

Accounting ratios for risk evaluation

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Internationally, there are no prescribed Accounting Ratios for Risk evaluation. In the Indian context also, Banking Regulatory Authorities have left such matters to the judgement and discretion of concerned Banks/Financial Institutions. However, it is quite logical to expect that a Bank/Financial Institution will go by the established Financial Practice and frame its Accounting Ratio Policy relevant for its Credit Risk evaluation purpose.

Ratio conveys quantitative inter-relationship between two attributes/variables for eventual comparison against a 'benchmark' and for trend analysis. Accounting Ratios facilitate meaningful and purpose-oriented decision-making in a business situation. In that respect, its utility will be determined on the basis of the purpose of computation of the Ratio. A Commercial Bank may lay higher stress on some ratios (e.g. Current Ratio, Acid Test) for working capital finance, while a Development Financial Institution may consider the other ratios more relevant (e.g. Debt Service Coverage Ratio, Cash Flow Ratios, etc.). An investor may, on the other hand, place both such ratios as equally important. A would-be employee (especially in senior position) may evaluate a company before deciding to join, mainly from Profit & Loss Ratios (e.g. Net Profit/Sales, Operating Profit, Margin, etc.).

From Credit Risk evaluation angle, Accounting Ratios have

significant bearing for a lending/investing bank, since overall computation of "Credit Rating" of their account/exposure is aided/supported by the outcome of Ratio Analysis also. Hence, not only it is necessary to identify relevant and more impacting ratios depending on the purpose, quantum and tenure of exposure, etc. but also to attach weight variant between/amongst ratios e.g. for short term investment in marketable securities (Rated by an Approved External Rating Agency), one may attach higher focus on Current Ratio/Net Profit/Sales ratios than on long term solvency ratios.

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Some specific ratios for credit risk

evaluation :

(For identification criteria, e.g., items of Current Assets, Current Liabilities, etc., one is to be guided by Standard Accounting Practice.)

1. Short Term Solvency Angle:

a) Current Ratio:

Current Assets

Current Liabilities

Minimum Expected Level: 1.3:1

(For financing working capital requirement based on "Turnover" Method for Small & Medium Enterprises (SME) and others as may be decided, Minimum Expected Level may be 1.10: 1.

b) Acid Test Ratio:

Quick Assets

Quick Liabilities

Minimum Expected Level 1: 1

(For SME, etc. as stated in (a) above, Minimum Expected Level may be 0.8:1.)

c) Cash Ratio :

Cash + Bank Balance + Marketable Securities

Current Liabilities

Minimum Expected Level: 0.5:1

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(For SME, etc. the minimum may be lower)

2)

a) Long Term Solvency Angle:

$$\frac{\text{Total External Liabilities}}{\text{Equity (Owned Funds)}}$$

Maximum Allowable Level: 2:1

(As per Institute of Chartered Accountants of India, there can be no maximum debt equity ratio, when 'debt' represents only Long Term borrowed funds. It varies from case to case.)

(Higher levels may be allowed for Infrastructure Sector (5:1), Priority Sector, e.g. SSI/SME, etc. (4:1) and other sectors having specific factors, e.g. Ship-breaking Units, etc.)

b) Debt Service Coverage Ratio :

$$\frac{\text{Earnings available for Debt Service}^{**}}{\text{One Year Debt Instalment Payment} + \text{Interest thereon}}$$

**Earnings include: Net Profit Plus

- Depreciation on Fixed Assets
- Loss, if any, on sale of Fixed Assets
- Interest on Debt for one year

Minimum Expected Level: 1.50:1

(For Priority Sector, SME, etc. as stated above, this minimum may be allowed at 1.30:1).

3) Profitability Angle:

a) Operating Profit Ratio :

$$\frac{\text{Profit before deduction of Depreciation, Tax \& Finance Charges}}{\text{Sales/Income}}$$

Expected Level will be dependent upon the nature of industry/business, operational area, size of the unit, period since when business is being carried on, trend analysis and other relevant factors. However, it is likely that a good unit will show at least a margin of 25% -30%.

b) Return on Capital Employed Ratio (ROCE)

Operating Profit

Owned Fund + Long Term Loan Fund

Expected Level aspect will be based on factors as stated in 3(a) above. However, ordinarily it is likely to be at least 15% -20%.

c) Interest Coverage Ratio:

$$\frac{\text{Operating Profit}}{\text{Interest Liability}}$$

Minimum Expected Level: 2: 1

(Subject to factors as stated in 3(a) above).

d) Profit-Asset Ratio.

$$\frac{\text{Operating Profit}}{\text{Total Tangible Assets}}$$

Minimum Expected Level will be dependent upon factors as stated in 3(a) above.

e) Indirect Overhead Ratio:

$$\frac{\text{Finance Charges} + \text{Depreciation (on Fixed Assets used for Administrative/Office purposes} + \text{Selling \& Administrative Cost}}{\text{Sales/Income}}$$

Sales/Income

Maximum allowable level is to be decided on case to case basis based on 3(a) above. However, it may be 10% -15%.

4. From Asset Movement Angle:

a)
$$\frac{\text{Inventory holding} \times 300 \text{ days}}{\text{Sales}}$$
 **

b)
$$\text{Trade Debtors} \times 300 \text{ days}$$
 ** (preferably average outstanding in a year)

Sales/Income

5. Trade Credit Payment Angle:

$$\text{Trade Creditors} \times 300 \text{ days}$$
 ** (preferably average outstanding in a year)

$$\frac{\text{Credit Purchase of Current Assets}}{\text{Sales/Income}}$$
 (preferably average level in a year)

**Computation based on 300

days in a year is advisable in Indian context keeping in view usual 52 weekly off + National holidays, etc.

Expected Level depends on case to case factors as stated in 3(a) above. However, generally, maximum level in terms of days may be between 90-120 days.

6. From 'Stress' Angle.

(BASEL Committee has stated as under. "Stress Testing has been adopted as a generic term describing various techniques used by Banks to gauge their potential vulnerability to exceptional, but plausible, events").

Stress Tested Cash Flow

$$\text{Debt Payments} + \text{Preference Dividend} + \text{Interest}$$

Cash Flow for the purpose would cover only Operating Cash Flow (Investing Cash Flow & Financing Cash Flow to be ignored). As a point of Stress Testing Scale, a reduction of certain % in income/sales with simultaneous increase in expenses, e.g. direct costs, etc. which may result in charge (reduction) in Cash Flow. There is no minimum or maximum. Stress % depends on Industry, operating environment, etc. It depends on the overall situation in business environment at the time of analysis.

The above cluster of ratios is only indicative which a Commercial Bank/ Financial Institution may find useful from Credit Risk Evaluation angle. There may be other important ratios as well such as :

- Finished Goods Holding
- Cash Flow Interest Coverage
- Capital Gearing Ratio
- Proprietary Ratio

Wise advice from Rally & Brown:

"You can envision a large number of potential financial ratios through which to examine almost every possible relationship. The trick is not

to come up with more ratios but to attempt to limit the number of ratios so that you can examine them in a meaningful way."

(Page 429 "Investment Analysis and Portfolio Management", 6th Edition.)

Practical Implication of Accounting Ratios in Credit Risk Evaluation

Accounting Ratios are usually computed on year-end position of Assets, Liabilities, Profit/Loss Account Components (over a position of generally 12 months) as reflected in Financial Statements. This is based on "going concern" approach. However, one limitation here is that the 'static' data of Assets & Liabilities on year -end data may not reflect a true and correct view. The alternative, however, is to collect specific position of various items from the concerned party, say, on month end basis (or as frequently as may be possible) and average the same on 12 month basis. This input may then for Credit Risk Evaluation purposes be more effective, as a dynamic tool.

Irrespective of whether a Bank/ Financial Institution chooses to continue to follow year-end method or average method of computation, the implications from Credit Risk Evaluation angle will be depending upon:

- Adoption of an appropriate Credit Rating System with generally large number of grades, where one of the 'inputs' would be Accounting Ratios.
- Bank/Financial Institution will have to decide as a Corporate Finance Policy the nature of Accounting Ratios to be used for Credit Risk Evaluation (e.g. there may be different focus for assessment of Working Capital vis-a-vis Loan for Fixed Assets or for Non-funded facilities/ Investment in securities, etc.).

- Specific tool 'Weight' for Accounting Ratios (from Credit Rating angle) is to be allocated, say, 20 out of total 100 marks for entire Credit Rating structure.
- Benchmarking is to be made consistent with Bank 's/Financial Institution' s Corporate Finance Policy for each Ratio.
- Maximum marks for each Component of Ratio is to be fixed, say, 4 out of 20 marks (being total 20 for all accounting ratios put together).
- Ratios conforming to Benchmark should be awarded highest marks and accordingly those below Benchmark should be ranked with varying marks down to even zero.
- Total marks awarded for all adopted ratios should then be carried forward to the overall credit rating structure so as to arrive at final grade for each account/exposure

In sum, Accounting Ratio is an inseparable arm of Credit Risk Evaluation and actual implication will rest upon the purpose, quantum and tenure of exposure on case by case basis.

Is Ideal Ratio an Insurance Against Credit Risk?

Ratio analysis -although a powerful tool in Credit Risk Evaluation, is not, however, the only means in the process. There are a number of other parameters on which Credit Risk aspects are analysed, e.g. Asset Cover (Credit Mitigants as per BASEL terminology), Management Quality of borrowing party, Macroeconomic indicators having impact on the exposure, etc. It, thus, cannot operate as an 'Insurance' against Credit Risk in view of the following:

- Each ratio is indicative of certain aspects of the organisation, e.g. Current Ratio is with respect of

Current Assets and Current Liabilities only and as such, totality is not possible to be drawn.

- High quality of one ratio may indicate poor signals on another dimension, e.g. Current Ratio considerably over 2:1 (say 3.1) may show Management inefficiency in holding current assets idle with carrying costs.
- Ratio analysis has over-bearing reflection of past position. The same may not subsist (good or bad) in future which is fraught with uncertainty especially in business environment
- Computation of ratio is dependent upon the analyst's views, approach, perception and objectivity, particularly in connection with identification of components forming a ratio, e.g. in identifying Current Assets, some analysts may ignore certain assets as 'Current', e.g. Inventory lying in stock beyond a particular period or treat some liabilities 'Current', although classified as Term Liability, e.g. Sundry Unsecured Loan without any specific repayment schedule.
- Ratio Test may have an analogy with Medical Pathology, e.g. Blood Report of an individual may show ideal level of Haemoglobin as on the date of test which may drastically change soon with some adverse physiological developments. In the same way, Ratio analysis may not guarantee about quality of credit assets on a continuous basis.

With the aforesaid limitations of Ratio indicators, it may be stated that Credit Risk protection can come from a host of factors in combination but not in isolation of one 'Input' (Ratio) only. Nevertheless, Accounting Ratios are still dominant factors in the matter of Credit Risk Evaluation. □