

## Financial ratios – Non-Financial Sector

### Background

Financial ratios are used by CARE to make a holistic assessment of financial performance of the entity, and also help in evaluating the entity's performance vis-à-vis its peers within the industry. Financial ratios are not an 'end' by themselves but a 'means' to understanding the fundamentals of an entity. This document gives a general list of the ratios used by CARE in its credit risk assessment. In addition to the ratios mentioned in this document, various other sector-specific ratios are used by CARE for evaluating entities in that sector.

The common ratios used by CARE can be categorised into the following five types:

- Growth ratios
- Profitability ratios
- Leverage and Coverage ratios
- Turnover Ratios
- Liquidity Ratios

These are given in detail below:

## A. Growth ratios

Trends in the growth rates of an entity vis-à-vis the industry reflect the entity’s ability to sustain its market share, profitability and operating efficiency. In this regard, focus is drawn to growth in income, PBILDT, PAT and assets. The growth ratios considered by CARE include the following (‘t’ refers to the current period while ‘t-1’ refers to the immediately preceding period):

Ratio	Formula
Growth in Net Sales	$\frac{[(\text{Net Sales}_t \times 12 / \text{No. of Months}) - (\text{Net Sales}_{t-1} \times 12 / \text{No. of Months})] \times 100}{[\text{Net Sales}_{t-1} \times 12 / \text{No. of Months}]}$
Growth in Total Operating Income	$\frac{[(\text{TOI}_t \times 12 / \text{No. of Months}) - (\text{TOI}_{t-1} \times 12 / \text{No. of Months})] \times 100}{[\text{TOI}_{t-1} \times 12 / \text{No. of Months}]}$ <p><i>TOI = Total Operating Income</i></p>
Growth in PBILDT	$\frac{[(\text{PBILDT}_t \times 12 / \text{No. of Months}) - (\text{PBILDT}_{t-1} \times 12 / \text{No. of Months})] \times 100}{[\text{PBILDT}_{t-1} \times 12 / \text{No. of Months}]}$
Growth in PAT	$\frac{[(\text{PAT}_t \times 12 / \text{No. of Months}) - (\text{PAT}_{t-1} \times 12 / \text{No. of Months})] \times 100}{[\text{PAT}_{t-1} \times 12 / \text{No. of Months}]}$

- ❖ **Total Operating Income-** In computing the Total Operating Income (TOI), CARE considers **all operating income** of the entity. For arriving at the core sales figure, the indirect taxes incurred by the entity (like excise duty, sales tax, service tax etc.) are netted off against the gross sales. CARE also includes some **other income related to the core operations** like income derived from job work done by the entity, any royalty/ technical knowhow/ commission received in relation to the core operations, refund of indirect taxes, sale of scrap, cash discounts received, duty drawback and other export incentives received by the entity, exchange rate gains (not related to debt).

Apart from the income from core operations, CARE also includes non-core income items in the computation of the TOI if the same are **recurring in nature** i.e. there is a consistent trend

in the entity deriving income from these sources. Examples include interest income, dividend income, rental income etc.

- ❖ **PBILDT**- To arrive at the PBILDT, all operating expenses are deducted from TOI. Operating expenses include raw material cost, stores & spares, power and fuel, employee costs, selling and distribution expenses and administrative and general expenses, and includes lease rental, royalty/ technical knowhow/ commission incurred, insurance cost, directors fees, exchange rate loss (not related to debt), bad debts etc.
  
- ❖ **PAT**- PAT is arrived at by deducting (-) /adding (+) the following from PBILDT:
  - (-) interest and finance charges net of interest cost which has been capitalized- This includes all finance charges incurred by the entity including interest on term loans, interest on working capital borrowings, interest on unsecured loans from promoters, premium on redemption of bonds, exchange rate profit/loss on debt etc.
  - (-) depreciation/amortization on assets
  - (-) Lease rentals
  - (+/-) non-operating income/expense (including profit/loss on sale of assets and investments)
  - (+/-) prior period items
  - (-) tax expense
  
- ❖ **Gross Cash Accruals (GCA)** - GCA is computed by adding all non-cash expenditure (like depreciation, provision for deferred tax) to PAT.

## B. Profitability Ratios

Capability of an entity to earn profits determines its position in the value chain. Profitability reflects the final result of business operations. Important measures of profitability are PBILDT margin, PAT margin, ROCE and RONW. Profitability ratios are not regarded in isolation but are seen in conjunction with the peers and the industry segments in which the entity operates. The profitability ratios considered by CARE include:

Ratio	Formula	Significance in analysis
PBILDT Margin	$\frac{\text{PBILDT}}{\text{TOI}} \times 100$	A key indicator of profitability in any manufacturing/service activity without considering the financing mix and the tax expenditure of the entity.
PAT Margin	$\frac{\text{PAT}}{\text{TOI}} \times 100$	Considers both business risk and the financial risk. This is the margin available to service the equity shareholders.
ROCE	$\frac{[\text{PBIT} + \text{Non-Operating Income} +/\text{- Extraordinary Income/Expenses}] \times [12 / \text{No. of Months}]}{\text{Avg.}(TCE_t, TCE_{t-1})} \times 100$ <p><i>TCE = Total Capital Employed = Networth + Total debt (OR) Net fixed assets + Net Working Capital</i></p>	ROCE reflects the earnings capacity of the assets deployed, ignoring taxation and financing mix. It is a powerful tool for comparison of performance of companies within an industry.
RONW	$\frac{\text{PAT} \times [12 / \text{No. of Months}]}{\text{Avg.}(\text{Tangible Networth}_t, \text{Tangible Networth}_{t-1})} \times 100$	RONW reflects the return to equity shareholders.

- ❖ **Tangible Networth** of the entity includes the equity share capital, all reserves and surplus (excluding revaluation reserve), unsecured loans from promoters which are subordinated to the outside loans, equity share warrants, share application money, ESOPs outstanding, minority interest (in case of consolidated financials).

- Miscellaneous expenditure not written off and Accumulated Losses- Both Miscellaneous expenditure not written off and Accumulated Losses are deducted from the above to arrive at the tangible network.
- Revaluation Reserves- Revaluation reserves arise out of revaluation of fixed assets and are not treated as a part of the tangible network of the entity.
- Treatment of intangible assets- An intangible asset is an asset which is not physical in nature. Examples of intangible assets include computer software, patents, copyrights, licenses, intellectual property, trademark (including brands and publishing titles), customer lists, mortgage servicing rights, import quotas, franchises, customer or supplier relationships, customer loyalty, market share, marketing rights, goodwill etc.

Generally intangible assets are excluded from the tangible network of the entity (e.g. software, internally generated goodwill, goodwill on consolidation). However, in case the intangible asset is critical to the core operations of the entity, CARE considers the same as a part of the tangible network of the entity. Examples include:

- Telecom license fees paid by the telecom operators to the Government of India
  - Surface rights paid by the miners to undertake mining activity in India
  - Media rights like movie rights, audio rights, video rights, broadcasting rights, television rights, theatrical rights, satellite rights, music rights, digital rights, overseas rights, copyrights etc.
  - Intellectual Property Rights (IPRs) - Intellectual Property is a non-physical property created by the intellect of the human mind. Examples of Intellectual Property include patents, copyrights, trademarks, designs etc. IPRs are generally seen in the IT and pharmaceutical sectors.
  - Purchased Goodwill/ goodwill arising on amalgamation
- Treatment of Deferred Tax Liability (DTL)- DTL is the timing difference between the accounting profit and profit as per income tax act. As this difference is expected to reverse in the future, CARE excludes the same from the computation of the tangible network of the entity.

### C. Leverage and Coverage Ratios

Financial leverage refers to the use of debt finance. While leverage ratios help in assessing the risk arising from the use of debt capital, coverage ratios show the relationship between debt servicing commitments and the cash flow sources available for meeting these obligations. CARE uses ratios like Debt-Equity Ratio, Overall gearing ratio, Interest Coverage, Debt as a proportion of cash accruals and Debt Service Coverage Ratio to measure the degree of leverage used vis-à-vis level of coverage available with the entity for debt servicing. Ratios considered by CARE include:

Ratio	Formula	Significance in analysis
Debt Equity Ratio	$\frac{\text{Total Long-term Debt (including current portion of debt)}}{\text{Tangible Network}}$	<ul style="list-style-type: none"> <li>Debt equity and Overall Gearing ratios indicate the extent of financial leverage in an entity and are a measure of financial risk. Though higher leverage would indicate higher returns to equity shareholders, the degree of risk increases for debt holders in case of uncertainty or volatility of earnings.</li> <li>While calculating the debt equity ratio, only the long-term debt (including the current portion of the long term debt) is considered.</li> <li>A company with a stronger competitive position, more favorable business prospects, and more predictable cash flows can afford to undertake added financial risk while maintaining the same credit rating.</li> <li>Both debt equity and overall gearing ratios are adjusted for the exposure to the group companies and analysis is done in conjunction with the performance of the respective group companies.</li> <li>CARE also considers the impact of the non-fund based working capital limits (availed by the entity) on the leverage levels of the entity.</li> </ul>
Overall Gearing (Including Acceptances / Creditors on LC)	$\frac{\text{Total Debt (including Acceptances/Creditors on LC)}}{\text{Tangible Network}}$	
Interest Coverage	$\frac{\text{PBILDT}}{\text{Total Interest \& Finance Charges – Amortization of Premium on Debentures (if any) – Interest Capitalized}}$	It indicates extent of cover available to meet interest payments. It is a simple indicator of profitability and cushion available to secured creditors.

Ratio	Formula	Significance in analysis
Term Debt / Gross Cash Accruals	$\frac{\text{Total Long-term Debt (including current portion of debt)}}{\text{Gross Cash Accruals}}$	Term debt/ GCA and Total debt/ GCA indicate the number of years typically required for repayment of the long-term debt and the entire debt respectively.
Total Debt / Gross Cash Accruals	$\frac{\text{Total Debt (including Acceptances/Creditors on LC)}}{\text{Gross Cash Accruals}}$	
Debt Service Coverage ratio (DSCR)	$\frac{\text{GCA+ Interest and finance charges- Internal accruals committed for capex or investment}}{\text{Gross Long-term loan repayable in the year+ Interest and finance charges}}$	DSCR Indicates adequacy of cash accruals to meet debt obligations. This ratio is seen in conjunction with the cumulative DSCR (given below) which incorporates prior period cash accruals. Nevertheless, the yearly ratios are significant as they reflect the coverage available for debt payments on a year to year basis.
Cash DSCR	$\frac{(\text{GCA+ Interest and finance charges- Internal accruals committed for capex or investment})- 25\% \text{ increase in the working capital}}{\text{Gross Long-term loan repayable in the year+ Interest and finance charges}}$	Cash DSCR is computed by deducting the margin money for the working capital (25% of incremental working capital) from the funds available for debt servicing on the assumption that it will be met out of the GCA and hence will not be available for debt servicing. The balance 75% of the incremental working capital is assumed to be met through working capital borrowings.
Cumulative/ Average DSCR		It indicates running position of average DSCR every year. Cumulative DSCR for the last year of projections would be equivalent to the average DSCR for the tenure of the instrument.

❖ **Total debt-** In total debt, CARE considers all forms of short-term and long-term debt, including redeemable preference share capital, optionally convertible debentures, interest free loans, foreign currency loans, vehicle loans, fixed deposits, unsecured loans, commercial paper, inter-corporate borrowings, borrowings from promoters, associates, other group companies, and bills discounted. Apart from these, CARE also considers acceptances/ creditors on LC and interest bearing mobilization advances (in case of Construction entities) as a part of the total debt of the entity. Any corporate guarantee or loans and advances extended by the entity are also adjusted

However, if any part of the borrowings from promoters is subordinated to the loans from outsiders which are being rated, the same is treated as a part of networth. Nevertheless, the interest expense on the subordinated debt is treated as a normal interest expenditure of the entity.

If the debt is backed by a dedicated/ lien-marked Fixed Deposits/ cash margin, CARE excludes the same from the total debt.

- **Treatment of Hybrid instruments-** Hybrid instruments are instruments which have the characteristics of both debt and equity. Examples include Redeemable Preference Shares, Compulsorily Convertible instruments, Optionally Convertible instruments, including Foreign Currency Convertible Bonds (FCCBs), Perpetual Debt etc. These instruments normally carry a fixed rate of coupon/ dividend. At times the coupon/ dividend may be deferrable, thus giving the issuer the flexibility to conserve cash in times of stress.
  - **Redeemable Preference Shares-** Preference shares have a fixed tenure at the end of which they have to be redeemed by the issuer. Further, they also carry a fixed rate of dividend. As per the Companies Act, companies cannot issue preference shares of more than 20 years maturity. Hence, preference share capital has the characteristics of debt and is treated as such by CARE in its analysis.
  - **Compulsorily Convertible Instruments-** Sometimes the instrument could be compulsorily convertible into equity at the end of a long time frame, say 5-7 years. Hence, the company does not have to redeem the instrument at the end of the tenure and as such there is no credit risk. In all such cases where the terms of the preference shares/ debentures give it equity like characteristics, CARE treats the Compulsorily Convertible instruments (including Compulsorily Convertible Preference Share Capital (CCPS)/ Compulsorily Convertible Debentures (CCDs)) as quasi equity and considers it as a part of the networth of the company.



- **Optionally Convertible Instruments-** At times companies also issue optionally convertible instruments (typically Optionally Convertible Preference Shares (OCPS)/ Optionally Convertible Debentures (OCDs)). Here the investor has the option to convert the instrument into equity shares at the end of a certain time frame at a pre-determined price. In this case, the alternative of redemption of the instrument cannot be ruled out till it is actually converted into equity. The instrument thus has debt like characteristics till the time it is actually converted into equity. Thus, CARE generally treats the optionally convertible instruments as debt in its analysis.

### D. Turnover Ratios

Turnover ratios, also referred to as activity ratios or asset management ratios, measure how efficiently the assets are employed by the entity. These ratios are based on the relationship between the level of activity, represented by sales or cost of goods sold, and level of various assets, including inventories and fixed assets. The turnover ratios considered by CARE include:

Ratio	Formula	Significance in analysis
Avg. Inventory Period	$\frac{\text{Avg.}(INV_t, INV_{t-1}) \times 30 \times \text{No. of Months}}{\text{Costs of Sales} - \text{Selling Expenses}}$ <p><i>INV = Total Inventory</i></p>	<p>This indicates the turnaround time of inventory. High average inventory period may indicate high levels of obsolescence of inventory, while low levels of inventory may be inadequate to meet emergencies. The ratio is compared with normal inventory holding policy of the company and the industry practice. CARE also looks at the Average Raw Material Inventory Period, Average WIP Inventory Period and the Average Finished Goods Inventory Period.</p>
Avg. Collection Period	$\frac{\text{Avg.}(REC_t, REC_{t-1}) \times 30 \times \text{No. of Months}}{\text{Gross Sales} + \text{Traded Goods Sales} + \text{Job Work Income} + \text{Scrap Sales}}$ <p><i>REC = Total Receivables</i></p>	<p>This indicates quality of debtors. Too low a figure can indicate strict trade terms resulting in possible loss in sales. Very high average collection period may indicate slow realization of debtors and in turn may be an indicator of stressed liquidity position. It is compared with the normal ('stated') credit period extended to customers and the industry norms.</p>

Ratio	Formula	Significance in analysis
Avg. Creditors Period	$\frac{\text{Avg.}(\text{CRED}_t, \text{CRED}_{t-1}) \times 30 \times \text{No. of Months}}{\text{Cost of Sales} - \text{Misc. Expenses Written Off}}$ <p><i>CRED = Total Creditors</i></p>	It is compared with normal credit period enjoyed by the entity and the industry norms. Too high a figure will indicate possible delays in payments to creditors which would ultimately reflect in high cost of raw material, as the ‘interest’ on the ‘delayed’ payments normally gets loaded to the raw material cost.
Working Capital Cycle	$\text{Avg. Inventory Period} + \text{Avg. Collection Period} - \text{Avg. Creditors Period}$	The effect of all the above-mentioned ratios is reflected in the working capital cycle.
Fixed assets turnover ratio	$\frac{[\text{TOI} - \text{Other Income Not Related to Core Business}] \times [12 / \text{No. of Months}]}{\text{Avg.}(\text{Gross Block}_t, \text{Gross Block}_{t-1})}$ <p><i>Gross Block: Net of Intangible Assets such as Goodwill etc.</i></p>	In general, higher the ratio, higher the efficiency of asset/capital utilization. But too high a figure can indicate old assets requiring large outlay on modernization going forward. Hence the ratio has to be looked at in conjunction with the industry average.
Working Capital Turnover Ratio	$\frac{[\text{TOI} - \text{Other Income Not Related to Core Business}] \times [12 / \text{No. of Months}]}{\text{Avg.}(\text{NWC}_t, \text{NWC}_{t-1})}$ <p><i>NWC = Net Working Capital = Total Current Assets – [Total Current Liabilities related to Operations – Creditors for Capital Goods]</i></p>	In general, higher the ratio, higher is the efficiency. Too high a figure can, however, indicate low levels of inventory, which may be inadequate to meet emergencies.

## E. Liquidity Ratios

Liquidity ratios such as current ratio and quick ratio are broad indicators of liquidity level and are important ratios for rating short-term instruments. Cash flow statements are also important for liquidity analysis. Liquidity Ratios considered by CARE include:

Ratio	Formula	Significance in analysis
Current Ratio	$\frac{\text{Total Current Assets}}{\text{Total Short Term Debt (includes Current Portion of Long-term Debt/Fixed Deposits and bills discounted) + Total Current Liabilities and Provisions}}$	This indicates short-term liquidity position. CARE compares the same with the industry trends and banking norms.
Quick Ratio	$\frac{\text{Total Current Assets – Total Inventories}}{\text{Total Short Term Debt (includes Current Portion of Long-term Debt/Fixed Deposits) + Total Current Liabilities and Provisions}}$	This indicates capacity to meet short-term obligations using near-liquid assets. CARE compares the same with the industry trends and banking norms.

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**HEAD OFFICE**

Credit Analysis & Research Ltd.

4th Floor, Godrej Coliseum, Somaiya Hospital Road, Off Eastern Express Highway, Sion (East), Mumbai - 400 022.

Tel: +91-22-6754 3456, Fax: +91-22- 6754 3457, E-mail: care@careratings.com

**REGIONAL OFFICE**

<p><b>AHMEDABAD</b> 32, Titanium, Prahaladnagar Corporate Road, Satellite, Ahmedabad - 380 015 Tel: +91-79-40265656 Fax: +91-79-40265657</p>	<p><b>KOLKATA</b> 3rd Floor, Prasad Chambers, (Shagun Mall Bldg.) 10A, Shakespeare Sarani, Kolkata - 700 071. Tel: +91-33- 40181600 / 02 Fax: +91-33-40181603</p>
<p><b>BENGALURU</b> Unit No. 1101-1102, 11th Floor, Prestige Meridian II, No. 30, M.G. Road, Bangalore - 560 001. Tel: +91-80-46625555 / 46625544 Fax: +91-80-41514599</p>	<p><b>JAIPUR</b> 304, Pashupati Akshat Heights, Plot No. D-91, Madho Singh Road, Near Collectorate Circle, Bani Park, Jaipur - 302 016. Tel: +91-141-402 0213 / 14</p>
<p><b>CHANDIGARH</b> SCF No. 54-55, First Floor, Phase 11, Sector 65, Mohali 160062. Tel No. +91-172 5171100-1109</p>	<p><b>HYDERABAD</b> 401, Ashoka Scintilla, 3-6-502, Himayat Nagar, Hyderabad - 500 029. Tel: +91-40-69000500 - 522 Fax: +91-40-40020131</p>
<p><b>CHENNAI</b> Unit No. O-509/C, Spencer Plaza, 5th Floor, No. 769, Anna Salai, Chennai - 600 002. Tel: +91-44-2849 7812 / 2849 0811 Fax: +91-44-28490876</p>	<p><b>NEW DELHI</b> 13th Floor, E-1 Block, Videocon Tower, Jhandewalan Extension, New Delhi - 110 055. Tel: +91-11-4533 3200 Fax: +91-11-45333238</p>
<p><b>COIMBATORE</b> T-3, 3rd Floor, Manchester Square Puliakulam Road, Coimbatore - 641 037. Tel: +91-422-4332399 / 4502399</p>	<p><b>PUNE</b> 9th Floor, Pride Kumar Senate, Bhamburda, Senapati Bapat Road, Shivaji Nagar, Pune - 411 015. Tel: +91-20- 4000 9000</p>