THE OPERATIONAL RISK IN TERMS OF CASH FLOWS

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Abstract*: The participants to the company's economic life have diverse motivations and interests, but from the financial point of view they follow the same thing. More exactly, they want to be paid for the efforts they took, no matter the environment they come from, no matter the kind of effort they make, no matter the remuneration form. Also, we must understand that most of the people, by their psychological construction dislike the risk. This thing means, psychologically speaking, that one finds less pleasure when one gains a sum of money compared to the intensity of the pain when losing the same sum. If these perceptions also depend on the proportion of the wealth brought into play, however, for most of the people the perception remains generally valid. These perceptions are also manifested at the level of the organizations, which will be inclined to protect the interests than to take the risk. Again, the management has the task to let cooler heads prevail.*
Keywords*: operational risk, cash flow, turnover*

1. INTRODUCTION

The risk, in a general meaning, signifies the variability of the result obtained under the pressure of the factors which come from the internal and external environment of the company. It represents the possible damage to which the patrimony and the activity of the economic agent are exposed. Taking the risk is closely correlated to the profitability of the activity, which means that the companies take a risk only depending on the profitability they expect, so the profitability must compensate the risk they take. The higher the risk, the more the companies must take into consideration the possibility to register loss. The risk can take diverse forms, the risks being more or less intensive at the company's level. Because it is subject to many risks, the more flexible the company, the less risky the company's activity. The profitability of a company can be evaluated only depending on the taken risk.

If we classify the risks, depending on their origin, we talk about internal risks, respectively external risks. If we take into consideration the management influence on the risks, we have:

- controllable risks, accepted by the management's will;
- uncontrollable risks, independent of the management's will.

It is very difficult to detect the risk on theory. This fact results from several aspects we have mentioned before. The risk is better understood by the person in case, only when he risks sums which influence in a significant way his wealth. If the wealth is influenced in an unsignificant way, then the risk, although the person is aware of it, is not detected at its all intensity.

Practically, it is impossible to define the risk in a general, exact manner. It depends a lot on the sector, on the proportion in which it influences the situation of the aimed person. The operational risk reflects the company's incapacity to addapt itself in time and at the lowest cost to the variations of the environment. It shows the instability of the economic result to the operational conditions (Lala-Popa & Miculeac, 2012).

The operational risk depends on the general external and internal factors (the increase of the price of raw materials, the increase of the wages, the decrease of the sales as a consequence of demand decrease); the specific factors which are manifested through the costs structure, respectively their behaviour to the volume of activity (which at their turn depend on the technological process and the efficiency of the current activity's management).

The operational risk is evaluated with the help of the profitability threshold which measures the company's flexibility relating to the operational conditions. The profitability threshold is the point where the turnover covers the operational expenses, and the result is null. In terms of risk, we say that starting from this point the company starts to become profitable (Monea, 2012).

The more distant the company's activity from this point, the more reduced the risk, and the more profitable the company's activity. In general, the company cannot influence too much neither the prices at which it buys the factors of production, nor the prices of the goods it manufactures and sells. In this hypothesis, the only variable on which it can act, so that its revenues equal and exceed the expenses, is the activity's level.

The profitability threshold can be defined in physical or value units, for one product or for the entire activity. The calculation of the profitability threshold in value units can be done in the case of monoproductive companies as well as in the case of those that manufacture and sell a large range of products.

2. THE OPERATIONAL RISK IN TERMS OF CASH FLOWS

In order to determine the critical threshold of receipts from operational activities, the hypothesis that the turnover is collected and the expenses are paid in the same period as the analysed one, the difference between the invoicing and the associated cash flow being minimum. In this case, we must take into consideration the fact that the depreciation (Am) is an unpayable expense, which in terms of cash is a collection. For this reason, from the fixed expenses (CF) are deducted those with the depreciation, remaining only the payable ones.

The aimed indicator is no longer the result of the operation but the gross operating surplus (Ebe). The critical threshold (CA0) is the one where the collections cover the payments. Above this point it results a gross surplus from exploitation. Below this level we have a gross operating deficit. (Van Horne & Wachowicz, 2005)

$$CAo = \frac{CF - Am}{1 - \frac{CV}{CA}}$$

From the formula it can be noticed that the critical point of the gross operating surplus (Ebe) is made easier and earlier that the critical point of the operating result, because of the fact that the depreciation is taken into consideration.

The evaluation of the oprating risk on the basis of gross operating accumulations is made with the help of the same indicators (built depending on the specific case) which show us to what extent the volume of the activity can vary, so that this variation does not imply the risk of registering some gross operating deficits. Their interpretation is similar to those in the previous models.

The operating treasury surplus (Ete) express the real treasury flow which results after covering the variation of the need in working capital (ΔNfre) from the gross operating surplus (Ebe). (Palepu, et al., 2010)

$$Ete = Ebe - \Delta Nfre$$

There is a threshold for the increase of the turnover above which the gross operating surplus no longer can cover the variation of the need in working capital, threshold above which the operating treasury surplus becomes negative (net deficit).

This situation is named scissors effect of the increase in the need in working capital related to the increase of the gross surplus. The need in working capital depends directly proportionally on the turnover, increasing in the same extent as it. (Emery, et al., 2004)
If we admit that:

$$Ebe = CA - CV - (CF-Am) = Re + Am$$

– it represents the operating gross surplus;

$$v = \frac{CV}{CA} = \frac{CF - Am + Ebe}{C}$$

– it is the margin of variable costs;

$$dz_{Nfr} = \frac{Nfre}{CA} \bullet T$$

– it represents the number of days necessary for the turnover to cover Nfr;

$$k = \frac{Nfr}{CA} = \frac{dz_{Nfr}}{T}$$

– it is the Nfr rate (constant);

$$Rre_B = \frac{Ebe}{CA}$$

– it is the gross commercial profitability rate;

$$\xi = -\frac{\text{Rre}_{\text{B}}}{(\text{v - k})} = -\frac{Ebe}{CV + Nfre}$$

$$I_{\Delta CA} = \frac{\Delta \text{CA}}{\text{CA0}}$$

– it represents the variation of the turnover;

then:

$$\text{Ete1} = \text{Ebe1} - \Delta\text{Nfr} = \text{Ebe0} + (\text{v-k}) \times \text{Cao} \times \text{I}\Delta\text{CA}$$

The interpretation of the results is made depending on the variable margin rate, Nfr rate, the variation of the turnover and the commercial profitability.
If v>k, then, depending on the turnover evolution, we have:
a.1.) IΔCA>0, then Ete > Ebe;
a.2.) IΔCA<0, then:
a.2.1.) Ete decreases when IΔCA>ξ;
a.2.2.) Ete <0 when IΔCA< ξ;
b) If v<k, and IΔCA>0, then depending on the evolution of ξ, we have:
b.1.) Ete>0 and it decreases when IΔCA<ξ;
b.2.) Ete<0 when IΔCA>ξ.

Depending on the positioning of the turnover compared to the scissors threshold, we have the following situations:
If CA<CAo, then Ebe>ΔNfre, thus Ete>0, it means that a net treasury surplus results from the operating activity, surplus which can be used further on to cover the due debts.
If CA>CAo, then Ebe <ΔNfre, thus Ete<0, it means that a net treasury deficit results from the operating activity, deficit which must be covered with treasury credits.
Regarding the relation between Ete and the financial expenses with the interests Dob, it can be stated that:
When Ete>Dob, then the company is in equilibrium, coping with the debts;
When Ete <Dob, then the company has to borrow additionally.
If Ete covers all due debts (Ds) which have a financial character (financial debts, reimbursements of loans, tax on profit and dividends), then it means that there are resources to self-finance internal (operating) and external (financial) investments.
Thus, in order to have the company in equilibrium, the degree of covering the due debts on the basis of the operating treasury surplus must be supraunitary:

$$Ga_{TE} = \frac{\text{Ete}}{(\text{Dob} + \text{Ramb} + \text{Imp} + \text{Div})} \geq 1$$

Note: If GaTE >1.25, it can mean an ineffective use of the treasury.

3. INDIVIDUALIZED MODEL FOR THE COMPANIES WITH COMMERCIAL PROFILE

When determining the critical threshold of the companies in the distribution sector, the profitability threshold is calculated by taking into consideration the specific mechanism of ensuring the profit, from the commercial margin included in the retail sale price.

$$CAo = \frac{\mathrm{CF}}{\overline{R}_{mc} - \overline{R}_V}, \text{ and } \overline{R_{mc}} = \frac{\mathrm{MC}}{CA}, \text{ and MC=Vvm-Cmv}$$

where:
Rv - average rate of expenses with variable circulation
Rmc – average rate of the commercial margin
MC – commercial margin
Vvm – revenues form the sale of goods.

4. DISTINCTIVE CHARACTERISTICS IN THE CASE OF SEASONAL ACTIVITIES

When determining the critical threshold, it must be taken into consideration the fact that the company's activity is seasonal. In this case, the critical threshold, respectively the moment it is realised can be moved compared to those calculated with the hypothesis of linearity.
The steps used to determine the critical threshold in conditions of seasonality.
To determine the apparent (annual) profitability threshold and the threshold moment, using the indicators for one year:

$$CA_0^A = \frac{\mathrm{CF^A}}{\mathrm{Rmv^A}}, \text{ where } Rmv^A = \frac{\mathrm{M_V^A}}{\mathrm{CA^A}}$$

To determine the quarterly rate of the variable expense margin, using the indicators relative to each quarter:

$$Rmv^{Ti} = \frac{\mathrm{M_V^{Ti}}}{\mathrm{CA^{Ti}}}$$

To determine the margin of variable expenses (on quarters), using the indicators relative to each quarter:

$$MV_{cum}^{Ti} = \sum_{j=1}^{i} M_V^{Ti}$$

To determine the real profitability threshold, using the fixed costs relative to the whole year and the quarter rate of the margin of variable expenses for the quarter in which the cumulated margin of the variable expenses becomes positive:

$$MV_{cum}^{Te} > 0, \text{ thus } CA_0 = \frac{\mathrm{CF^A}}{\mathrm{Rmv^{Tc}}}$$

The evaluation of the operating risk in the case of the seasonal activity is made especially with the help of the moment of realisation of the critical threshold. The profitability threshold as well as the moment it is realised will be moved compared to the apparent indicators. The more intense the seasonal phenomenon at the company level, the more significant its movement (Brealey, et al., 2006).

5. CONCLUSIONS

The economic risk represents the variability of the economic or financial profitability in the case in which the company finances its activity exclusively from its own equity. This risk differs from one sector of activity to the other, from one company to the other within the same industry, respectively it can fluctuate in time. The statistical method of evaluating the risk implies to determine the average, the standard deviation and the variation coefficient of the economic profitability. It can be done either on the historical data, either on simulation, supposing a normal distribution of the probability.

The hoped (expected) value is determined as a weight average of the products between the potential events (levels of Rre) and the probability of appearance associated to this value. From two companies, it is more advantaged the one which has a higher expected value. The standard deviation (the absolute measure of the risk) measures the dispersion of the possible events around the average. The more the variation of the events around the average value increases, the more the value of the indicator increases, respectively the economic risk also increases. From two companies, with the same level of the expected value, the more advantaged is the one that has a lower standard deviation.

The coefficient of variation (the relative measure of the risk), ties the two statistical indicators, measuring the variation of the events on the unit of expected value. The more the value of the indicator increases, the more the economic risk increases. From two companies, with different levels of the expected value and standard deviation, the more advantaged is the one with a lower coefficient of variation. The main factors on which depends the economic risk are: the demand instability; the evolution of the sale prices; the evolution of the purchasing prices; the management ability to addapt the input prices to the output prices; the structure of the assets, which has implications on the fixed costs. These factors are influenced mainly by the characteristics of the sector in which the company develops its activity; the organisation capacity of the management.

References

1. Afrasinei, Mihai-Bogdan, Iuliana Eugenia Georgescu, and Costel Istrate. The Influence Of The Connections Of Romanian Non-Listed Firms To Tax Havens On Their Profitability. *CES Working Papers* 8.4 (2016): 572.
2. Berstein, L., Wild, J.J., Subramanyam, K.R., (2001), Financial Statement Analysis 7TH Edition McGraw – Hill Irwin;
3. Brealey, R., Myers, S., Allen F., (2006), Corporate Finance, PublishedbyMcGrow Hill, New York
4. Emery, D.R., Finnerty J. D., Stowe J. D., (2004), Corporate Financial Management Second edition, Prentice Hall, Pearson Education LTD;

5. Lala Popa, I., Miculeac, M.E., (2012), Analiză economico – financiară. Elemente teoretice şi studii de caz, Ediţie revizuită şi adăugită, Editura Mirton, Timişoara;
6. Monea, M., (2012), Analiză financiară. Noțiuni teoretice şi studii de caz, Editura Sitech, Craiova;
7. Palepu K., Healy P., Peek E., (2010), Business Analysis and Valuation, IFRS Edition, published by South – Western, a division of Cengage Learning.
8. Van Horne J.C., Wachowicz J. M. JR., (2005), Fundamental of Financial Management Twelfth edition, Pearson Education Limited, Financial Times Prentice Hall