

Leverage / Solvency Ratios

1. Introduction

Leverage (or solvency) ratios evaluate a company's long-term financial stability and its ability to meet debt obligations. These ratios assess how a business is financed, how much it relies on debt versus equity, how it can comfortably service its financial commitments over time and whether the capital structure is sustainable over time. When used alongside profitability and cash flow analysis, they offer a comprehensive understanding of financial stability and long-term sustainability. They are widely used by lenders, investors, and credit analysts to evaluate financial risk and capital structure sustainability.

2. Why These Ratios Matter

Leverage and solvency ratios are critical because they:

- Assess long-term financial risk and potential default exposure
- Indicate the company's reliance on debt financing versus equity
- Measure the ability to service interest and principal obligations
- Evaluate the sustainability of the capital structure
- Signal creditworthiness and borrowing capacity
- Influence cost of capital, credit ratings, and financing terms

3. Key Metrics

Common leverage and solvency ratios include:

Capital Structure Ratios

- Debt-to-Equity Ratio
- Debt-to-Capital Ratio
- Long-Term Debt-to-Equity
- Liabilities-to-Assets Ratio
- Liabilities-to-Equity Ratio

Debt Servicing Ratios

- Interest Coverage Ratio
- EBITDA Coverage Ratio
- Debt-to-EBITDA
- Net Debt-to-EBITDA
- Operating Cash Flow to Total Liabilities
- Fixed Charge Coverage Ratio (where applicable)

4. Core Formulas

Capital Structure Ratios

- **Debt-to-Equity** = Total Debt ÷ Total Equity
- **Debt-to-Capital** = Total Debt ÷ (Total Debt + Equity)
- **Long-Term Debt-to-Equity** = Long-Term Debt ÷ Total Equity
- **Liabilities-to-Assets** = Total Liabilities ÷ Total Assets
- **Liabilities-to-Equity** = Total Liabilities ÷ Total Equity

Debt Servicing Ratios

- **Interest Coverage** = EBIT ÷ Interest Expense
- **EBITDA Coverage** = EBITDA ÷ Interest Expense
- **Debt-to-EBITDA** = Total Debt ÷ EBITDA
- **Net Debt-to-EBITDA** = (Total Debt – Cash) ÷ EBITDA
- **Operating Cash Flow to Liabilities** = Operating Cash Flow ÷ Total Liabilities
- **Fixed Charge Coverage Ratio (FCCR)** = (EBIT + Fixed Charges) ÷ Fixed Charges

5. Computation Example

Sample Financial Data

- Total Debt = \$400,000
- Long-Term Debt = \$250,000
- Total Liabilities = \$600,000
- Total Equity = \$300,000
- Total Assets = \$900,000
- Cash = \$50,000
- EBIT = \$120,000
- EBITDA = \$180,000
- Interest Expense = \$30,000
- Operating Cash Flow = \$150,000

Calculated Ratios

- **Debt-to-Equity** = $400,000 \div 300,000 = 1.33$
- **Debt-to-Capital** = $400,000 \div (400,000 + 300,000) = 0.57$
- **Liabilities-to-Assets** = $600,000 \div 900,000 = 0.67$
- **Interest Coverage** = $120,000 \div 30,000 = 4.0\times$

- **Debt-to-EBITDA** = $400,000 \div 180,000 = 2.22\times$
- **Net Debt-to-EBITDA** = $(400,000 - 50,000) \div 180,000 = 1.94\times$
- **OCF to Liabilities** = $150,000 \div 600,000 = 0.25$

6. Interpretation Guidance

Capital Structure Insights

- High D/E or Liabilities-to-Equity → indicates aggressive leverage and higher financial risk
- Low Debt-to-Capital → reflects a conservative capital structure, lower risk but may limit growth potential
- High Liabilities-to-Assets → suggests a greater proportion of assets financed by creditors

Debt Servicing Ability

- Interest Coverage $> 3\times$ → generally indicates comfortable debt servicing capacity
- Interest Coverage $< 1.5\times$ → signals potential liquidity or solvency concerns
- Debt-to-EBITDA above $\sim 3\times$ → may raise concerns for lenders (industry-specific)
- OCF-to-Liabilities below ~ 0.20 → indicates weak ability to repay obligations using actual cash flow

Quality of Leverage

- Net Debt-to-EBITDA provides a more realistic view than total debt, as it accounts for available cash reserves
- Cash flow-based ratios (e.g., OCF ratios) are often more reliable than earnings-based measures

7. How This Supports Decision-Making

For Management

- Determines optimal capital structure and borrowing capacity
- Identifies risks of covenant breaches
- Supports decisions on refinancing, deleveraging, or capital raising

For Investors

- Evaluates long-term default and financial risk
- Enables comparison of leverage across companies and industries
- Supports valuation analysis (e.g., impact on EV/EBITDA multiples)

For Creditors and Lenders

- Guides lending decisions, pricing, and covenant structuring
- Assesses likelihood of timely interest and principal repayment

For Strategy & Planning

- Evaluates sustainability of expansion or investment plans
- Assesses sensitivity to interest rate changes
- Identifies when leverage may constrain operational flexibility