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EFFECT OF DEBT REDUCTION ON PROFITABILITY IN CASE OF SLOVENIAN DAIRY PROCESSING MARKET LEADER

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ABSTRACT

The indebtedness level in absolute figures, observed in isolation and by itself, does not provide an answer if the company or industry is over over-indebted or not. The indebtedness must be observed in combination with indicators that indicate how the value has been created or how the borrowed money was used. In the beginning of the crisis in the Slovenian dairy processing industry, represented by market leader, followed the trend of debt reduction. However, this reduction did not improve the profitability performance of the industry.

Key words: Indebtedness, dairy processing industry, crisis, profitability

1. INTRODUCTION

Slovenian economy was stricken twice by the crisis: first in 2009 with a sharp fall of GDP of 7.8% and again in 2012 with GDP fall of 2.7%. It was the end of an *era of cheap money combined with no capital restrictions and stable economy that was used for stock market speculation* (Vidakovic & Zbašnik, 2014)

During the crisis period, inflation was low and even threatening to enter deflation area (Table 1). Despite debt reduction since 2009 - the beginning of the crisis - Slovenian corporate indebtedness is high and profitability is low. Companies with financial debt exceeding EBITDA by a factor of five account for

about 80% of financial debt, but represent only one third of companies (Sila, 2015). Debt reduction had negative effect in overall economy via lower activity and investment (IMAD, 2014). Credit crunch made that worse. For example, data from 2011 reveal that the change in lending to customers in four major banks in Slovenia decreased for 653 mil. EUR (SPIRIT). In Slovenia, the crisis was not concentrated in the real estate and construction sectors like in other countries but it was rather cross-sectorial (European Commission, 2014).

Table 1.: HICP - inflation rate / Annual average rate of change Real GDP growth rate – volume / Percentage change on previous year

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Inflation	2.5%	3.8%	5.5%	0.9%	2.1%	2.1%	2.8%	1.9%	0.4%
GDP growth	5.7%	6.9%	3.3%	-7.8%	1.2%	0.6%	-2.7%	-1.1%	3.0%

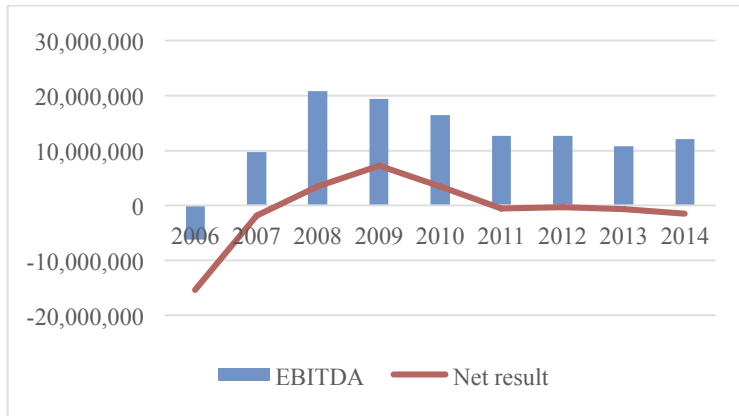
Source: Eurostat dataset, Code: tec00118 and Code: tec00115

Although Slovenian food sector does not demonstrate overall comparative advantages, area *Manufacture of dairy products* (C10.5) demonstrates clear comparative advantages (According to the *Slovenia's Smart Specialisation Strategy S4*). In 2014, dairy processing industry had 12.3% share in total assets, 16.9% share in total revenue and 14.7% share in EBITDA in the area C 10 - *Manufacture of food products*. Looking forward, in the same year, it had 0.9% share in total assets, 1.2% share in total revenue and 0.8% share in EBITDA in the area C - *Manufacturing* (AJPES).

Paradoxically, the best years for Slovenian dairy processing industry were years 2008 and 2009 – Chart 1. This indicates that crisis effect was seen in the following years. It could be also seen that industry suffered losses in years after Slovenia joined the EU in 2004, facing the new wider competition on final products area and in area of milk collection. In four years after joining EU (2004-2007), profitability of Slovenian dairy plants was very poor and the accumulated four-year loss was 35 mil. EUR with negative ROE indicator up to 25% (Muminović & Pavlović, 2012).

In addition, the Slovenian market is very concentrated. Looking at the milk collection data, according to Van Berkun (2009), intake by market leader and another two companies in 2007 was 90% of total milk production processed.

Chart 1: EBITDA and Net result of Slovenian dairy processing industry



Source: *AJPES and Author's calculation*

Taking in consideration the trends in Slovenian economy regarding debt reduction, the importance of Slovenian dairy processing industry and problems it faced, the aim of this paper is to analyse if Slovenian dairy processing industry, represented by market leader, followed the trend of debt reduction and how it was implicated on its profitability.

2. METODOLOGY

The working hypothesis is that changes in indebtedness had an impact on companies' profitability. In order to test the above assumptions, the following statistical hypotheses have been developed:

H₁ ...Slovenian dairy processing leader decreased its debt, as it was the case for the whole economy in Slovenia.

H₂ ...Changes in indebtedness had impact on profitability.

This research is conducted on the biggest Slovenian company in the dairy processing industry. Its annual financial reports in succession from 2006 to 2014 were reviewed. Selected company covers 58.8% and 61.3% of total assets of companies in area C10.5 – *Manufacture of dairy products in Slovenia*, in the year 2013 and 2014 respectively. In addition, market leader covered 57.2% and 56.9% of sales revenues in the same years.

For the indebtedness analysis, common well-known indicators were used: *Total debt /EBITDA, financial debt /EBITDA, financial debt / total debt, financial debt / total asset, long term debt/total debt.*

Return on assets (ROA – operating income divided by total assets) and return on equity (ROE – as net income divided by owner's equity) ratios are proxy variables for company's profitability (e.g. O'Regan, 2006; Chapman, 2012; Muminović & Pavlović, 2012 and Muminović, & Aljinović Barać, 2015) and expected association with indebtedness is positive. Namely, the reason for debt is anticipation of future economic benefits.

3. INDEBTEDNESS ANALYSIS

In absolute figures, in 2014, for the observed company the total debt decreased for 22.3 mil.EUR, or 32% with respect to the year 2006. In fact, the debt reduction begun in 2009 for 15.6% compared to the previous year and again in 2010 for 32% compared to 2008 (Chart 2).

Meanwhile, the financial debt in 2009 dropped for 7.3 mil. EUR (22%) with compared to previous year. Comparing the level of financial debt in 2006 and 2014, the decrease was 55.2% or 21.2 mil. EUR.

Above-mentioned absolute figures could mislead because they do not provide the information about the level of activity of business. The level of indebtedness cannot be observed separately, in isolation, but as a ratio indicator.

Relatively measured, indebtedness by indicator Total debt /EBITDA companies could be observed in three groups (IMAD, 2014):

- with negative indicator Total debt /EBITDA due to the negative EBITDA,
- with indicator $5 > \text{Total debt /EBITDA} \geq 0$ and
- with indicator $5 < \text{Total debt /EBITDA}$ – as over-indebted.

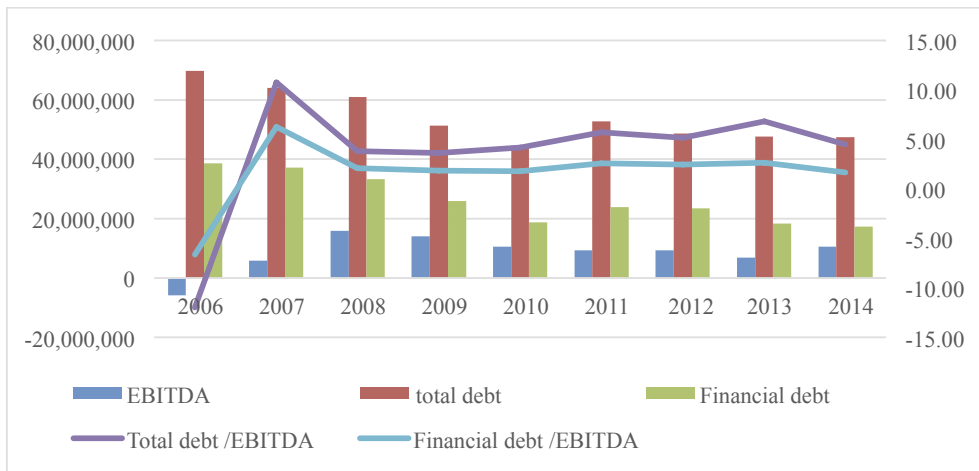
That grouping is not unique. It could be also found another interval of what is the optimum in indebtedness i.e. Entities in normal financial state show debt/ EBITDA ratio less than 3. Ratios higher than 4 or 5 usually set off alarms because they indicate that a company is likely to face difficulties in handling its debt burden, and thus is less likely to be able to raise additional loans required to grow and expand the business (IFRS financial reporting and analysis software).

Table 2: Market leader indebtedness indicators

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total debt /EBITDA	-11.97	10.79	3.83	3.65	4.18	5.71	5.16	6.86	4.52
Financial debt /EBITDA	-6.64	6.29	2.10	1.85	1.76	2.59	2.49	2.63	1.66
Financial debt / total debt	0.55	0.58	0.55	0.51	0.42	0.45	0.48	0.38	0.37
Financial debt / total asset	0.33	0.34	0.31	0.25	0.19	0.23	0.23	0.19	0.17
Long term debt/total debt	0.43	0.46	0.36	0.31	0.25	0.29	0.30	0.36	0.36

Source: Author's calculations

Chart 2: Indebtedness of Slovenian dairy processing market leader (in mil.EUR)



Source: AJPES and Author's calculation

In 2009, when debt reduction was significant, indicator Total debt /EBITDA did not improve significantly compared to 2008. It had improved in year 2008, before the crisis. In following years, the indicator Total debt /EBITDA get worse and was in range 4.18 – 6.86 (Table 2).

The indicator financial debt / EBITDA is a representation of financial debt size compared to EBITDA. Financial debt represents the amount of obligations the company owes that are non-operational in nature. A ratio less than one indicates that the financial debt is less in size relative to earnings (EBITDA). In Table 2, it can be seen that indicator financial debt / EBITDA had never been less than one in period 2006-2014. However, in 2008 (before the crisis begun) it decreased sharply from 6.29% to 2.10%. In following years the indicator was

in range 1.76 (2010) – 2.63(2013). That smaller amount of financial debt relative to EBITDA does not indicate potential solvency issues.

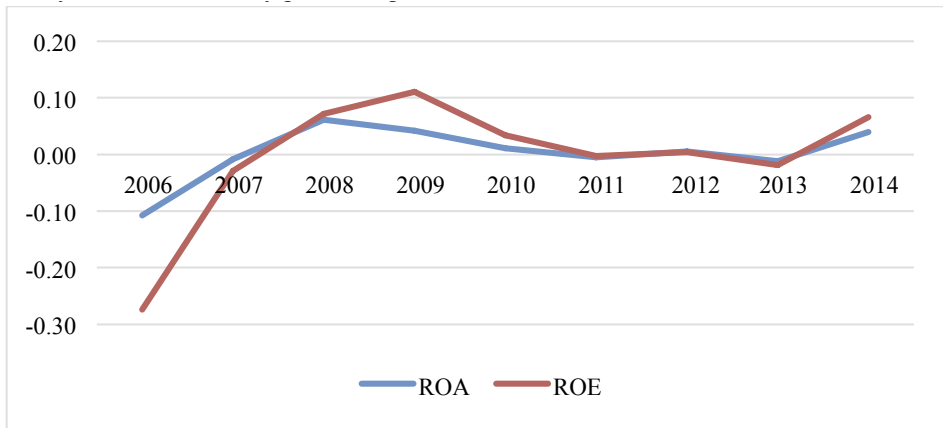
The overall debt reduction was in the fact connected to financial debt reduction mostly due to the credit crunch in Slovenia. In Table 2, it can be observed that from 2010, the share of financial debt decreased in total debt and that share of financial debt decreased in total assets. Before the crisis, the share of financial debt in total debt was in the range of 0.55-0.58%, and in following years it was decreasing and reached 0.37% in 2014. Financial debt share in financing total asset was 0.34 in 2007 and it was also decreasing in following years to 0.17% in 2014.

The values of the last selected indicator, the share of long-term debt in total debt, is also presented in Table 2. It could be seen that time structure of debt was moved toward short term financing.

4. INDEBTEDNESS AND PROFITABILITY

The positive relationship between changes in indebtedness and profitability measured by ROA and ROE indicates that additional borrowing generates result. If there is no correlation the additional debt was not put in the function of business.

Chart 3: Profitability of Slovenian dairy processing market leader



Source: *AJPES and Author's calculation*

Table 3: Regression Statistics

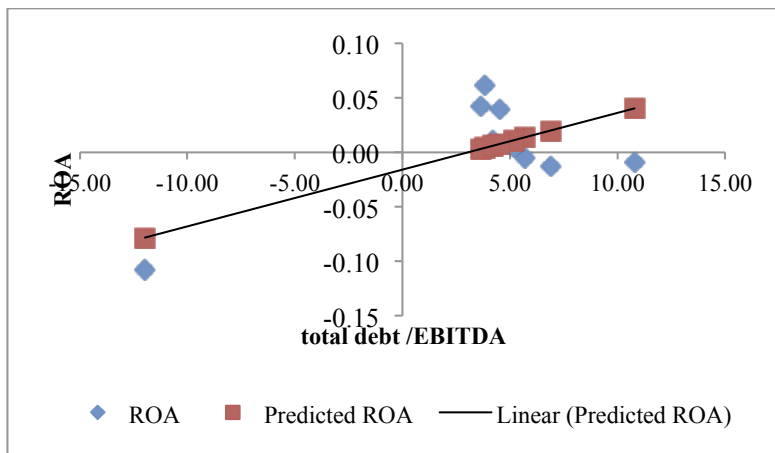
	ROA changes vs TOTAL DEBT changes	ROE changes vs TOTAL DEBT changes	ROA changes vs FINANCIAL DEBT changes	ROE changes vs FINANCIAL DEBT changes
Multiple R	66.8%	73.7%	65.9%	71.7%
R Square	44.6%	54.3%	43.4%	51.5%
Adjusted R Square	36.6%	47.8%	35.4%	44.5%
Standard Error	3.9%	8.0%	3.9%	8.3%
<i>Significance F</i>	0.0494	0.0235	0.0535	0.0296
<i>t Stat</i>	2.372	2.883	2.319	2.724
<i>P-value</i>	0.049	0.024	0.053	0.030
Observations	9	9	9	9

Source: Author's calculations

The degree of relationship between changes in profitability measured by ROA or ROE due to the indebtedness changes shows medium positive (or strong) correlation (Table 3; Chart 4, Chart 5, Chart 6, Chart 7). A statistical measure of how well the regression line approximates the real data points or **coefficient of determination was** 0.446 for ROA changes vs TOTAL DEBT changes; 0.543 for ROE changes vs TOTAL DEBT changes; 0.434 for ROA changes vs FINANCIAL DEBT changes and 0.515 for ROE changes vs FINANCIAL DEBT changes. Values of t-tests and F-test are also presented in Table 3.

The higher degree of relationship (Multiple R) between changes in profitability measured by ROE than the one measured by ROA was expected due to the financial expenses, which are not considered in ROA calculation.

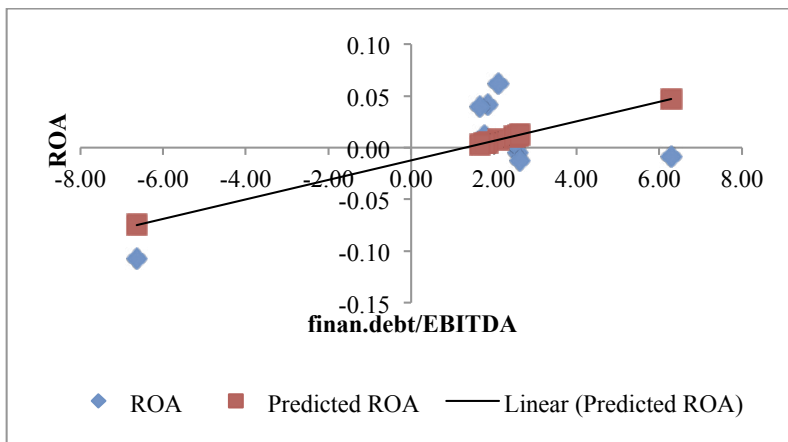
Chart 4: Total debt /EBITDA Line Fit Plot



Source: Author's calculation

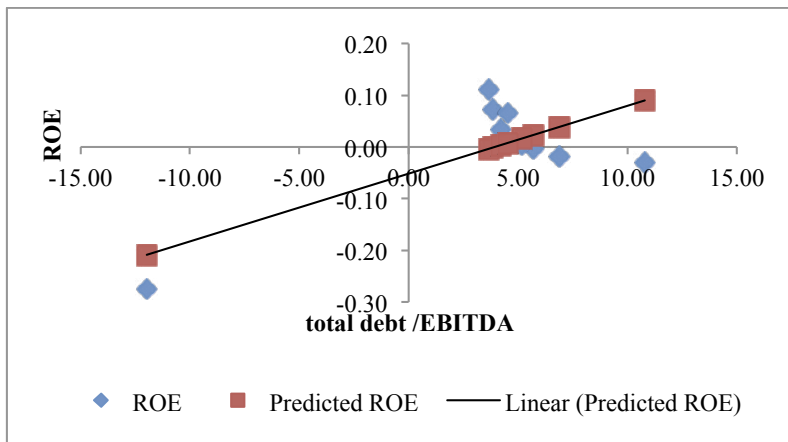
The result indicates that with the increase of the debt increased the profitability and with debt reduction the profitability decreased.

Chart 5: Financial debt /EBITDA Line Fit Plot



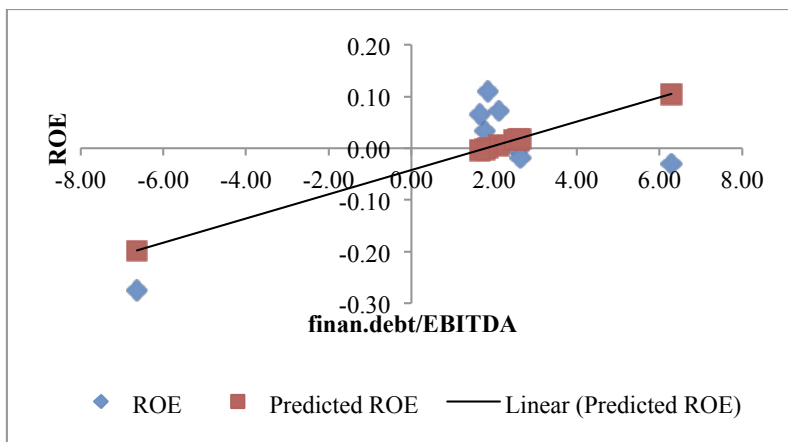
Source: Author's calculation

Chart 6 Total debt /EBITDA Line Fit Plot



Source: Author's calculation

Chart 7: Financial debt /EBITDA Line Fit Plot



Source: Author's calculation

5. CONCLUSION

Even though it is very important in overall company's performance, indebtedness of a company itself is not important if the funds are used well (profitability issue) and the debt repayments are regular (liquidity issue).

The case of the market leader of Slovenian dairy processing industry presented in this paper showed that debt reduction was significant in absolute figures and relatively. Also, it had impact on profitability measured by ROA and ROE indicators. That pointed out that borrowed money was properly in the function of core business and that debt reduction and credit crunch created problems in Slovenian dairy industry represented here by market leader. So, the both hypothesis of this research were confirmed.

Of course, debt reduction cannot take all blame for bad results: in last observed year– 2014 the profitability increased. There are numerous factors that could be analysed, such as prices, competition, milk quotas in the past, capacity usage (which is approximately up to 70% -IMAD, 2008) productivity and efficiency. This could be explored in further research.

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UČINAK SMANJENJA DUGA NA PROFITABILNOST NA PRIMJERU SLOVENSKEG VODEĆEG PROIZVOĐAČA MLJEKARSKIH PROIZVODA

SAŽETAK RADA:

Sama razina zaduženosti u absolutnom iznosu promatrana izolirano, sama po sebi ne daje odgovor da li je trgovačko drtustvo ili industrija prezadužena ili ne. Zaduzenosot se mora promatrati u kombinaciji s indikatorima koji ukazuju na stvaranje vrijednosti, odnosno da li se i kako se pozajmljena sredstva koriste. S početkom krize u Sloveniji i industrija prerade mlijeka u Sloveniji, predstavljena tržišnim liderom, pratila je trend razduživanja, ali razduživanje u absolutnom iznosu nije značajno poboljšalo performanse profitabilnosti.

***Ključne riječi:** zaduženost, mliječna industrija, kriza, profitabilnost*

