FINANCIAL LEVERAGE AND BANKRUPTCY RISK ANALYSIS IN A COMPANY. CASE STUDY PERFORMED AT SC VLG RO SRL

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Abstract:Under the current conditions, an economic analysis of the economic and financial indicators is, first and foremost, more than welcome and, second, necessary. When a company wants to fund its activities with a bank loan, it needs to jump through all the hoops the bank requires, because it will analyze all the company's economic and financial indicators to determine, mainly, the liquidity and solvency of that company. In these last years, the companies are increasingly more often verified from the perspective of bankruptcy risk analysis because if the companies declare insolvency, and subsequently, bankruptcy, the banks have difficulties in recovering their loans and this only forces them to create provisions or to diminish their profits. A first warning on the company's creditworthiness is the value of the financial leverage, and the second warning, which is stricter, is the calculation of the bankruptcy risk by various models recognized in the field.

Key-words:financial leverage, bankruptcy risk, solvency, liquidity, company

Introduction

Currently, in the conditions of a fierce competition in the market, many companies turn to loans, either to carry on with their activities, or to make certain investments. When they go to the bank and request a loan, the bank calculates several economic-financial indicators to see of the company is able to repay the loan it's applying for. One of these calculated indicators is the financial leverage and the bank also performs an analysis of the bankruptcy risk.

The financial leverage

The financial leverage is the ratio between financial liabilities and equity, reflecting the financial managers' ability to attract external sources toboost equity efficiency.

The formula:

$$LF = \frac{\text{Datorii financiare}}{\text{Capitaluri proprii}} = \frac{\text{Credite bancare}}{\text{Capitaluri proprii}}$$

Financial lever = Financial liabilities/Equity = Bank loans/Equity

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The result must be below par, a value above par meaning a high degree of debt. A value exceeding 2.33, which is the equivalent of the fact that bank loans represent 70% of total assets, expresses a very high degree of debt, and that the company might be facing imminent bankruptcy if the result repeatedly exceeds the 2.33 threshold.

The financial leverage effect

The financial leverage effect expresses the influenceindebtedness – the attracted funding sources, meaning mainly bank loans – has on the profitability of the company's equity, own funding sources being: registered capital, reserves, amortization, net profit remained at the firm's disposal.

The financial leverage effect measures the company's ability to invest the borrowed capital to a rate higher to the interest rate.

At first glance, indebtedness adversely affects profitability, because the afferent interest increases costs and decreases profit. In reality, however, if the rate of return is higher than the interest rate, indebtedness has a positive influence on profitability and on increasing the wealth of the firm.

The financial leverage effect reflects the variation of the financial rate of return of equity depending on the correlation between the economic rate of return and the cost of the debt or the interest rate, as well as to indebtedness - the financial leverage.

Both for the invested capital (equity + financial liabilities) and for the equity and financial liabilities (bank loans), we can associate certain rates of return. Thus, for equity we have the financial rate of return (Rf), for financial liabilities we have the interest rate (Rd), and for the invested capital we have the economic rate of return (Rec).

The financial rate of return– Rf or ROE expresses the efficiency of the investment made by the company's shareholders and is calculated as the ratio between net profit and equity.

The economic rate of return – Rec or ROA expresses the efficiency of the use of invested capitals and is determined as the ratio between net profit and total assets. We can also use net assets, which are also called invested capital, representing a fraction of the total assets funded on account of equity and long-term liabilities.

The relation between Rf and Rec can be demonstrated given the following restrictions:

The financial and extraordinary incomes are neglected;

The financial income is limited to income with debts to pay;

The extraordinary income is also neglected.

Thus, Rf = [Rec + (Rec – Rd) * LF] * (1-corporate tax rate)

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From the analysis of the correlation between the economic rate of return and the interest rate, the financial leverage effect will be positive or negative, namely the bank loans will lead to the increase or decrease of financial return. Therefore, we can find the following situations:

If Rec > Rd, the decision to turn to borrowed capital will lead to the increase of financial return and the company's market value, because the financial leverage effect will be positive and will go to the shareholders (Rf > Rec). In this case, it will be in the company's best interest to use as many loans as possible to benefit from the financial leverage effect, but up to the limit of the insolvency risk.

If Rec = Rd, the decision to turn to loans will have no effect on financial return, as its level is equal to economic return (Rf = Re), and the financial leverage effect 0;

If Rec < Rd, contracting new loans will lead to the decrease of the financial rate of return (Rf < Re), the financial leverage effect being negative. In this case, the activity of the company is inefficient and will gradually lead to its decapitalization.

Therefore, the financial leverage effect is only positive to the extent where the economic rate of return is higher than the interest rate. The fundamental issue is knowing if the eventual unfavorable economic conditions can lead to a decrease in the economic rate of return in such manner as to produce a negative financial leverage effect.

The formula:

ELF = (Rec. of operating profit – actual interest rate) * LF

The formula uses the actual interest rate and not the market interest rate, because an average value is not representative for the company, and a contractual value is not stable, because banks modify the interest rate at certain intervals of time. [1]

Analysis of bankruptcy risk

At any time of its activity, a company is facing the risk of bankruptcy. It can have negative consequences, with complex implications on the company's entire activity, as well as on other entities which interact with that company.

As previously stated, the banks are the ones most interested in determining the bankruptcy risk for the companies to which they are granting loans. Determining the bankruptcy risk is necessary both for granting loans and during the operation of the loan agreement. In order to avoid potential losses, banks analyze a series of general elements related to the loan applicant, the objectives set out by requesting the loan (the loan application), the maturity period, the bank interests and fees, as well as the guarantees provided and credit recovery methods.

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Diagnosing the bankruptcy risk consists of the evaluation of the company's solvency. This is defined as being a company's ability to face due obligations resulting from previously contracted commitments, either from current operations whose achievement conditions the continuation of activities, either from mandatory withholdings. [2]

Case Study: VLG RO SRL

VLG RO SRL is a company that has as its main activity the sale of cables and electrical conductors. As it developed and because of the investments it made, the company was forced to resort to bank loans to meet their financial needs.

Even if the banks where the company opened its current accounts and from which they made loans for its needs already calculated this, I did my own calculations for finding financial leverage values and bankruptcy risk analysis using values found in the financial statements for the years 2013, 2014 and 2015.

Thus, we obtained the following values for the financial leverage:

Table 1. Financial leverage in the period 2013-2015 for VLG RO SRL

Indicator	**31.12.2013**	**31.12.2014**	**31.12.2015**
Total debts	46,552,401	48,820,747	61,137,305
Shareholders equity	4,341,526	9,056,885	9,844,505
Financial leverage	**10.72**	**5.39**	**6.21**

(*Source:* processing made by the author)

As you can see, the amount of financial leverage has followed a downward value from 2013 to 2014, with a small increase in 2015. The high value of 2013 is mainly due to low capital value and the increased value in 2015 is due to increasing debt. If in 2015 the amount of debt would remain at a value comparable to 2014, the value of financial leverage would bee below 5. But even in this situation the value will still remain over 2.33, which means that indebtedness is high and so the prerequisites for the emergence of bankruptcy are created.

Next, using the same financial information we calculated the risk of bankruptcy by several methods: the "Financial Standing" model, the Altman model, the Robertson model and the BRD and Banca Transilvania models, which are the most common models in Romania.

The obtained values are presented in Table 2:

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Table 2. Values obtained using the methods of bankruptcy risk analysis for the period 2013-2015 with VLG RO SRL

indicators	Accomplished 31.12.2013	Accomplished 31.12.2014	Accomplished 31.12.2015
"FINANCIAL STANDING" MODEL			
ACTIVITY			
Corrected score	5.40	6.75	5.40
Grade	0	0	0
FUNDING	9	7.5	7.5
Corrected score	13.20	15.60	13.20
Grade	Good	Weak	Good
ECONOMIC GROWTH			
Corrected score	1.35	3.60	1.80
Grade	Good	Good	Good
TOTAL SCORE			
Corrected score	**19.95**	**25.95**	**20.40**
Grade	***Very weak***	***Very weak***	***Very weak***
ALTMAN MODEL			
VALUE OF THE "Z" SCORE	**1.27**	**1.13**	**1.61**
Grade	***State of Bankruptcy***	***State of Bankruptcy***	***State of Bankruptcy***
ROBERTSON MODEL			
VALUE OF THE "Z" SCORE	**83.99**	**35.40**	**110.36**
Difference compared to the previous year	*x*	***-48.60***	***74.97***
Grade	*x*	***Difficulty***	***Instability***
"BANCA ROMANA DE DEZVOLTARE" MODEL			
TOTAL SCORE	**38.00**	**71.00**	**87.00**
Grade	***Weak***	***Medium***	***Medium***
"BANCA TRANSIVANIA" MODEL			
TOTAL SCORE	**13.00**	**50.00**	**53.00**

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Grade	***Weak***	***Very good***	***Very good***

(*Source:* Processing made by the author)

By applying this method for verifying the risk of bankruptcy we reach the same conclusion as in the case of the financial lever, namely that if VLG RO SRL does not seek to decrease debt and increase revenues and thus profits, it is possible that over a certain period of time the company will experience bankruptcy.

The only analysis model that considers the results as good is the one developed by Banca Transilvania. However one should not overlook the fact that these results are considered good in order for the company to qualify for a loan from which the bank collects interest.

Conclusions

Within my research of VLG RO SRL I sought to show by using two methods that this company needs to improve its financial results and it must take several factors into account and not just the one of recording profits. Thus, they should seek to have a smaller rotation period of collecting the receivables, which would increase available funds; with the increasing of availabilities they should seek to decrease debt either by the advance payment of loans, or by decreasing the duration of payment to suppliers; by paying of loans quicker the amount of interest you were paying before would also decrease. Corroborating all these factors would lead to a "recovery" of the values of economic and financial indicators.

Of course, some experts would argue that the results obtained are the result of theoretical calculations, but it is good to keep them in mind because, as I stated above, a "healthy" company is not only characterized by the profit it records.

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[1] http://www.goldring.ro/gradul-de-indatorare-teorie.html

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