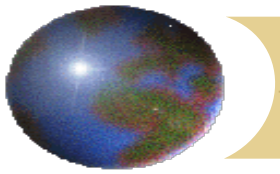


# The Corporate Risk Forecasting by CFaR Approach in Tourism

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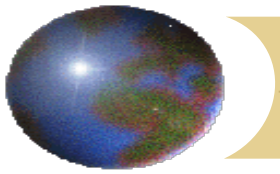
## What is Cash Flow at Risk (CFaR)?

Cash Flow at Risk is a modern approach to measuring market and business risk in companies.

(CFaR) measures the maximum cash drop down that a firm can expect over a certain period of time.

CFaR at risk gives the manager the answer: "What value will my cash flows decrease at a certain probability (confidence level) over a certain period of time?".

CFaR uses the distribution of the operating cash flows of the firm to obtain a quantification of the worst-case scenario with respect to its future cash flows.

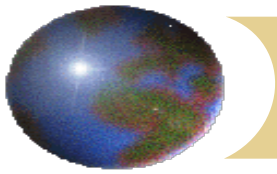


## Approach requirements

- ❑ availability of financial data on the business activity of companies in a specific sector;
- ❑ well-developed economic sectors with a large number of competitors;
- ❑ a sample of at least 35 observations on the cash flows of competing firms in the sector is needed.

The selected companies in the sample must be commensurate with the company for which business risk will be assessed. They should be relatively similar in terms of:

- ❖ market capitalization
- ❖ return of assets
- ❖ change in share prices for the period

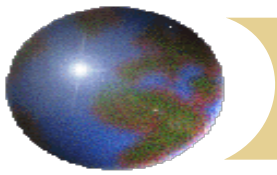


Among the risk management professionals, the most preferred operating cash flows are:

- Earnings before interest, taxes, depreciation and amortization (EBITDA);
- Earnings before interest and taxes (EBIT);
- Operating profit.

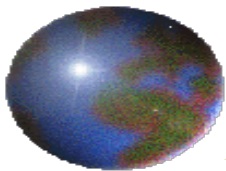
### **Practical case**

Financial manager of a hotel in Bulgaria wants to calculate with 99% probability how much of the operating profit of the company is at risk i.e. what is the maximum amount by which the operating cash flow could decrease in the next year. EBITDA for the last year amounted to € 12,678,000 and the number of ordinary shares issued was 6,782.



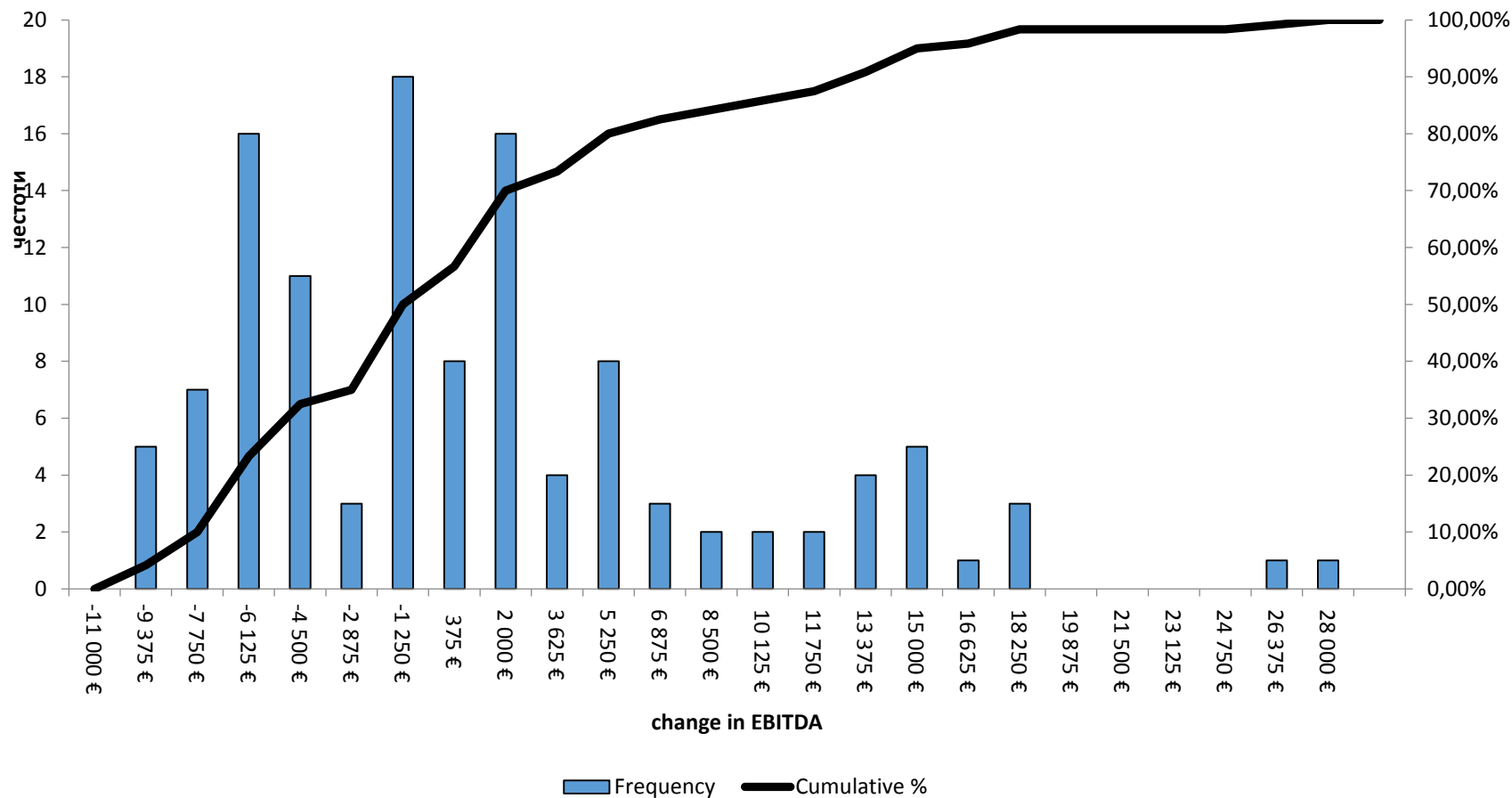
			Number	EBITDA	Adjusted	Probable
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>N</b>	<b>Competitors</b>	<b>EBITDA</b>	<b>of shares</b>	<b>per share</b>	<b>EBITDA</b>	<b>changes in</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1	Hotel 1	8 465 €	2 133	3,97 €	26 914,97 €	14 236,97 €
2	Hotel 2	7 457 €	2 133	3,50 €	23 709,97 €	11 031,97 €
3	Hotel3	8 156 €	2 133	3,82 €	25 932,49 €	13 254,49 €
4	Hotel4	8 346 €	2 133	3,91 €	26 536,60 €	13 858,60 €
5	Hotel 5	32 944 €	13 112	2,51 €	17 039,83 €	4 361,83 €
6	Hotel 6	31 567 €	13 112	2,41 €	16 327,59 €	3 649,59 €
7	Hotel 7	31 978 €	13 112	2,44 €	16 540,18 €	3 862,18 €
8	Hotel 8	33 872 €	13 112	2,58 €	17 519,82 €	4 841,82 €
9	Hotel 9	14 774 €	8 233	1,79 €	12 170,20 €	-507,80 €
10	Hotel 10	14 987 €	8 233	1,82 €	12 345,66 €	-332,34 €
11	Hotel 11	16 173 €	8 233	1,96 €	13 322,64 €	644,64 €
12	Hotel 12	16 896 €	8 233	2,05 €	13 918,22 €	1 240,22 €
13	Hotel 13	23 456 €	14 788	1,59 €	10 757,28 €	-1 920,72 €
14	Hotel 14	22 587 €	14 788	1,53 €	10 358,74 €	-2 319,26 €
15	Hotel 15	21 788 €	14 788	1,47 €	9 992,31 €	-2 685,69 €

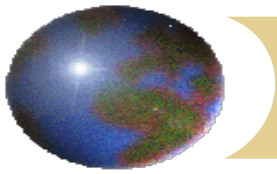
In order to increase the observations the hotel manager collects information on EBITDAs for 30 competitors in the sector.



# Histogram and ogive of firm's probability distribution of EBITDA

## Хистограма и огива на вероятностното разпределение на EBITDA



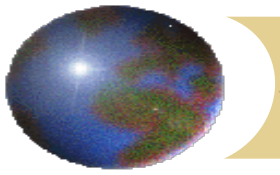


## Descriptive statistics

<b>Minimum</b>	-10 787,44 €
<b>Maximum</b>	27 539,49 €
<b>Mean</b>	383,73 €
<b>Standard deviation</b>	7 784,00 €
<b>Медиана</b>	-1 254,47 €
<b>Probability CFAR&lt;0</b>	55,83%
<b>CFAR 99%</b>	<b>-10 147,45 €</b>
<b>% of EBITDA</b>	80,04%
<b>Degree of asymmetry</b>	1,086289349
<b>Kurtosis</b>	1,025766246

=COUNTIF(G2:G102;"<0")/100

=PERCENTILE.INC(G2:G102;1%)



**Thank you for your attention!**





**Thank you for your attention!**