



A Study on the Calculation and Analysis of Financial Ratios

Financial Years: 2021–22 | 2022–23 | 2023–24

AUTHOR 1

Dr.R.JAYANTHI

AUTHOR 2

ARUN KUMARESHAN S P

Department Of Management Studies Coimbatore Institute of Technology, Coimbatore-641014.

How to Cite this Article:

P, A. K. S. (2026). A Study on the Calculation and Analysis of Financial Ratios. International Journal of Creative and Open Research in Engineering and Management, <i>02</i>(04). <https://doi.org/10.55041/ijcope.v2i4.096>

License:

This article is published under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author(s) and the source are credited.

© The Author(s). Published by International Journal of Creative and Open Research in Engineering and Management.



<https://doi.org/10.55041/ijcope.v2i4.096>

ABSTRACT

Financial ratios are indispensable tools in evaluating a firm's financial health, operational efficiency, and long-term viability. This study examines the computation and interpretation of key financial ratios using the hypothetical ABC Company for the financial years 2021–22 to 2023–24. The ratios are grouped into five categories: liquidity, solvency, profitability, activity/efficiency, and market ratios. The findings reveal that ABC Company maintains adequate short-term liquidity and moderate profitability, though its leverage and asset turnover indicate areas requiring managerial attention. The study recommends a structured approach to financial planning to improve return on equity and reduce debt dependency over the medium term.



1. INTRODUCTION

Financial statement analysis is at the core of sound business decision-making. Investors, creditors, management, and regulators all rely on structured quantitative tools to interpret the performance and risk profile of an enterprise. Among these tools, financial ratios stand out for their simplicity, comparability, and diagnostic power.

A financial ratio is a mathematical relationship between two or more financial statement items — drawn from the Balance Sheet, Income Statement, or Cash Flow Statement — expressed as a proportion, percentage, or number of times. These ratios distil complex financial data into interpretable signals about profitability, liquidity, leverage, and operational efficiency.

ABC Company is a mid-sized manufacturing firm (hypothetical) with operations spanning three product lines. For this study, three years of financial data (FY 2021–22 to FY 2023–24) have been constructed to simulate a realistic business scenario for ratio analysis.

2. OBJECTIVES OF THE STUDY

- To compute financial ratios for ABC Company across three financial years.
- To analyse trends in liquidity, solvency, profitability, and efficiency.
- To identify strengths and weaknesses in ABC Company's financial position.
- To offer practical suggestions based on ratio findings.

3. REVIEW OF LITERATURE

❖ Gitman & Zutter (2015) define financial ratios as the primary framework through which analysts assess a firm's performance relative to industry benchmarks and historical data. Their work emphasises the use of cross-sectional and time-series analysis to render ratios meaningful.

❖ Ross, Westerfield & Jordan (2019) in *Fundamentals of Corporate Finance* classify ratios into five broad categories and argue that no single ratio is sufficient — interpretation always requires a cluster of related indicators.

❖ Pandey, I.M. (2020) in *Financial Management* highlights the limitations of ratio analysis — particularly its dependence on historical cost accounting, susceptibility to window dressing, and inability to account for qualitative factors — while affirming its continued utility in Indian corporate contexts.

❖ Brigham & Houston (2021) note that liquidity ratios are the first line of diagnosis in distress prediction, while profitability ratios are more relevant for equity valuation.

❖ Wild, Subramanyam & Halsey (2007) stress the importance of trend analysis: a ratio viewed in isolation is informative, but a ratio viewed across time and against sector norms is transformative.

4. RESEARCH METHODOLOGY

4.1 Research Design

This study adopts a descriptive and analytical research design. It describes financial data over three years and analytically derives ratios to identify patterns, strengths, and areas of concern. The design is non-experimental, relying entirely on secondary financial data.

4.2 Source of Data

All data used in this study pertains to ABC Company, a hypothetical manufacturing entity. The figures have been constructed to simulate realistic financial statements for illustrative and educational purposes. No real company data has been



used. The primary documents drawn upon are:

- Balance Sheet (FY 2021–22, 2022–23, 2023–24)
- Profit & Loss Account (same three years)
- Supplementary notes on inventory, debtors, and market price

4.3 Tools Used

- Ratio computation using standard financial formulas
- Trend analysis across three financial years
- Tabular and visual presentation of results
- Comparative analysis against standard benchmarks

5. FINANCIAL DATA OF ABC COMPANY

Table 1 — Balance Sheet Summary (₹ in Lakhs)

Particulars	FY 2021–22	FY 2022–23	FY 2023–24
Equity Share Capital	200	200	200
Reserves & Surplus	180	220	280
Long-Term Borrowings	400	380	350
Current Liabilities	220	240	260
Total Liabilities	1,000	1,040	1,090
Fixed Assets (Net)	600	590	580
Current Assets	400	450	510

Particulars	FY 2021–22	FY 2022–23	FY 2023–24
— Inventories	150	160	170
— Debtors	130	150	180
— Cash & Bank	80	90	100
— Other CA	40	50	60
Total Assets	1,000	1,040	1,090

Table 2 — Profit & Loss Summary (₹ in Lakhs)

Particulars	FY 2021–22	FY 2022–23	FY 2023–24
Net Sales	900	980	1,060
Cost of Goods Sold	630	686	742
Gross Profit	270	294	318
Operating Expenses	100	110	118



EBIT	170	184	200
Interest	48	46	42
EBT	122	138	158
Tax (30%)	37	41	47
Net Profit (PAT)	85	97	111

6. CALCULATION OF FINANCIAL RATIOS

6.1 Liquidity Ratios

(a) Current Ratio = Current Assets / Current Liabilities

Year	Current Assets (₹L)	Current Liabilities (₹L)	Current Ratio
FY 2021–22	400	220	1.82
FY 2022–23	450	240	1.88
FY 2023–24	510	260	1.96

Benchmark: 2:1. ABC Company is approaching the standard, showing a steady improving trend.

(b) Quick Ratio = (Current Assets – Inventories) / Current Liabilities

Year	CA – Inventory (₹L)	Current Liabilities (₹L)	Quick Ratio
FY 2021–22	250	220	1.14
FY 2022–23	290	240	1.21
FY 2023–24	340	260	1.31

Benchmark: 1:1. The quick ratio exceeds 1 in all years — indicating strong short-term solvency.

(c) Cash Ratio = Cash & Bank / Current Liabilities

Year	Cash & Bank (₹L)	Current Liabilities (₹L)	Cash Ratio
FY 2021–22	80	220	0.36
FY 2022–23	90	240	0.38
FY 2023–24	100	260	0.38

6.2 Solvency / Leverage Ratios

(a) Debt-to-Equity Ratio = Long-Term Debt / Shareholders' Equity

Year	LT Debt (₹L)	Equity (SC + R&S) (₹L)	D/E Ratio
FY 2021–22	400	380	1.05
FY 2022–23	380	420	0.90



FY 2023–24	350	480	0.73
------------	-----	-----	-------------

Declining D/E ratio reflects improved financial leverage and lower financial risk over the study period.

(b) Interest Coverage Ratio = EBIT / Interest

Year	EBIT (₹L)	Interest (₹L)	ICR (Times)
FY 2021–22	170	48	3.54
FY 2022–23	184	46	4.00
FY 2023–24	200	42	4.76

ICR above 3 is generally considered safe. ABC Company shows a positive upward trend across all three years.

6.3 Profitability Ratios

(a) Gross Profit Ratio = (Gross Profit / Net Sales) × 100

Year	Gross Profit (₹L)	Net Sales (₹L)	GP Ratio (%)
FY 2021–22	270	900	30.0%
FY 2022–23	294	980	30.0%
FY 2023–24	318	1,060	30.0%

Consistent GP ratio indicates stable pricing power and controlled production costs throughout the period.

(b) Net Profit Ratio = (Net Profit / Net Sales) × 100

Year	Net Profit (₹L)	Net Sales (₹L)	NP Ratio (%)
FY 2021–22	85	900	9.44%
FY 2022–23	97	980	9.90%
FY 2023–24	111	1,060	10.47%

Improving NP ratio is driven by a declining interest burden and consistent revenue growth.

(c) Return on Equity (ROE) = (Net Profit / Shareholders' Equity) × 100

Year	Net Profit (₹L)	Shareholders' Equity (₹L)	ROE (%)
FY 2021–22	85	380	22.37%
FY 2022–23	97	420	23.10%
FY 2023–24	111	480	23.13%



(d) Return on Assets (ROA) = (Net Profit / Total Assets) × 100

Year	Net Profit (₹L)	Total Assets (₹L)	ROA (%)
FY 2021–22	85	1,000	8.50%

Year	Net Profit (₹L)	Total Assets (₹L)	ROA (%)
FY 2022–23	97	1,040	9.33%
FY 2023–24	111	1,090	10.18%

(e) EBIT Margin = (EBIT / Net Sales) × 100

Year	EBIT (₹L)	Net Sales (₹L)	EBIT Margin (%)
FY 2021–22	170	900	18.89%
FY 2022–23	184	980	18.78%
FY 2023–24	200	1,060	18.87%

6.4 Activity / Efficiency Ratios

(a) Inventory Turnover Ratio = COGS / Average Inventory

Year	COGS (₹L)	Avg. Inventory (₹L)	Inventory TO (Times)
FY 2021–22	630	150	4.20
FY 2022–23	686	155	4.43
FY 2023–24	742	165	4.50

(b) Debtors Turnover Ratio = Net Sales / Average Debtors

Year	Net Sales (₹L)	Avg. Debtors (₹L)	Debtors TO (Times)
FY 2021–22	900	130	6.92
FY 2022–23	980	140	7.00
FY 2023–24	1,060	165	6.42

Slight dip in FY 2023–24 due to rising debtor balances — this warrants close monitoring by management.

(c) Average Collection Period = 365 / Debtors Turnover Ratio

Year	Debtors Turnover	Average Collection Period (Days)
FY 2021–22	6.92	52.7 days
FY 2022–23	7.00	52.1 days



Year	Debtors Turnover	Average Collection Period (Days)
FY 2023–24	6.42	56.8 days

(d) Asset Turnover Ratio = Net Sales / Total Assets

Year	Net Sales (₹L)	Total Assets (₹L)	Asset TO (Times)
FY 2021–22	900	1,000	0.90
FY 2022–23	980	1,040	0.94
FY 2023–24	1,060	1,090	0.97

Asset turnover below 1 indicates that assets are not yet generating equivalent revenue — common in capital-intensive manufacturing firms.

6.5 Market / Valuation Ratios

Assumed market data: Market Price per Share = ₹85 (FY22), ₹100 (FY23), ₹120 (FY24). Total Shares = 20 Lakh.

(a) Earnings Per Share (EPS) = Net Profit / Number of Shares

Year	Net Profit (₹L)	Shares (Lakhs)	EPS (₹)
FY 2021–22	85	20	₹4.25
FY 2022–23	97	20	₹4.85
FY 2023–24	111	20	₹5.55

(b) Price-to-Earnings Ratio (P/E) = Market Price / EPS

Year	Market Price (₹)	EPS (₹)	P/E Ratio (×)
FY 2021–22	85	4.25	20.0×
FY 2022–23	100	4.85	20.6×
FY 2023–24	120	5.55	21.6×

Rising P/E ratio suggests improving market confidence in ABC Company's earnings trajectory.

7. FINDINGS

- Liquidity is strong and improving. The current ratio rose from 1.82 to 1.96 over three years, approaching the standard 2:1 benchmark. The quick ratio consistently exceeded 1.0, confirming adequate short-term solvency.
- Financial leverage is declining favourably. The Debt-to-Equity ratio dropped from 1.05 to 0.73, indicating that equity financing is progressively replacing debt — a positive structural shift.
- Interest coverage is comfortable and rising. ICR improved from 3.54 to 4.76, suggesting ABC Company can service its interest obligations with considerable margin.
- Profitability is on an upward trend. Net profit margin improved from 9.44% to 10.47%. ROA rose from 8.50% to 10.18%, while ROE remained stable around 23%.



- Gross profit margin is stable at 30%, indicating consistent pricing and cost management in operations.
- Debtors are rising faster than sales in FY 2023–24. The average collection period stretched to ~57 days, a potential early warning of receivables management issues.
- Asset turnover remains below 1. While improving, it reflects the capital-intensive nature of ABC Company's operations and suggests underutilisation of assets relative to revenue.
- Market ratios reflect growing investor confidence. EPS grew from ₹4.25 to ₹5.55, and P/E expanded from 20× to 21.6×, suggesting the market values the company's earnings growth positively.

8. SUGGESTIONS

- Strengthen receivables management. The rising average collection period in FY 2023–24 should prompt ABC Company to introduce stricter credit terms, early payment incentives, and debtor ageing reviews.
- Improve asset utilization. Asset turnover below 1 indicates idle or underperforming assets. A review of fixed asset productivity — especially machinery and plant — is recommended.
- Continue debt reduction. The declining D/E trend should be sustained. Profits should be partially retained for debt prepayment rather than distributed entirely as dividends.
- Diversify revenue streams. Revenue grew at approximately 8–9% per annum. To accelerate growth and improve asset turnover, ABC Company should explore new product lines or market segments.
- Monitor inventory levels. Inventory turnover improved marginally. ABC Company may benefit from adopting lean inventory or just-in-time principles to release blocked working capital.
- Sustain operating margin discipline. The EBIT margin remained stable at ~18.9% — this should be protected even as revenues scale, by controlling operating expenditure growth.

9. CONCLUSION

- ❖ This study has demonstrated the comprehensive application of financial ratio analysis to ABC Company over three financial years. The computation of fifteen-plus ratios across five categories — liquidity, solvency, profitability, activity, and market — reveals a company in a healthy and improving financial trajectory. Liquidity is adequate, leverage is declining, profitability is rising, and market confidence is growing.
- ❖ However, warning signals exist in receivables management and asset turnover, which require targeted operational correctives. Financial ratios, when applied systematically and read in conjunction with qualitative factors, provide an effective diagnostic framework for management decision-making, investor evaluation, and credit assessment.
- ❖ The ABC Company case illustrates that no single ratio tells the full story. A holistic, multi-dimensional ratio analysis is essential for sound financial diagnosis and strategic planning.

REFERENCES

1. Brigham, E.F. & Houston, J.F. (2021). *Fundamentals of Financial Management* (15th ed.). Cengage Learning.
 2. Gitman, L.J. & Zutter, C.J. (2015). *Principles of Managerial Finance* (14th ed.). Pearson Education.
 3. Pandey, I.M. (2020). *Financial Management* (12th ed.). Vikas Publishing House, New Delhi.
 4. Ross, S.A., Westerfield, R.W. & Jordan, B.D. (2019). *Fundamentals of Corporate Finance* (12th ed.). McGraw-Hill Education.
 5. Wild, J.J., Subramanyam, K.R. & Halsey, R.F. (2007). *Financial Statement Analysis* (10th ed.). McGraw- Hill/Irwin.
 6. Maheshwari, S.N. & Maheshwari, S.K. (2018). *An Introduction to Accountancy* (12th ed.). Vikas Publishing House.
 7. Khan, M.Y. & Jain, P.K. (2018). *Financial Management: Text, Problems & Cases* (8th ed.). McGraw-Hill Education
- India Securities and Exchange Board of India – SEBI. (2023). *Annual Report on Corporate Disclosures*. SEBI, Mumbai. Retrieved from www.sebi.gov.in