ECONOMIC PROBLEMS OF POLISH MEAT SECTOR DEVELOPMENT - A COMPARATIVE STUDY

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Abstract. Since the meat sector has recently been mentioned as one of the most exposed to financial difficulties and threat of bankruptcy in Poland, it is necessary to have a better understanding of the complexity of factors determining business activity in this sector. The main aim of the paper is to present a scientific discussion of conditions, profile, and economic problems of Polish meat sector and its comparison with food industry. It is a comparative study. The factors performing risk sensitivity of the meat industry are also introduced in the paper. The market is being cleaned up and ineffective enterprises disappear which will contribute to consolidation and improve the production capacity of the meat sector.

Key words: economic problems of meat sector, risk, corporate bankruptcy.

JEL code: Q130, M210

Introduction

The low production concentration, typical for the Polish meat sector, makes it highly competitive. Competition may lower prices and profitability. The dispersion of the meat industry is mainly attributable to low concentration of hog and bovine livestock supply caused by the dispersed agricultural structure and increasing number of entities in the meat industry, especially in slaughter business, characterised by low technical and sanitary standards. Insufficient livestock supply raises the costs of production for companies specialised in meat processing. The difficult situation of the meat sector is also the result of the transition period (ended in 2009), during which Polish enterprises were required to undertake measures to meet the EU standards. The adjustments led to substantial investment outlays. These factors can increase the risk of corporate bankruptcy.

Study aim, method and tasks

The main aim of the paper was to present a scientific discussion of the conditions, profile, and economic problems of Polish meat industry and its comparison with food industry.

In scope of the first task, the authors presented the characteristics and economic problems of Polish meat industry. The next task involved presentation of selected financial ratios of analysed entities against the industry average.

The study covers an extremely interesting time frame since it includes the sector’s figures from the situation before the global economic crisis as well as the figures from the...
situation during the crisis. Therefore, it was possible to analyse how far the crisis affected meat industry. Finally, an overall conclusion was presented on the meat sector development.

The authors have analysed the financial standing of four selected meat sector companies during the 2007-2010 period (Indykpol S.A., Zaklady Miesne Herman Sp. z o.o., PMB Bialystok S.A., and Polski Przemysl Miesny i Drobiarski MAT S.A.). All of them are or until recently were categorised as stock companies. Two of them – Zaklady Miesne Herman Sp. z o.o. and Indykpol S.A. – are still operating on the market. The two other companies went bankrupt in 2012 (PMB Bialystok S.A. and Polski Przemysl Miesny i Drobiarski MAT S.A.). The data presented were available through Info Veriti database, which is a provider of economic and financial data in Poland.

Each year was assessed by computing different ratios and discussing their interpretation with meat industry average. At first, the paper describes the chosen ratios.

**Applied ratios and their interpretation**

In the following part of the study, the authors present the applied selected ratios. It is also explained how these ratios help evaluate financial data. Financial ratios are generally divided into five different categories: profitability; liquidity; debt; asset activity (Gallagher and Andrew, 2007); and leverage ratios. The authors have focused only on selected profitability and debt ratios in the paper.

**Profitability ratios**

In the first step, the authors calculated profitability ratios. Profitability ratios measure how much revenue is eaten up by expenses, respectively, how much is earned compared with sales generated and the amount earned compared with the firms’ assets and equity. Stockholders in particular are interested in profitability ratios as profit leads to cash flow which is a primary source of value for the firm (Gallagher and Andrew, 2007). The five important profitability ratios are gross profit margin, net profit margin, return on equity, return on assets, and return on sales. In the paper, the authors focused only on return on sales (ROS) and return on equity (ROE).

Return on sales (ROS) is defined as ratio of net profit and net revenue. The ratio measures how efficient a company is in converting one sales dollar into a profit dollar. The ROS depends very much on the industry the company is operating in (Tyson and Schell, 2012).

\[
\text{Return on Sales} = \frac{\text{Net Profit}}{\text{Net Revenue}}
\]

(1)

Return on equity (ROE) equals net profit divided by equity. The resulting figure indicates how many dollars/euro of income were generated for each dollar invested by common stockholders (Gallagher and Andrew, 2007).

\[
\text{Return on Equity} = \frac{\text{Net Income}}{\text{Common Stockholder’s Equity}}
\]

(2)

**Debt ratios**

Debt ratios measure the size of a firm’s debt and its ability to pay off the debt. Two primary debt ratios are debt to assets and debt to equity. The authors focused only on debt to equity ratio in the article. When a company’s debt increases significantly, the risk of a bondholder as well as a lender
increases because more parties compete for the firm’s resources in times of financial difficulties. Stockholders are also concerned since bondholders are paid before stockholders. A healthy debt ratio depends on the industry. Generally, a stable industry can handle higher debt ratios.

The debt to equity ratio indicates debt the company has for every dollar/euro of equity (Brigham and Erhardt, 2011).

\[
\text{Debt/Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}
\]  

(3)

Description of the analysed enterprises from the meat sector

Indykpol S.A. is the biggest producer of Turkey meat in Poland with its share accounting for 20% in the Polish meat sector. It possesses a raw material base and farms which provide about 35% of the raw material being processed by Indykpol S.A. In June 1990, two key plants were separated from the structures of the enterprise, the Poultry Company in Ilawa and the Breeding Production Company in Frednowy. In 2000, the latter entity came back into the structures of Indykpol capital group under a new name the Turkey Breeding Centre. It produces poultry for the needs of Indykpol Capital Group (www.indykpol.pl).

The company Zaklady Miesne Herman SA analysed in this paper is located in Hermanowa, Tyczyn municipality, Rzeszowski powiat, Podkarpackie voivodship. The company employs approximately 220 people and supplies more than 500 customers, including Makro, Real, Carrefour, Kaufland, and Auchan store chains. The financial situation of the company started to worsen in 2008. The following factors contributed to this worsening: growing costs of labour; power supply; fuel; transport; and animal stock. A recovery plan was formulated based on the company’s financial sources provided by its shareholders (PLN 1.5 million). These funds will be allocated for debt reduction and current activity. The recovery plan assumes downsizing of operating costs, improvement of profitability of products, closing of approximately 10 unprofitable stores which generate losses and sale of non-core assets.

Important changes within the company took place while preparing Polish market enterprises to meet the European Union standards. In 2003, Herman S.A. invested more than PLN 8 million with SAPARD (Special Accession Programme for Agriculture and Rural Development) and PHARE (Poland and Hungary Assistance to Restructuring their Economies) subsidies. Investment contained firm’s modernisation and development by adjusting to the European Union standards. A new production area of 1.5 thousand square metres was built and the modernisation of machines of particular production departments took place. *ISO 9001 and BRC certificates were introduced and HACCP system implemented, which yields high production standards. In 2004, Herman obtained NATO Commercial and Governmental Code (NCAGE).

As for the day of registration, the name of the next presented company was Polski Przemysl Miesny i Drobiarski MAT Spolka Akcyjna w Grudziadzu, hereinafter in the paper referred to as MAT S.A. The company was established on 9 September 1998 and was registered in KRS on 30 January 2002. On the registration day, the company had 31 branches in various Polish cities. The field of activity of PMB S.A. was processing and preserving of meat and meat products. On 9 October 2009, the company started to operate under the name Polski Przemysl Miesny i Drobiarski MAT Spolka Akcyjna. On 17 September 2012, MAT S.A. declared bankruptcy.
The PMB S.A. was established in 1962 with the previous name Wojewodzkie Przedsiębiorstwo Przemysłu Miesnego w Białymstoku (http://www.pmb.com.pl). In 1964, it was merged with the meat companies from Oleck, Suwałki, and Augustów. It was being constantly modernised through many years. In 2002, by the process of privatisation the entity started to operate under the name PMB Spółka Akcyjna (hereinafter in the paper referred to as PMB S.A). In 2004, PMB S.A. received the updated ISO 9001:2000 certificate. The field of activity of PMB S.A. was processing and preserving of meat and meat products. It was selling nearly 200 tonnes of meat a day, employing almost 1000 employees and its firm occupied the area of 11 hectares. It exported a significant part of its production to the countries of Eastern and Western European countries, the United States, Georgia, and Uzbekistan.

There were considerable limitations when the case came to the empirical data analysis. The most problematic companies from the data availability point of view were the bankrupt companies. Both of them went bankrupt in 2012. While PMB Białystok S.A. had submitted all the financial statements until the end of 2011, while in case of MAT S.A., the financial statement of December 2010 was the last one which the company had filled in.

### Research results and discussion

1. **Economic situation of the Polish meat sector and its development in the comparison with food industry**

   The food production sector is the largest production sector in Poland. It constitutes a share of 17% of employees and 18% of turnover in the industry. It is based on a large-scale agricultural production – Poland is among those European Union countries with the largest agricultural population.

   However, profitability ratios of the meat industry in Poland are very low comparing with the food industry in general (Table 1).

   ![Table 1](https://example.com/table1.png)

   **Table 1**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Net profit (loss) as a percentage of net revenues</th>
<th>ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat industry</td>
<td>0.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Food industry</td>
<td>1.6</td>
<td>4.3</td>
</tr>
</tbody>
</table>

   *Source: Poczt, W., Pawlak, K., Ratajczak, P., Sieminski, P., 2012*

   A significant period for the meat sector in Poland was the period before 2004 when Poland joined the European Union. Some development programmes were implemented in order to adapt to the European Union industry level. Actions of modern management adoption methods led to structural changes in the market of Polish meat sector.

   Another important change that took place in the meat industry in Poland along with joining the European Union was placing the Polish industry in international business networks. While
prepared Poland for European standards, inward investments started to appear and export in food industry increased significantly.

The highest growth of investment in the meat sector was observed from 2004 to 2007 (Table 2). In this period, foreign investors were modernising the meat production companies and gross investment per year increased by almost 90% compared with the period before Poland’s accession to the EU.

<table>
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<tbody>
<tr>
<td>Meat industry</td>
<td>755</td>
<td>1 246</td>
<td>792</td>
<td>804</td>
<td>106.5</td>
</tr>
<tr>
<td>Food industry</td>
<td>4 772</td>
<td>6 911</td>
<td>6 434</td>
<td>6 530</td>
<td>136.8</td>
</tr>
</tbody>
</table>

Source: Poczta, W., Pawlak, K., Ratajczak, P., Sieminski, P., 2012

The period of 2004-2007 was the most significant if it comes to the investment in the meat industry and in the food sector in general. The increase of investment from 2000 to 2011 in the meat industry amounted to 6.5% and was rather modest comparing with the food industry, which achieved almost 37% of investment increase in that period of time. It is worth emphasising that the meat industry invested the biggest share of 15.3% of PLN 68.6 billion invested in all food sectors during 2000-2011.

The Polish meat industry is considered to have a diversified structure by the size of entity and a quite low concentration (Figure 1). Despite the fact that the number of the companies from this sector is decreasing mainly due to restriction performed to join the European Union, it is still quite high in comparison with the Western countries. After the decline starting from 2004, the numbers of enterprises reached 15500 in 2007.

![Diagram showing the structure of meat and food industry by size of entity in 2003 and 2010](image)

Source: Poczta, W., Pawlak, K., Ratajczak, P., Sieminski, P., 2012

Fig. 1. The structure of meat and food industry by size of entity in 2003 and 2010 (in percentage terms)
There is a smaller group of big entities in the meat industry than in the food sector in general. This fact weakens the position of Polish meat producers on the international market and possibility of negotiations with huge distributive networks.

Among those Polish meat sector companies that took advantage of foreign investments are: the Animex Capital Group with 13 companies in Poland; Sokolow S.A., the biggest meat company listed on Warsaw Stock Exchange with seven companies in Poland; Indykpol Group, the biggest producer of turkey and meat products in Poland, with five companies (Rycombel, 2004).

Table 3 shows the trend of efficiency in Polish meat industry. A decreasing tendency was observed until 2004, which could have been an effect of higher costs of implementing modern methods of production than profitability. Since Poland’s joining to the European Union, larger markets were available and gross operating surplus kept increasing. There were various factors influencing the growing level of turnover. Foreign investments followed by improvement of technology level in the meat sector caused a faster increase of deliveries. In addition, the meat consumption was growing in this period, causing the increase of demand for meat which is reflected in gross operating surplus level. A decrease of financial results was noted in 2008, the first year of the world economic crisis; however, it was temporary, and in 2009, a significant improvement was pointed out. In 2011, the financial results of the food industry companies deteriorated as a result of increasing prices of raw materials being ahead of sales price rise. More than 20% of the companies were unprofitable.

### Table 3

<table>
<thead>
<tr>
<th>Industry</th>
<th>thousand PLN per capita</th>
<th>Dynamics 2011/2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>2007</td>
<td>2011</td>
</tr>
<tr>
<td>Meat industry</td>
<td>264.2</td>
<td>337.3</td>
</tr>
<tr>
<td>Food industry</td>
<td>346.3</td>
<td>455.8</td>
</tr>
</tbody>
</table>

Source: Poczta, W., Pawlak, K., Ratajczak, P., Sieminski, P., 2012

Work efficiency in the Polish meat industry was increasing significantly from 2003 to 2011 but the dynamics of the growth was lower than in the food sector in general. A relatively low work efficiency of the meat industry is caused, among other things, by high share of human work and fragmented structure.

### Table 4

<table>
<thead>
<tr>
<th>Industry</th>
<th>Poland</th>
<th>Germany</th>
<th>EU-15</th>
<th>EU-12</th>
<th>EU-27</th>
<th>EUR, thousand per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat industry</td>
<td>126.4</td>
<td>181.3</td>
<td>214.2</td>
<td>119.6</td>
<td>188.5</td>
<td>126.4</td>
</tr>
<tr>
<td>Food industry</td>
<td>160.4</td>
<td>193.2</td>
<td>231.5</td>
<td>130.4</td>
<td>205.8</td>
<td>160.4</td>
</tr>
</tbody>
</table>

Source: Poczta, W., Pawlak, K., Ratajczak, P., Sieminski, P., 2012

An improvement in a work efficiency, which could have been observed in Poland during the period from entering the EU to 2008, brought Poland nearer to the developed countries of the EU-15, including Poland’s largest demander - Germany. In 2008, the work efficiency in Poland was by about 30% lower than in the EU-15 countries. In the meat industry, this difference was higher - about 40% (Table 4).
It has to be noted that recently Polish meat industry companies are in a difficult situation. According to the report from January 2013, based on the EULER HERMES data, in 2012, 941 of Polish companies went bankrupt, which has been the biggest number since 2004. There are many threats that do not concern other industries such as animal diseases, strict animal welfare codes, and laws imposed by authorities. This is evidenced by the fact that even in December 2012, in the peak of the pre-holiday demand, next companies, also the big ones, went bankrupt (Upadlosci firm..., 2012).

2. Comparison of selected meat companies an economic standing with meat industry averages

In order to assess well the position of the company and its financial performance, the main features were illustrated along with the industry average values. The availability of the industry data was limited, that is why the period of 2007-2010 is analysed in this section. At first, the net income comparison of Indykpol, Herman, MAT and PMB can be observed in the below figure.

![Net income comparison](image)

Source: authors’ construction based on the financial statements of selected companies

Fig. 2. Net income of four companies and meat industry average in 2007-2010, in thousand PLN

As it can be observed in Figure 2, Indykpol represents the highest values of the net income among the four companies analysed, though, at the same time, it has the biggest fluctuations. As it was noted while analysing its financial statements, the bad situation in 2008 was temporary, and the company managed to earn profit of more than PLN 3 million.

![Revenues comparison](image)

Source: authors’ construction based on the financial statements of selected companies

Fig. 3. Revenues of four companies and meat industry average in 2007-2010, in thousand PLN
Regarding Herman, from 2008 to 2010, it generated loss, which, however, decreased in 2010 to nearly PLN -2 million. The values of the net income of MAT are quite stable over the time analysed and they are close to the industry average. In 2010, its net revenues were PLN 2 million, while industry average was nearly PLN 1 million. PMB profit has been decreasing since 2007 and in 2010, dropped drastically to PLN -36 million.

When it comes to the values of revenues, Indykpol is an undoubted leader with almost PLN 860 million in 2010. Much lower is PMB which reached almost PLN 300 million in 2010, followed by MAT with PLN 187 million in 2010. Herman is close to the industry average with revenues of PLN 47 million (Figure 3).

![Graph](image-url)

*Source: authors’ construction based on the financial statements of selected companies*

**Fig. 4. Return on equity ratio (ROE) of four companies and meat industry average in 2007-2010, in thousand PLN**

While observing the above figure of the return on equity ratio, a huge decrease of this feature in case of PMB attracts attention, which again shows seriously deteriorating financial performance of the company. From 2008, the values of all the companies are below the industry average with Herman representing the lowest ROE values until 2009 (Figure 4).

![Graph](image-url)

*Source: authors’ construction based on the financial statements of selected companies*

**Fig. 5. Debt-to-equity ratio of four companies and meat industry average in 2007-2010, in thousand PLN**
The last feature compared with the industry average was the debt-to-equity ratio. PMB S.A. represents the highest values of this ratio of more than 400% until 2009. In 2010, Figure 5 shows a negative value which was caused by a negative equity value. The company is aggressive in financing its development with debt. In addition, the difficult debt situation of MAT S.A. is visible in this case. In 2010, debt-to-equity ratio was more than 200% which was a sign that the company is facing a risk of distress while using its debt; though, this value only slightly exceeded the industry average. In 2010, the debt-to-equity ratio values of Herman S.A. and Indykpol S.A. were lower than industry average, accounting for of 155% (Herman) and 150% (Indykpol).

Conclusions, proposals, recommendations

Summing up the results of the foregoing analysis, the authors have drawn the following conclusions.

1. Meat production companies are among the sectors with the highest risk of bankruptcy. In this industry characterised by low profitability and often higher costs of modernisation implemented few years ago, companies are very sensitive to the demand fluctuations.

2. Factors pointing to the worsening financial condition of the analysed companies include, among others, systematic decrease of net income and lower liquidity triggering excessive growth of liabilities. One should underline the specific nature of the operations of the meat sector enterprises, which are characterised by very a low concentration of production.

3. Polish meat sector needs changes and innovations. Its production is still highly scattered, ineffective and expensive in compared with other countries of the EU. The meat industry has changed significantly during the past ten years but growing competition of the Western European countries force Poland to undertake further improvements, focusing on substitution of human work with computing systems and higher production concentration.

Bibliography


