriculture within the basic laws of economics (as the law of scarcity, the law increasing returns of scale, etc.) and the risks resulting significant impact on decision making the financial strategy of entrepreneurs in agriculture.

Vlachynský, K. et al. (2006) states that the financial situation and position the companies on a market depends on many factors, but especially the quality of companies' activities and attaining the business objectives. Company's financial situation is a mirror of success or failure of business.

As mentioned Vlachynský, K. et al. (2006) and Kassala, Š. (2008) in financial decision are used two basic approaches that are complementary and not overlap and are sometimes contradictory:

1. accession to profit - risk based on the fact that the company is trying its decision to increase business profitability as a precondition for growth equity. Usually higher profitability is accompanied by higher risk. Therefore, financial decisions are always a compromise decision - for the opportunity to decide who brings the largest increase profits at an acceptable level of risk.
2. accession to liquidity - profitability builds on the fact that assets with high liquidity produce low yield of profit. The most liquid money is in the current account in a bank

and treasury business. They do not yield any direct or produce a minimum credit proceeds. We should find optimal composition of corporate assets and resources, which would ensure the highest profitability in the chosen level of liquidity.

MATERIAL AND METHODS

For evaluation and analyse was used data of RADELA agency, which collects data for The Research Institute of Agricultural and Food Economics for the period 2004 – 2011. In the analyses we used more than 1100 enterprises (in each researched year). In the sample were used only "legal entities", witch cover 80% of agricultural land in Slovakia. Therefore analyzing this sample offers the possibility to describe the overall situation in Slovakia. For the characteristic the development of profitability we used three ratios from financial analyses, in the first place - Return on Investment, Return on Equity and Return on Sales. Values of chosen ratios are characterised (in each researched year) by description statistic – upper decile, upper quartile average, median, lower quartile and lower decile. So presented results could be used as a benchmark for individual enterprises comparison. Using of benchmarking method is very advantageous, as it makes it easy for company's management to see exactly where the company stands relative to its strongest competition. Upper quartile – the performance of the 25% best companies – is often used by the managers as the benchmark value.

RESULTS AND DISCUSSION

Return on Investment (ROI) in Slovak agricultural enterprises

$$ROI = \frac{\text{EBIT}}{\text{Total Investment}} * 100$$

The first analysed ratio is Return on Investment, which is one of the main ratios of profitability. The ratio describes the relation between earnings before interest and taxes and total invested capital to the enterprise. This ratio is used, when we want to compare companies with different capital structure (proportion between equity and liabilities) and we want to abstract of different tax burden, too. We can interpret the results in percent.
In Table 1 are presented the results of ROI in year 2004-2011, which are assigned to six statistical classes.

Statistics for Return on Investment in Slovak agriculture Table 1

	2004	2005	2006	2007	2008	2009	2010	2011
Upper decile	18,36%	12,96%	15,41%	18,61%	14,74%	9,14%	10,68%	15,19%
Upper quartile	7,22%	5,49%	6,68%	8,82%	6,59%	3,43%	4,53%	6,93%
Average	4,48%	2,09%	3,61%	5,20%	3,75%	-1,73%	1,00%	3,82%
Median	2,51%	1,84%	2,39%	3,30%	2,71%	0,80%	1,50%	2,57%
Lower quartile	0,52%	-0,31%	0,67%	1,14%	0,64%	-6,89%	-1,89%	0,38%
Lower decile	-4,89%	-8,90%	-6,07%	-3,01%	-5,24%	-16,73%	-9,34%	-6,01%

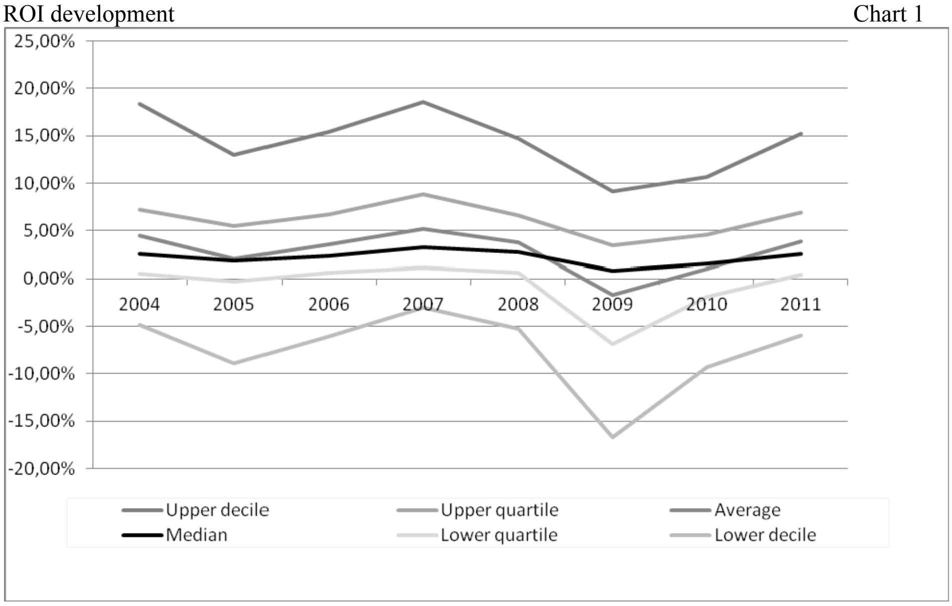
Source: Own calculation

In 2011 for ROI the situation in Slovak agriculture was following:

- 10% of the best enterprises regarding the ROI had the profitability 15,19 % and higher (upper decile)
- 25% of the best enterprises regarding the ROI had the profitability 6,93 % and higher (upper quartile)
- The average of ROI in 2011 was 3,82 %.
- 50% of the enterprises had ROI to 2,57 % and and 50% of enterprises, more than 2,57 % (median).
- 25% of the enterprises with the weakest profitability had ROI less than 0,38 % (lower quartile).
- 10% of the enterprises with the weakest profitability had ROI less than -6,01 % (lower decile).

The overall development of ROI we can observe in Chart 1. The worst year was 2009 in all aspects (all statistical classes). In only this year was average of ROI in red numbers. The other way round was year 2007 the best, when the top 10 % of companies reached profitability more than 18,61 %. The top 25 % of companies (our benchmark) in each year could reach profitability more than 3.43 % (the worst in 2009), and in the best year 2007 more than 8,82 %.

ROI development Chart 1



Source: Own calculation, table 1

Return on Equity (ROE) in Slovak agricultural enterprises

$$ROE = \frac{EAT}{Equity} * 100$$

The second analysed ratio is Return on Equity. This ratio describes the relation between earnings after taxes and capital, which was invested by owner of the enterprise. This ratio is very important for potential investors, seeing that represent "How much net profit falls to one Euro of equity capital". As well we can interpret the results in percent.
In Table 2 are presented the results of ROE in year 2004-2011, which are assigned to six statistical classes.

Statistics for Return on Equity in Slovak agriculture Table 2

	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Upper decile	44,00%	38,38%	34,64%	40,38%	28,56%	21,87%	25,54%	29,53%
Upper quartile	15,63%	12,91%	13,36%	17,33%	11,61%	5,99%	8,35%	13,13%
Average	10,41%	7,25%	7,68%	10,96%	6,15%	-1,34%	2,75%	6,55%
Median	3,19%	2,11%	2,61%	4,39%	2,39%	0,40%	1,08%	2,84%
Lower quartile	0,29%	-0,07%	0,29%	0,63%	0,07%	-10,66%	-3,18%	0,05%
Lower decile	-7,67%	-11,54%	-8,95%	-4,32%	-11,18%	-27,89%	-16,91%	-11,02%

Source: Own calculation

In 2011 for ROE the situation in Slovak agriculture was following:

- 10% of the best enterprises regarding the ROE had the profitability 29,53 % and higher (upper decile)
- 25% of the best enterprises regarding the ROE had the profitability 13,13 % and higher (upper quartile)
- The average of ROE in 2011 was 6,55 %.
- 50% of the enterprises had ROE to 2,84 % and and 50% of enterprises, more than 2,84 % (median).
- 25% of the enterprises with the weakest profitability had ROE less than 0,05 % (lower quartile).
- 10% of the enterprises with the weakest profitability had ROE less than -11,02 % (lower decile).

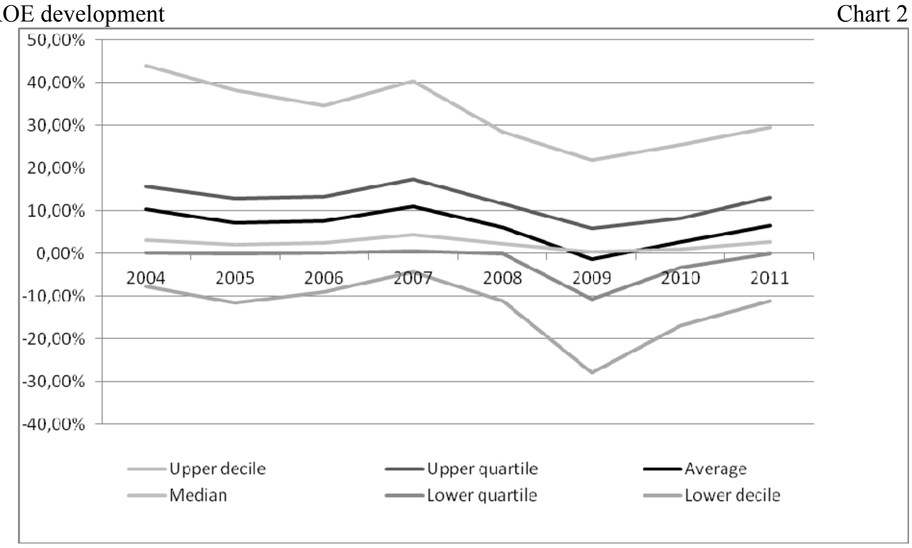
Percent returns of ROE are better than by ROI. This somewhat better result is due to the company's greater use of debt. The extent to which a firm uses debt financing, or financial leverage, has three important implications (Brigham-Houston, 2003):

(1) By raising funds through debt, stockholders can maintain control of a firm while limiting their investment.
(2) Creditors look to the equity, or owner-supplied funds, to provide a margin of safety, so the higher the proportion of the total capital that was provided by stockholders, the less the risk faced by creditors.
(3) If the firm earns more on investments financed with borrowed funds than it pays in interest, the return on the owners' capital is magnified, or "leveraged."

Indebtedness of agricultural farms reaches in average 35 %. In accordance with an average Slovak company, which indebtedness is 75 %, and in accordance with direction value 50 % it is still under the tolerable value. Lower indebtedness of agricultural farms

results from specific factors of agricultural basic industry. These factors are land and climatic conditions, seasonality of production, lower profit margin, and long cycle of production. (Čierna Z., Serenčéš, P., Bartová, S., 2008)
Chart 2 shows the trend of increasing differences in ROE between individual enterprises.

ROE development Chart 2



Source: Own calculation, table 2

Throughout the period, we can see that the top 10% of companies (upper decile) can work with a ROE of more than 21.87%. Thus, the payback period is less than 5 years. Median values are significantly lower than the average values (with the exception of 2009), suggesting that between all the enterprises are some excellent businesses that improve an average of ROE. The median for the entire period is relatively low.

Return on Sales (ROS) in Slovak agricultural enterprises

$$ROS = \frac{EAT}{Sales} * 100$$

The last analysed ratio is Return on Sales. It is calculated by dividing net income (earning after taxes) by sales, gives the profit per unit (Euro) of sales. High costs, in turn, generally occur because of inefficient operations. However, low profit margin could be a result of heavy use of debt. Recall that net income is income after interest. Therefore, if two firms have identical operations in the sense that their sales, operating costs, and EBIT are the same, but if one firm uses more debt than the other, it will have higher interest charges. Those interest charges will pull net income down, and since sales are constant, the result will be a relatively low profit margin. In such a case, the low profit margin would not indicate an operating problem, just a difference in financing strategies.

Thus, the firm with the low profit margin might end up with a higher rate of return on its stockholders' investment due to its use of financial leverage (Brigham-Houston. 2003). In Table 3 are presented the results of ROS in year 2004-2011, which are assigned to six statistical classes.

Statistics for Return on Sales in Slovak agriculture Table 3

	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Upper decile	22,17%	19,21%	24,76%	25,80%	22,61%	17,12%	22,41%	22,31%
Upper quartile	9,82%	6,05%	7,37%	11,39%	9,11%	4,08%	6,71%	11,14%
Average	3,96%	0,65%	4,43%	6,34%	3,77%	-7,27%	-0,64%	2,77%
Median	2,87%	1,45%	2,10%	3,60%	2,11%	0,12%	0,88%	3,03%
Lower quartile	0,26%	-1,37%	0,26%	0,64%	-0,06%	-21,50%	-6,77%	0,05%
Lower decile	-12,05%	-23,75%	-14,20%	-6,56%	-13,76%	-42,99%	-30,07%	-17,46%

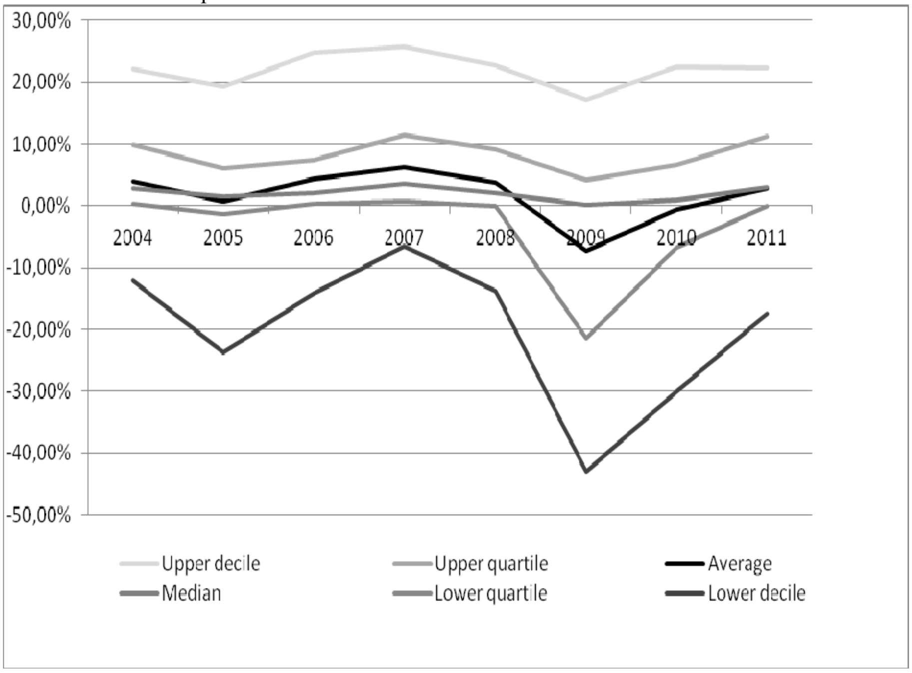
Source: Own calculation

In 2011 for ROS we can conclude following:

- 10% of the best enterprises regarding the ROS had the profitability 22,31 % and higher (upper decile)
- 25% of the best enterprises regarding the ROS had the profitability 11,14 % and higher (upper quartile)
- The average of ROS in 2011 was 2,77 %.
- 50% of the enterprises had ROS to 3,03 % and and 50% of enterprises, more than 3,03 % (median).
- 25% of the enterprises with the weakest profitability had ROS less than 0,05 % (lower quartile).
- 10% of the enterprises with the weakest profitability had ROS less than -17,46 % (lower decile).

Chart 3 presents the development of ROS for the whole period. As can be observed, ROS values between the lower and upper quartile, ranged from 0.05% (in 2011) to 11.39 % (in 2007). Exceptions are the years 2005, 2008, 2009 and 2010, when values of the lower quartile fell into negative numbers, with the lowest value in 2009, up at -21.50%.

Return on Sales development Chart 3



Source: Own calculation, table 3

CONCLUSION

Ratio analysis is used by three main groups: (1) managers, (2) credit analysts and (3) stock analysts, who are interested in a company's efficiency, risk, and growth prospects. The benchmarking setup makes it easy for management to see exactly where the company stands relative to its competition. The value of upper quartile profitability ratios in our analyses could be used as a benchmark for good enterprises for given year.
For Slovak agricultural is typical:

- high volatility in all analysed profitability ratios,
- in year 2009 are the worst values in all profitability ratios,
- the values for year 2011 are very similar to years 2008 and 2006, too,
- agriculture could be characterized as industry with low profitability.

Further research is needed to divide the set of enterprises to find out the reason for differences in profitability. Profitability ratios analysis has limitations, but used with care and judgment, it can be very helpful.

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