RATING APPROACH – Financial Ratio Analysis (Non-Financial Sector) September 2024

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This document updates and supersedes ICRA's earlier document on this subject, published in September 2022. This revised document incorporates a few additions intended to provide more clarity on ICRA's approach to making certain adjustments in the financial statements for undertaking ratio analysis of non-financial sector entities.

Overview

ICRA's credit ratings are a symbolic representation of its opinion on the relative credit risk associated with the debt instrument being rated. This opinion is formed after evaluating an entity's industry, business and financial risks, its liquidity and financial flexibility, the management's financial policy, its corporate governance practices, and support from group entities. This document gives a description of the salient financial ratios assessed by ICRA for evaluating the financial risk profile of entities in the non-financial sector. These financial ratios are the commonly used ones. In addition to these, a variety of sector-specific ratios, as described in the various sector-specific methodologies published by ICRA, are also evaluated as part of ICRA's analytical approach to credit risk assessment.

As a broad principle, ICRA's analytical approach centres on the following three elements:

1) **Longer period analysis**: The financial risk analysis is not undertaken solely based on the latest available ratios as it may cause a point-in-time analysis bias for reasons such as recent capital expenditure, recent fresh capital infusion and so on—that may skew the ratios one way or the other. To assess the financial risk profile of an entity, ICRA analyses its long-period performance trends of the past as well as draws projections for the expected performance in future. While the relevant period of analysis may vary from case to case and/ or sector to sector, as a general practice, around five years of past financials and around three years of projections are analysed.

2) **Comparison with peers**: The analysis is meant to gain an understanding of how the financial metrices of the rated entity compare with that of its peers, rather than the entity being assessed in isolation. After all, ratings are relative measures of credit risk and an analytical process that involves a comparison with peers supports the ethos of rating consistency. While the rating scale (AAA to D) remains common across sectors, the yardsticks for undertaking the comparative performance may vary between sectors and hence 'comparison with peers' is to be understood as a comparison among entities belonging to, at the very least, the same sector.

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3) **Standard adjustments**: When comparing entities, suitable adjustments are made to the way some of the reported items in the profit and loss and the balance sheet statements are classified. These could be simple adjustments such as making classification distinctions between the operating income and the non-operating income, to the more esoteric ones such as forking out hybrid instruments into debt and equity. These are meant to achieve a like-to-like comparison of the financial ratios among entities.

It is also necessary to emphasise that a credit rating exercise, that includes a financial ratio analysis, is not an audit and hence if some managements practise corporate legerdemain, and the rating fails later, it need not reflect a failure of the analytical approach.

The various financial ratios discussed in this document have been divided into four categories viz., profitability, leverage, coverage and liquidity. Profitability metrics are a measure of an entity's efficiency and return on investments. Leverage ratios measure the indebtedness of an entity. Coverage ratios measure the factor of safety between the inflows and the debt servicing obligations. Finally, liquidity ratios measure the buffer that an entity has in the form of various internal and external sources of cash, which could be utilised in case of any temporary cash flow mismatch, for meeting the near-term obligations.

Profitability

What does it signify? Profitability is a measure of the earnings generated by an entity in the period of analysis in relation to its income or the resources deployed. It could be influenced by a multitude of factors, including those that are firm-specific or those that are related to the economy, industry, or regulations. A consistent track record of higher profitability shown by an entity compared with its peers reflects a superior competitive position arising from one or more factors, including superior brand strength, better distribution reach, attractive product profile, technological superiority, or higher cost efficiency (operating or capital).

Why is it important? It is imperative for most businesses to invest regularly in product development, research, advertising, and various tangible and intangible assets to sustain or improve their competitive position. Entities that have superior profitability can do so through internally generated resources with low dependence on external financing. Moreover, such entities can generate sufficient surplus for not only meeting debt servicing obligations, but also to reward equity investors. This in turn improves their ability to attract fresh capital for future business requirements. However, an entity may be investing more money than it is making, resulting in negative free cash flows. Such an entity might have continued dependence on external financing in the near to medium term. Yet, this need not necessarily be a credit negative if the pay off on investments is high to the extent that profitability (read Return on Capital Employed) well exceeds the cost of capital.

The various ratios typically considered to measure an entity's profitability are discussed below:

Operating Profit Margin

Operating Profit Margin (OPM) is a measure of an entity's pricing power and/ or operating efficiency. This ratio is not affected by the entities' capital structure, the depreciation policies, the tax systems, or sources of non-core income. Hence, this ratio is a useful metric in comparing the margins of entities arising from their core business. Yet, the OPM does get influenced by business model choices. To illustrate:

» An entity may choose to pay to its suppliers quickly, seek supplier discounts and fund its working capital requirements through borrowings, while another may fund its working capital requirements by pushing back payments to creditors against which it foregoes discounts from its suppliers. The reported operating profits (and OPM) are likely to be higher in case of the former, even as these may be offset at the net profit level in view of the former's relatively higher borrowings and hence higher interest outgo.

- The OPM between two entities in the same broad sector may also differ following differences in their product mix and 'make versus buy' choices in their supply chains. An entity with in-house manufacturing will typically have higher OPM compared to one which follows an asset light model, as the former captures a larger share of the value addition and also on account of the need to earn higher profits to cover the higher capital costs.

The reported OPM may also differ among entities depending on how items like development costs are accounted for—whether capitalised or expensed through the profit and loss statement. Further, ICRA recognises the limitations of the OPM in its role as the headline margin metric. In the analysis of commodity businesses, for instance, the OPM analysis is complemented by a contribution analysis. This becomes relevant to delineate the impact on margins caused by the movement in the spread between the price of the produce and the raw material costs, and the movement in other operating costs. The above aspects are appropriately factored-in by ICRA while comparing the OPM of entities. Moreover, the OPM is also driven by the capital intensity of the business in which the entity operates, as the entities which are present in capital intensives businesses need to earn higher operating profit (and thus OPM) to cover for the relatively higher capital costs, thus limiting the utility of OPM for cross-sectoral comparisons.

Net Profit Margin

Net Profit Margin (NPM) is a measure of the earnings generated by an entity after charging off all operating and non-operating expenses, capital costs (depreciation and financial expenses) and taxes. Holding all else equal, two entities having the same OPM may have a different NPM if one entity part-funds its business through debt while the other chooses to remain debt-free. The net profits (and NPM) of the former will be lower as it would need to pay out a part of its profits as interest. From a credit perspective, an entity that has higher NPM would accordingly be relatively safer, all else being equal. Yet, an entity that reports higher margins as it follows a premium pricing strategy need not always be better than one whose business model hinges on low margins but high volumes, as despite the former's higher margins, its profits may fall short of the business requirements for investment and debt servicing. Effectively, while NPM comparison across entities does provide a perspective on relative returns, this is assessed by ICRA against the backdrop of business characteristics and the operating choices made by entities.

Return on Capital Employed

Return on Capital Employed (RoCE) is a measure of the efficiency with which an entity sweats the capital deployed in its business. This ratio is influenced not just by the factors that influence the profit margins (viz., pricing power/ policy and/ or operating efficiency), but also by the level of asset utilisation. A high level of asset utilisation as measured through the ratio of Operating Income to Gross Block is typically a reflection of the efficient utilisation of the fixed assets. However, a high ratio could also be the result of an old and highly depreciated asset base warranting imminent reinvestment towards replacement/ modernisation.

Since RoCE measures how well the capital deployed in the business has been put to use, irrespective of the source of the capital or the extent of the capital deployed, this ratio could be used to compare entities across diverse businesses and with different capital structures. When ICRA undertakes a comparative analysis of the level of RoCE demonstrated by entities, it does so against the backdrop of the fundamental business risk attributes of the entity, besides the track record of volatility in RoCE shown over the years.

Business Risk and RoCE: An entity may be commanding a relatively high RoCE, but that might be because it operates in a relatively high-risk business. This necessitates drawing out the meaning of RoCE on a business risk-adjusted basis (which is analogous to tracking the spread between the RoCE and the cost of capital). Conversely, a numerically low RoCE may be the outcome of the entity's operations in a low-risk sector, even as its RoCE might be relatively higher than its peers. In such situations, a low absolute RoCE is not considered a reflection of the weak business positioning within the sector that the entity operates in. In another setting, a high RoCE may be an outcome of a business model oriented towards a lean

supply chain and just-in-time inventory controls. However, a supply chain shock because of crystallisation of some discrete event could disrupt the business and make the extreme focus on operating efficiency look a highly risky business choice.

Volatility in RoCE: A track record of a highly volatile RoCE shown over the years could be because of an infirm business position or presence in a cyclical industry. The RoCE of an entity may slide in a given year if it undertakes a large capital expenditure (capex) programme or pursues an acquisition. However, ICRA does not necessarily perceive this as a credit negative, if in its assessment, the capex or the investment is estimated to generate adequate returns in the future.

ICRA also appropriately considers the impact on RoCE of an entity's policy or practice of stretching payments to its suppliers and service providers, which may give the impression of healthy profitability but mask the reality of tight liquidity.

The above aspects are appropriately factored-in by ICRA while analysing the RoCE metric.

Ratio	Computation
Operating profit margin	(Operating profit) / (Operating income)
Net profit margin	(Net profit after tax) / (Operating income)
Return on capital employed	(Profit before interest and tax) / (Average capital employed)

Operating Income = Revenues from Operations (net of indirect taxes)

Operating Profit = Profit before Depreciation, Amortization, Interest, Tax and Non-Operating or Non-Recurring Income and Expense

Capital Employed = Total Debt + Net Worth + Deferred Tax Liability – Capital Work in Progress – Capital Advances

Leverage

What does it signify? Leverage, shorthand for financial leverage in this note, is a measure of an entity's dependence on borrowed funds. Lower the dependence on borrowings, the lower (better) the leverage. When an entity borrows, it is obligated to pay both interest as well as principal to the lenders as per a defined schedule. This pushes up the fixed cost burden on the borrowing entity and in the limiting case, increases the default risk. While high leverage may mean high risk from a credit perspective, it is an oft-adopted course by shareholder-oriented managements given that high leverage, in good times, leads to high returns on equity capital. An entity's financial leverage could thus be a function of its management's financial policy and risk tolerance, besides being a point-in-time reflection of an entity's business and financial choices.

Why is it important? Since borrowed funds typically have fixed obligations in the form of interest and principal payments irrespective of the level of cash flow generation, as against equity capital where there are no fixed obligations and pay-outs remain discretionary, leverage denotes the extent of financial risk taken by an entity. An entity with lower leverage typically has higher financial flexibility to raise incremental external capital (debt or equity) for re-investment in business or other purposes. An entity with lower leverage is also better equipped to withstand volatility in cash flow generation in situations of economic downturn, competitive challenges, unexpected rise in costs, changing consumer preferences, or regulatory changes. Compared with stable or mature industries, cyclical industries or those with higher volatility in cash flows have lower tolerance to financial leverage, lest it should increase the proportion of fixed financial expenses in their cost structure, thereby increasing the probability of default.

It is to be noted that leverage is not looked in isolation but in conjunction with the debt tenor, such as for long-dated assets like the road projects or power projects or hotel projects where the loan tenors are typically long. In such cases, even as profit generation may remain weak in the initial years of the project and leverage ratios may appear high, the fact that the long-term debt contracted may have a sufficiently long period of moratorium (and interest pay-out during the construction phase may also be funded through the project debt) along with a ballooning and a spread-out repayment schedule, the financial risk profile could still be construed as adequate.

The various ratios typically used to measure an entity's leverage are discussed below:

Gearing

Gearing is a commonly used measure of leverage and is defined as the ratio of borrowed funds to shareholders' funds. While ascertaining borrowed funds, ICRA considers all the long-term and short-term debt, lease liabilities, and certain off-balance sheet liabilities such as receivables discounted[1] for an entity. While ascertaining shareholders' funds, ICRA adjusts the net worth for revaluation reserves and miscellaneous expenditure not written off, to arrive at the tangible net worth as it gives a more accurate representation of the owned funds. The minority interest, which represents the share of non-controlling shareholders in a consolidated entity, is also included in the shareholders' funds. Deferred tax liability is not included in the shareholders' funds as these arise from timing differences between book profits and profits computed as per the Income Tax Act, which are expected to be reversed eventually. Apart from these, ICRA makes appropriate adjustments to assign equity credit to various hybrid instruments[2], such as convertible debentures, preference shares and perpetual debt, depending on their contractual terms. In addition, ICRA also nets off from the gross debt, the cash reserves that are earmarked for servicing specific debt instruments like the Debt Service Reserve Account (DSRA) (and likewise for cash margins for non-fund-based limits from the total outside liabilities), to estimate the net leverage ratios. These earmarked cash reserves are adjusted against the gross debt levels and are not considered for assessing the liquidity position of an entity. However, reserves such as DSRA which is earmarked for specific debt instrument is considered for liquidity assessment of that specific debt instrument.

1 Receivables that have an ultimate recourse on the entity discounting the receivables.

2 For more details on ICRA's approach to rating hybrid instruments, please refer to the methodology titled, "Rating Approach—Hybrid instruments issued by corporate sector entities" available on ICRA's website www.icra.in.

While gearing is a useful metric to know the mix of capital used to fund the entity's assets, a high or a low ratio need not always indicate a strong or a weak financial profile and is looked at on a case-by-case basis.

When low gearing isn't necessarily a virtue

Consider a sample balance sheet presented in the table below. The example entity is constrained to make investments in group entities out of owned funds as the lenders are unwilling to sanction loans for making such investments. Further, assume that the margin on working capital borrowings for funding the current assets is 25%, the margin on term loans for the purchase of fixed assets is 20%, and the investment in group entities is to be funded entirely through net worth.

Assets		**Liabilities**	
Net Fixed Assets	40	Net Worth	248
Investments in Group Entities	200	Working Capital Loan	120
Debtors	100	Term Loan	32
Inventories	60		
TOTAL	**400**	**TOTAL**	**400**

For the above balance sheet, what should be the minimum net worth?

Net worth requirement = 25% margin on current assets of 160 units + 20% margin on net fixed assets of 40 units + entire investments in group. Thus, the total minimum net worth required for the business is 248 units. Accordingly, the gearing of the entity is computed as 0.6 time (=152/ 248). However, such seemingly low gearing need not be considered a credit positive as, by design, this is the maximum gearing that the entity can have. Rather, in such cases, assessing the adjusted gearing (adjusting for investment in group entities) would be more relevant. The adjusted gearing in this case is computed as 3.2 times (=152/ 48), a high ratio.

Adjustment for encumbered cash

An entity may be required to maintain encumbered fixed deposits (or cash balances) as part of say, the Debt Service Reserve Account (DSRA) or as margin funding for non-fund-based limits. Such deposits are only available to be utilised for servicing the specific obligations for which they are specifically earmarked. ICRA makes the following adjustments with respect to encumbered deposits:

a. If deposits can be utilized on or before the due date of debt servicing
   ICRA considers such deposits as a source of liquidity only while evaluating the liquidity profile of the debt instrument being rated.

b. If deposits can be utilized only after the due date of debt servicing
   In this scenario, the encumbered deposits merely act as a security for the benefit of the financial creditors against the total outstanding obligations. Thus, to represent the entity's net obligations, ICRA nets off such deposits from the gross debt (and likewise for cash margins for non-fund-based limits from the total outside liabilities).

Total Indebtedness Ratio

Total indebtedness ratio is defined as the ratio of all external liabilities to shareholders' funds or the market capitalisation (if the entity's equity is publicly listed). The external liabilities include all the long-term and short-term liabilities such as debt, deferred tax liability and creditors. This ratio normalises the impact of funding difference among entities with respect to their use of fund-based and non-fund based facilities. Since non-fund based lines of credit are not reported under borrowed funds (unlike fund based facilities), an entity that relies primarily on non-fund based lines of credit for funding its working capital requirements or has extended credit terms with its suppliers and service providers will appear to have a lower (better) gearing compared to an entity that utilises fund-based lines of credit such as cash credit limits. The total

indebtedness ratio addresses this aspect, as external liabilities include fund-based limits, non-fund based liabilities and creditors.

Debt-to-profit Ratio

The Debt-to-profit ratio is defined as the ratio of borrowed funds to operating profits and denotes the extent of leverage in relation to profits. As debt is typically required to be serviced from operating profits (unless refinanced or paid through other internal or external resources), this ratio measures an entity's susceptibility to volatility in profits. However, as debt servicing includes both interest and principal payments, this ratio is seen in conjunction with the average cost, tenor and repayment schedule of the borrowed funds as two entities having similar debt-to-profit ratio could have different financial risk profiles, depending on the financing cost, tenor and the repayment schedule. As an example, for two entities with similar debt levels, the entity having a longer repayment schedule can utilise the profits generated over a longer tenure to service the debt and thus can sustain a higher debt-to-profit ratio compared to an entity with a shorter repayment period.

Accruals to Debt Ratio

It is defined as the ratio of cash accruals to borrowed funds and its reciprocal is an indicator of the number of years required to repay the borrowings with the existing level of accruals. For calculating cash accruals of an entity, depreciation is added back to net profits and dividend pay-outs to equity and preference shareholders are charged off. Although the debt holders rank higher than the shareholders in terms of priority of claims, this ratio attempts to assess the debt servicing ability of an entity while assuming dividend pay-outs to be non-discretionary and recurring. This ratio is particularly useful to analyse entities, most of whose debt is amortising in nature and dividends are expected to be sticky. Moreover, this ratio is seen along with the average maturity profile of the debt. Notwithstanding high accruals-to-debt ratio for an entity, the lower average maturity profile of debt could reflect a difficulty in meeting the debt servicing obligations at the existing levels of cash accruals, implying that the entity might have to depend on external funding support or refinancing, for debt servicing.

Ratio	Computation
Gearing	(Total debt) / (Tangible net worth)
Total indebtedness ratio	(Total outside liabilities) / (Tangible net worth)
Debt-to-profit ratio	(Total debt) / (Operating profit)
Accruals to debt ratio	(Net cash accruals) / (Total debt)

Total Debt = Long-Term and Short-Term Debt + Lease liabilities + Off-Balance Sheet Liabilities such as receivables discounted + debt component of hybrid instruments as assessed by ICRA based on the instruments' contractual terms

Shareholders' Funds or Tangible Net Worth = Net Worth - Revaluation Reserves - Miscellaneous Expenditure not Written-off + Minority Interest + Share Application Money + equity component of hybrid instruments as assessed by ICRA based on the instruments' contractual terms

Total Outside Liabilities = Total Debt + All Long-Term and Short-Term External Liabilities such as Deferred Tax Liability, Creditors and Operating or Non-Operating Liabilities

Net Cash Accruals = Net Profit after Tax + Depreciation – Dividend on Preference and Equity Shares

Coverage

What does it signify? Coverage is a measure of an entity's debt-servicing ability and is calculated as the ratio of profits (or cash flows) to the debt servicing obligations in the period of analysis. The higher the ratio, the higher is the cushion available with an entity to withstand the variability in profits (or cash flows), for making good its financial obligations. Coverage is a function of an entity's profits, leverage and debt characteristics (in terms of cost of debt and repayment schedule).

Why is it important? Entities with higher profitability and lower leverage will generally have better coverage ratios and thereby healthier financial risk profiles. The coverage ratio, however, needs to be seen in conjunction with the riskiness of the business in which the entity operates. A risky business is prone to volatility in earnings, and thus needs a higher cushion to tide over period of downturns. On the other hand, a business with a stable regular income can operate at lower coverage, while maintaining a healthy financial profile. In case the coverage ratio of an entity is below 1.0 time in the period of analysis, it may have to seek recourse from other sources of liquidity—such as cash balances or liquid investments or equity infusion or undrawn working capital limits or resort to refinancing the loans—to avert a situation of default on debt servicing. However, a ratio of less than 1.0 time does not always indicate a stressed financial position as it may have high financial flexibility to timely refinance and thus, this ratio should be seen in conjunction with the financial flexibility of an entity.

The various ratios that are typically used to analyse an entity's coverage are discussed below:

Interest Coverage Ratio

Interest coverage ratio is defined as the ratio of operating profits to gross interest expense (without netting off the interest income from loans and advances) and is an indicator of an entity's ability to cover the ongoing cost of borrowed funds through the profits generated from operations. An entity with an interest coverage ratio of less than 1.0 time would generally be unable to service even the cost of borrowed funds and thereby would be exposed to a high probability of default. For such entities, the capacity to raise fresh funds would also be constrained, which in turn may adversely impact the long-term viability. On the contrary, for an entity with an interest coverage ratio of 10 times, its profits will need to fall dramatically before becoming insufficient to make good the interest payments. An apparently comfortable interest coverage ratio, however, does not reveal whether the entity would have a surplus left, after making interest payments, to repay the principal portion of the debt as it becomes due or to fund the margin required for a proposed large capex outlay. Nevertheless, this ratio is of relevance in case of entities where most of the debt is non-amortising in nature.

Debt Service Coverage Ratio

The Debt Service Coverage Ratio (DSCR) is defined as the ratio of internal accruals to the debt servicing obligations and is an indicator of an entity's ability to meet all the fixed financial obligations on the borrowed funds (interest, principal repayment and dividend on preference shares) from its internal accruals. A ratio of more than 1.0 time indicates that the entity will be able to meet its obligations from internal accruals, while a ratio of less than unity indicates a shortfall and a possible dependence on timely refinancing.

A similar cash flow-based ratio is the cash debt service ratio, which is defined as the ratio of operating cash flows after adjusting for the changes in working capital to the debt servicing obligations. It is an indicator of an entity's ability to cover for all the fixed financial obligations on the borrowed funds (interest, repayment and dividend on preference shares) from its operating cash flows' net of working capital changes. As profits often do not equal cash, as funds may be blocked in working capital, a cash flow ratio such as this is generally a better indicator of the debt servicing ability of an entity. However, a weak cash debt service ratio does not necessarily indicate a weakness in financial risk profile because the ratio assumes that the entire working capital requirement would be funded from operating profits, which may not always be the case.

For a growing business, the incremental working capital requirement is generally funded though both operating profits as well as fresh borrowings. Nevertheless, a higher ratio in a stable or a growing business is generally indicative of a healthy financial risk profile and implies sufficient cash flow availability for re-investment in business. Likewise, in a declining business, even if this ratio appears comfortable, it may only be the outcome of release of working capital even as underlying profits may be on a declining curve. In such cases, while a positive cash debt service ratio would indicate no immediate pressure on the debt servicing ability, this situation may not sustain if the business and profits keep declining in such a manner that liquidity pressures eventually catch up.

Ratio	Computation
Interest coverage ratio	(Operating profit) / (Gross interest expense)
Debt service coverage ratio	(Net profit after tax + Gross interest + Depreciation) / (Gross interest + Repayment + Dividend on preference shares)

Liquidity

What does it signify? Liquidity is the measure of an entity's ability to meet its short-term cash obligations from various internal or external resources. Internal resources include the cash generated from operations, unencumbered cash and cash equivalents on hand, and cash inflows expected from the monetisation of physical and financial assets. External resources include various forms of external capital such as undrawn working capital limits, short-term loans, project loans and corporate loans from financial institutions, and fresh equity capital committed to be brought in by promoters or a third-party. The short-term obligations include both the committed as well as the contingent claims on an entity's cash, including the debt servicing obligations, working capital requirements, capital expenditure and other investment outlays, dividend and share buyback-related outflows. Further, there could be a sudden demand on cash resources arising from crystallisation of discrete events such as a litigation penalty, and hence analysis of the contingent liabilities and the probability of crystallisation of them is critical while assessing the liquidity position of an entity. The higher the cushion available between the resources available (especially internal resources) and the obligations, the better is the liquidity profile of an entity. In addition to the adequacy of internal and external resources, the liquidity profile is also driven by the vulnerability of an entity to timely refinancing / renewal of short-term sources of funding.

Why is it important? Given that the prospect of healthy long-term fundamentals may not mean much for an entity if crisis looms in the short-term, liquidity analysis remains a crucial element of credit analysis. To assess the ease with which an entity can access cash or cash equivalents, one is interested in metrics beyond leverage. Low leverage does not necessarily indicate low default risk as an entity may find itself short of liquid assets—for conversion to cash quickly and cheaply—to meet its impending cash obligations. In addition, while cash flow analysis assesses the adequacy of an entity's internal resources and committed external sources of financing in relation to its obligations, it does not distinguish between the nature of such cash flows. In other words, cash flow analysis does not specifically capture whether it is the long-term sources of funds that are deployed towards the creation of long-term assets, including fixed assets, long-term investments and long-term loans and advances, or it is the short-term funds. In cases where short-term sources of funds (such as working capital limits, short-term loans and customer advances) are deployed for long-term purposes, liquidity of an entity remains vulnerable to timely refinancing or renewal of the short-term sources of financing. ICRA also notes that the measures of liquidity can become outdated quickly and hence an entity's management's approach to deal with the trade-off between returns and liquidity is accorded due importance in ICRA's analytical approach.

While assessing liquidity, ICRA assumes that the entity would need to set aside a certain cash amount (as a percentage of operating income) to run its day-to-day operations. This is considered as not being available to fund other sundry requirements.

The various ratios, which are typically used to analyse an entity's liquidity are discussed below[3]:

Current Ratio

Current ratio is defined as the ratio of current assets to current liabilities and is an indicator of an entity's long-term funding adequacy. Generally, the higher the current ratio, the lower the mismatch between the long-term requirement and the long-term sources of funding. The ratio is analysed after adjusting for the long-dated receivables and obsolete inventory as these may not be readily convertible to cash and are generally ineligible for short-term bank funding. A related aspect is evaluation of receivable and inventory ageing to appropriately estimate the long-term funding requirements as well as to assess the possibility and extent of write-off that may be required towards these assets. In addition to the ageing analysis for current assets, the quality of receivables is also assessed to determine the likelihood of timely collection of such receivables. Significant proportion of unsecured receivables concentrated among a few entities with weak or unascertainable credit profile poses a bigger risk compared to a diversified distribution of receivables or concentration among entities with a stronger credit profile.

Working Capital Cycle

The working capital cycle captures the amount of time taken by an entity to convert its net current assets (receivables and inventory net of payables) into cash. The longer the working capital cycle, the greater the working capital funding requirement for an entity and vice-versa. Typically, entities in a growth phase that have a shorter working capital cycle will have a better liquidity profile because of faster cash turnaround, and thereby lower incremental working capital requirements. In addition, such entities will have a lower proportion of long-dated receivables and inventory, which will limit the risk of write-downs on such assets in the future.

However, one of the analytical issues while assessing the working capital cycle relates to distinguishing between entities whose favourable working capital cycle is because of the inherent efficiency in working capital management and those where a favourable working capital cycle is an outcome of stretching of payables. The latter may be a reflection of liquidity stress rather than an indication of the bargaining power with business partners or efficiency in working capital management. In such a situation, an entity may find itself in a deeper liquidity crisis whenever such liberal credit terms are snapped.

In other cases, an entity may be relying solely on non-fund based limits (such as Letter of Credit) to manage its working capital requirements (instead of fund-based working capital limits). In such cases, if the gross operating cycle (Receivable Days + Inventory Days) is longer than the tenure of the non-fund based limits, the entity may find itself in a tight liquidity position as the time required for conversion of current assets into cash will be longer than the tenure of the underlying current liabilities.

Apart from the length of the working capital cycle, the liquidity assessment also involves analysing the stability of an entity's working capital cycle. A declining working capital cycle, combined with improving operating profit margins, is generally indicative of the efficient working capital management as well as improvement in bargaining power with the business partners and vice versa. Changes in working capital then become a source of cash rather than a claim.

3 The detailed rating approach on Liquidity Analysis can be referred at www.icra.in

Working Capital Intensity

Working capital intensity is an extension of the Working Capital Cycle measure as it also captures the cash turnaround rate of an entity. However, while the Working Capital Cycle captures the cash turnaround rate with respect to only debtors, inventory and creditors, working capital intensity captures the turnaround rate with respect to an entity's entire working capital, which also includes other operating and non-operating current assets as well as liabilities. The ratio is expressed as a ratio of the net working capital to the operating income. Moreover, the higher the ratio, the higher is the cash turnaround time and thereby the working capital requirement for every unit of sale.

Ratio	Computation
Current ratio	(Current assets) / (Current liabilities)
Working capital cycle	Debtor days + Inventory days – Payable days
Working capital intensity	(Net working capital) / (Operating income)

Current Assets = Cash + Inventory + Debtors + Other Operating and Non-Operating Current Assets

Current Liabilities = Current Portion of Long-Term Debt + Short-Term Debt (including Working Capital Debt) + Creditors + Other Operating and Non-Operating Current Liabilities

Net Working Capital = (Current Assets – Cash) – (Current Liabilities – Current Portion of Long-Term Debt – Short-Term Debt – Capital Creditors)

Summing Up

This note discusses the various financial ratios, which are generally assessed by ICRA to evaluate an entity's financial risk profile. As each financial ratio captures different aspects of the financial risk, none of them alone can reflect the financial risk of an entity in its entirety, and thus a collective analysis is undertaken to take a holistic view of the financial health of an entity. Moreover, while financial risk is an important factor in determining an entity's creditworthiness, it is not the only driver of an entity's credit rating as other factors such as business risk, management's financial policy, support from group entities and corporate governance practices also have a large role to play. Thus, even as an entity may report strong financials, its credit rating may still be constrained if its business risk is high or it follows a less transparent corporate governance structure. On the other hand, strong financial flexibility or backing from stronger group entities could mitigate the impact of weak financials and support an entity's credit profile.

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About ICRA Limited:

ICRA Limited was set up in 1991 by leading financial/investment institutions, commercial banks and financial services companies as an independent and professional investment Information and Credit Rating Agency.

Today, ICRA and its subsidiaries together form the ICRA Group of Companies (Group ICRA). ICRA is a Public Limited Company, with its shares listed on the Bombay Stock Exchange and the National Stock Exchange. The international Credit Rating Agency Moody's Investors Service is ICRA's largest shareholder.

For more information, visit www.icra.in and www.icraresearch.in

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