FINANCING STRUCTURE ANALYSIS OF BUSINESS ENTITIES IN MANUFACTURING OF BASIC METALS AND FABRICATED METAL PRODUCTS IN POLAND

Przemysław POMYKALSKI a, Sebastian BAKALARCZYK b, Elżbieta WEISS c

a Technical University of Lodz, Piotrkowska 266, 90-924 Lodz, Poland, EU, ppomykalski@gmail.com
b Technical University of Lodz, Piotrkowska 266, 90-924 Lodz, Poland, EU, sbakalarczyk@gmail.com
c University of Finance and Management in Warsaw, Pawia 55, Warsaw, EU, elzen@gazeta.pl

Abstract

Globalization, consolidation processes, EU policies and environmental sustainability impose constraints that largely determine investment policies and value creation of businesses manufacturing basic metals and fabricated metal product in the EU. Recent economic crisis adds financing structure and risk management constraints. The paper describes industry benchmarks for companies operating in Poland with focus on implications arising from financing structure and risk.

Keywords: fabricated metal products, financial analysis, financing structure, Poland.

1. INTRODUCTION

Recent global economic crisis has had a lower impact on Polish economy in terms of GDP growth rate, compared to EU or neighboring countries (Graph 1). Managers however, should carefully assess the situation and plan their actions accordingly.

Graph 1. Growth rate of GDP volume - percentage change on previous year (2000-2010)

Source: Data Eurostat (as of 12.03.2011, data for Czech Republic 2010 is forecasted.).

Forecasts, by their nature, have a degree of uncertainty incorporated in them. Although the past years have seen significant advances in economic modeling, forecasts have not necessarily improved. The fundamental problem is that economic models - series of equations meant to describe how different parts of the economy
interact - depend on historical data. The underlying assumption is that the economy will behave within a narrow band of reality therefore accuracy of the forecast decreases with time.

The recent crisis has been a painful lesson for many businesses and industries. Forecasted growth in demand and stable access to financing was the key to many business decisions. Based on that assumption many companies have made over-optimistic investment decisions that will hamper their growth for years. The long awaited recovery is slow and seems to indicate that future economic environment will be different to the one before the crisis.

Major changes in prices of materials and energy, fluctuating exchange rates, interest rates, investors' risk aversion, unpredictable demand, create a difficult environment for managers and researchers. Managers are faced with decisions with high level of uncertainty. Researchers have to cope with the difficulty in accepting assumptions that indicate stability of selected factors in their research. Modern financial management theory offers many valuable, elaborate tools. In analyzing strategic decisions during crisis simplicity may be a virtue.

Return on equity (ROE) measures the effectiveness of owners' equity employed in the venture. This simple ratio, commonly used in early twentieth century, forms the basis for more recent value added analysis. Basic understanding remains unchanged. Increasing net profit (as part of free cash flow) remains the long-term goal of any business. This aim is achieved by entering positive net present value ventures (those generate cash flow returns superior to interest rates offered by alternative investments). Before the crisis identifying positive NPV investments was the aim for managers. After the crisis authors of text books point that it is difficult to find positive NPV [1, p. 404] opportunities in competitive markets and that understanding the assumption is the key to successful management.

Using the standard Du Pont model [2], ROE can be presented as [3]:

\[
\text{ROE} = \text{ROS} \times \text{AT} \times \text{CM},
\]

where: ROE - return on equity, ROS - return on Sales, AT - asset turnover, CM - capital multiplier (Assets divided by Equity).

Prior studies document that the DuPont analysis, which decomposes return on net operating assets into profit margin and asset turnover, have explanatory power with respect to changes in future profitability and investor relations [4].

Financially sustainable growth [5, p. 115-137] assumes that a company can grow at a rate (g) equivalent to the multiple of Return on Equity (ROE) and of the rate at which it reinvests profits (R).

\[
g = \text{ROE} \times R = \text{ROS} \times \text{AT} \times \text{CM} \times R
\]

ROS and AT are assumed to reflect investment activities [6], whereas CM and R are assumed to reflect financing decisions.

Using the percentage of sales method managers assume that ROS, AT and CM remain constant. Various studies indicate that managers also attempt to stabilize R through stable dividend policies.

In this paper study the changes of ROS, AT and CM in Polish companies during the years 2006-2009 to observe the magnitude of changes in economic entities, manufacturing entities and in companies manufacturing metal products, except machinery and equipment,
The contribution of this paper is to document a new set of facts that during the recent economic crisis vast changes in profitability and sales volume encouraged decisions to change the financing structure of companies. This creates growing evidence of link between investment and financing decisions and enhances the importance financial analysis in crafting of business strategies.

2. DATA DESCRIPTION

Dataset is based on survey data published by the Polish Central Statistical Office (GUS). The survey covers economic entities with 10 and more people employed. Manufacturing refers to NACE group D, Manufacture of metal products, except machinery and equipment refers to NACE group D code 28. Dataset has been limited to include the period 2006-2009 in order to emphasize (rather then dilute) the effects of the current economic crisis.

Table 1. Number of entities covered by the dataset

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
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<tbody>
<tr>
<td>Total</td>
<td>47 048</td>
<td>48 165</td>
<td>53 148</td>
<td>53 847</td>
</tr>
<tr>
<td>Group D</td>
<td>15 103</td>
<td>15 354</td>
<td>15 785</td>
<td>15 030</td>
</tr>
<tr>
<td>Code 28</td>
<td>2 039</td>
<td>2 154</td>
<td>2 354</td>
<td>2 246</td>
</tr>
</tbody>
</table>

Source: own, data Central Statistical Office.

3. RESULTS

Comparing ROS and AT of the total of companies in the survey (Graph 2) changes seem minor but increase in Manufacturing (group D). Changes in manufacture of metal products (MFMP) were far more apparent. Studies conducted on other markets show similar results regarding revenues and manufacturing output [7].

Graph 2. Return on Sales (ROS) and Asset Turnover (AT) in Polish companies 2006-2009

Source: own, data Central Statistical Office.
Decreasing AT in 2009 should be attributed to falling revenues (59.6 billion PLN in 2008 compared to 50.8 billion PLN in 2009), and investments in 2008 (Total Assets increased by 14%, Revenues increased by 9%).

Comparing changes in Return on Assets (ROA = ROS x AT) and Capital Multiplier (CM) relatively minor changes can be observed in Total companies surveyed by GUS. CM increased in Manufacturing in 2008 (and decreased to previous levels in 2009). Relatively bigger changes can be observed in Manufacturing of metal products as profits are reinvested in 2009.

Changing financial structure in manufacturing of metal products reflects decreasing share of short-term liabilities both in the form of bank loans and trade payables. The share of long-term liabilities in total liabilities is increasing, however this is only due to decreasing total liabilities. Long term liabilities to total assets ratio remains in the range 10%-11%, short-term liabilities to total assets in 2009 dropped to 35% from 40% in previous years.

During the crisis above average levels of debt financing have been corrected and forced the companies to increase the share of equity in financing. On average, in Polish manufacturers of metal products net profits were sufficient to cover the changes in financing structure.

Graph 2. Return on Assets (ROA) and Capital Multiplier (CM) in Polish companies 2006-2009

![Graph 2](image)

Source: own, data Central Statistical Office.

Assumptions of stable values of ROS, AT and CM should be assumed with caution. Managers of companies manufacturing of metal products in Poland in the period 2006-2009 experienced vast changes in Asset Turnover (AT) caused by substantial drop in revenues. Following the crisis companies utilizing above average share of debt in their financing (above average CM) had to increase the share of equity in their financing. The share of long-term debt in financing remained stable, which means that managers were not able to change short-term loans to long-term loans.

Analysis of financial results of manufacturers of metal products in Poland seems to indicate substantial changes. Fast growth recorded in 2006 and 2007 has been followed by drop in sales in 2009. Overinvestment in 2009 led to high share of debt in financing and forced managers to reinvest profits to change the financing structure. Resulting decrease in ROE may hamper growth in forthcoming years as lower forecasted returns on equity decrease internal growth potential and repels investors.
LITERATURE

a) **Monographic publication**


c) **Article in professional journal**


