
Sunbeam

Example

Input Matrix.....1

Results Matrix.....2

| M-SCORE CALCULATOR | Sunbeam | |
|---------------------------------------|----------------|-------------|
| | 1997 | 1996 |
| Year | | |
| Acc. Receivable (Trade), Net | 295.6 | 213.4 |
| Current Assets | 658 | 624.2 |
| Current Liabilities | 198.1 | 271.6 |
| Total Assets | 1120.3 | 1072.7 |
| PPE Net | 240.9 | 220.1 |
| Long Term Debt | 194.6 | 201.1 |
| Sales (Net) | 1168.2 | 984.2 |
| Depreciation Expense | 38.6 | 47.4 |
| Cost of Goods Sold | 837.7 | 900.6 |
| SGA Expense | 131 | 214 |
| CFO | -8.2 | 14.16 |
| Net Income (excl. Extr. Items) | 109.4 | -228.3 |
| | | |
| | | |
| Notes | | |

1. Input the twelve (12) required financial statement data items in two consecutive years. The M-Score will be computed as of the current year. The data need not be based on annual reports: you can use latest (or trailing) twelve-months if you are willing to accordingly aggregate data from the income and cash flow statements.

2. The M-Score is calculated as in Beneish, Lee Nichols 2013, *Financial Analysts Journal* .

3. The calculator computes the M-Score, the odds ratio that the firm is a manipulator, and provides an assessment based on whether the model's variables are out of line relative to sample averages.

4. The use of the calculator is illustrated with data from the Sunbeam Case; the input and output are reproduced in the Sunbeam Example.

| | | |
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| | | |
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| Analysis* | Variable | Assessment |
|---------------------------------------|-----------------|------------------------------------------|
| Day Sales in Receivables Index | 1.1670 | Assess revenue recognition |
| Gross Margin Index | 0.3002 | Neutral |
| Asset Quality Index | 0.9282 | Neutral |
| Sales Growth Index | 1.1870 | High sales growth |
| Depreciation Index | 1.2831 | Declining depreciation rate |
| SG&A Index | 0.5157 | Neutral |
| Accruals to Total Assets | 0.1050 | Assess changes in working capital |
| Leverage Index | 0.7955 | Neutral |
| M-Score | -1.884 | |
| Estimated Probability | 0.030 | |

Odds Ratio **4.31 to 1**

Interpreting the M-Score

M – Score = -4.840 + .920 Days is Receivables index
+ .528 Gross Margin Index
+ .404 Asset quality index
+ .892 Sales growth
+ .115 Depreciation index
- .172 SGA index
+ 4.679 Accruals to total assets
- .327 Leverage index

M-Score is a transformation of the estimated probability of manipulation implied by firm characteristics.

The cut-off for this model is -1.78