

RISK ANALYSIS IN MILK PROCESSING

ANALIZA RISCULUI IN PROCESAREA CARNII

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. This paper aimed to evaluate Risk bankruptcy using “Score Method” based on Canon and Holder’s Model. The data were collected from the Balance Sheet and Profit and Loss Account for the period 2005-2007, recorded by a Meat processing Plant (Rador Commercial Company) .The study has put in evidence the financial situation of the company, the level of the main financial ratios fundamenting the calculation of Z score function value in the three years. The low values of Z score function recorded every year reflects that the company is still facing bankruptcy. However, the worst situation was recorded in the years 2005 and 2006, when bankruptcy risk was ranging between 70 – 80 % . In the year 2007, the risk bankruptcy was lower, ranging between 50-70 % , as Z function recorded a value lower than 4 .For Meat processing companies such an analysis is compulsory at present as long as business environment is very risky in our country.

Key words: risk bankruptcy ,Canon and Holder’s Model, meat processing

Introduction

Meat Processing is facing many problems at present because a lot of imports of meat products compete with the Romanian products. Quality Management is still a problem where Romanian companies have to pay a special attention. The increasing costs for inputs and utilities have a deep impact on production costs. For this reason, many meat products are very expensive and consumers are tempted to chose imported products. In this situation Romanian meat processors are disadvantaged compared to foreign companies. Therefore, financial analysis is requested to fundament decision making. Meat processing plants’ owners seems to be more and more interested to be better informed about the evolution of their business. They are aware that they are operating in an uncertain business environment. For this reason, it is obviously required more precise information concerning future performance in meat processing . This study aimed to make an analysis of risk bankruptcy in the field of meat processing, using the so-called “Score Method” based on statistical techniques. The Score Function Z was determined by means of Canon and Holder’s Model (1, 2).

Materials and Methods

In order to set up this paper, the data collected from Balance Sheet and Profit and Loss Account of a Meat Processing Plant for the period 2005-2007 were collected and processed according to "Score Function" symbolized by "Z", which takes into account the business environment where the company is operating and its profile, selecting the ratios and joining to each of them a specific relative value, according to the function equation:

$$Z = \sum_{i=1}^n K_i R_i + C,$$

where K_i = each ratio weight, R_i = ratio value for a certain company, C – a constant variable. Conan J. and Holder M. "s Model is presented below :

$$Z = 16R1 + 22R2 - 87R3 - 10R4 + 24R5$$

where: R1 = Partial Liquidity, R2 – Financial Stability, R3 – Financial Expense, R4 – Personnel Salaries, R5 – Profit weight in value added.

The obtained Z value was compared to the known standards as follows: $Z < 4$ high bankruptcy risk, $4 < Z < 9$ – 35-50 % bankruptcy risk and $Z > 9$, 10-35 % bankruptcy risk.

Results and Discussions

Working assets of the company increased by 71.58 % from Euro 133,218 in the year 2005 to Euro 744,650 in 2007. **Inventories** have become almost double, increasing from Euro 333,501 in 2005 to Euro 666,944 in the year 2007. **Financial expenses** have registered a positive dynamic in the same period of time. They recorded a reduction of 37.50 % , from Euro 4,254 in the year 2005 to Euro 2,650 in the year 2007. **Personnel expenses** increased by 51.48 % ,so that at the end of the year 2007, their level was Euro 606,343 compared to Euro 400,282 in the year 2005. **Turnover** was Euro 1,486,269 in the year 2005 and Euro 1,938,500 in the year 2007. Therefore, it recorded a positive evolution increasin by 30.43 % . **Long term equity** increased by 38.65% during the last 3 years, reaching Euro 1,350,028 in the year 2007 compared to Euro 973,684 in the year 2005. **Current debts** recorded about 11.48% decline, from Euro 639,161 in the year 2005 to Euro 572,184 in the year 2007. **Total liabilities** increased by 12.74% from Euro 1,525,800 in the year 2005 to Euro 1,720,239 in the year 2007. **Gross profit** recorded a positive dynamic, increasing by 25.50% in the the analysed period . So, in the year 2007, it was Euro 10,486 compared to Euro 8,355 in the year 2005 .

Value added increased by 7.94 % , from Euro 368,513 in 2005 to Euro 397,807 in the year 2007 (Table 1) .

Table 1

Calculation of Specific Ratios for Risk Analysis using Canon and Holder Model

Specification	M.U.	2005	2006	2007	2007/2005 %
I.PRIMARY DATA					
Working assets	Euro	433,218	571,844	744,650	171.88
Inventories	Euro	333,501	488,413	666,944	199.98
Financial Expenses	Euro	4,254	3,319	2,659	62.50
Personnel Expenses	Euro	400,282	523,700	606,343	151.48
Turnover	Euro	1,486,269	1,899,387	1,938,500	130.43
Long term Equity	Euro	973,684	1,200,095	1,350,028	138.65
Current Debts	Euro	639,161	397,143	572,184	89.52
Total Liabilities	Euro	1,525,800	1,648,800	1,720,239	112.74
Gross Profit	Euro	8,355	9,771	10,486	125.50
Value Added	Euro	368,513	374,342	397,807	107.94
II. RISK RATIOS					
Partial Liquidity	R1	0.156	0.210	0.135	87.00
Financial Stability	R2	0.638	0.727	0.785	123.00
Financial Expenses	R3	0.003	0.002	0.001	33.33
Personnel Expenses	R4	1.086	1.398	1.524	140.33
Gross Profit Weight in Value added	R5	0.023	0.026	0.026	113.04

The Partial Liquidity increased by 87%, but its level varied from a year to another, showing a peak in the year 2006, despite that its level is far away from the normal values.

The Financial Stability increased by 23%.

The financial expenses recorded a spectacular decrease by 33.33 % , while *the personnel expenses* increased by 40.33 % .

The share of Gross Profit in value added increased by 13.04 in the year 2007 compared to the level recorded in the year 2005 (Table 1).

Using the R1-R5 values in the score function formula for the studied years, Z value was determined and presented in Table 2.

Table 2

Z function value			
Function Item	2005	2006	2007
16 R1	2.496	3.360	0.216
22 R2	14.036	15.994	17.270
-87 R3	- 0.261	-0.174	-0.087
-10 R4	- 10.86	-13.98	-15.24
24 R5	0.552	0.624	0.624
Z	5.963	5.824	2.783

As we can see, Z score recorded positive and low values, ranging between the highest one $Z = 5.963$ in the year 2005 and the lowest one $Z = 2.783$ registered in the year 2007.

Therefore, in the years 2005 and 2006, the meat processing company was facing a high bankruptcy risk of 75-80%, because Z score was ranging between 4 and 9. In the year 2007, the situation is better, because Z score value is less than 4, meaning a reduction of bankruptcy risk to 50-70%. This was due to its bad financial statement, the lack of payment capacity and a very low profitability rate, practically at the lowest level.

Conclusions

1. The study based on Conan and Holder Model shows that the company has a bad financial situation and it is facing bankruptcy.
2. It is obvious that the low partial liquidity, financial stability, the higher personnel expense higher have produced an financial unbalance. The highest bankruptcy risk was recorded in the years 2005 and 2006.
3. Such a risk analysis would have to be made a few years ago in order to be useful for identifying in time the factors with a negative influence on the financial statement and to take the corresponding measures for avoiding such a bankruptcy.

Bibliography

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