

Financial Performance of Companies Using Dupont Analysis

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Abstract- This study evaluates the financial performance of selected Indian companies using the DuPont Analysis framework, with particular emphasis on Return on Equity (ROE), Net Profit Margin, Asset Turnover and Equity Multiplier. The analysis examines how profitability, asset utilisation, working capital efficiency, capital allocation and financial leverage influence overall corporate performance. By comparing companies across different sectors, the study highlights the importance of sector-specific interpretation of financial ratios and the need to distinguish recurring operating performance from exceptional income. The findings suggest that a high ROE does not necessarily indicate superior or sustainable financial performance, as returns may be influenced by differences in profitability, asset efficiency and financial leverage. The study therefore emphasises sustainable growth, earnings quality, cash-flow strength, capital efficiency and risk management when evaluating corporate performance. DuPont Analysis provides a useful framework for investors, analysts and managers to identify the underlying drivers of ROE and assess whether shareholder returns are supported by efficient operations and prudent financing decisions. The study also highlights the potential value of multi-year analysis, sector comparison and panel regression for understanding changes in financial performance and improving investment analysis.

Keywords: dupont analysis, return on equity (roe), net profit margin, asset turnover, equity multiplier, capital allocation, financial leverage, asset utilisation, working capital, profitability, financial performance, sector comparison, earnings quality, cash flow, sustainable growth, investment analysis, risk management, capital efficiency, panel regression, corporate performance.

I. INTRODUCTION

Financial statements contain a large amount of information, but the figures do not explain themselves. Revenue may rise while profitability falls; return on equity may improve even when operating performance

is weak; and a company may appear efficient only because it has taken on more financial risk. For this reason, financial performance evaluation must connect the income statement with the balance sheet and examine the source of the return rather than merely report the final percentage. DuPont analysis provides that connection. Instead of treating return on equity as one isolated ratio, the model breaks it into three linked drivers: the margin earned on each rupee of revenue, the revenue generated from each rupee invested in assets, and the extent to which assets are supported by shareholders' funds. The framework therefore turns a single outcome into a diagnostic explanation. Indian listed companies operate in markedly different business environments. Information technology companies are relatively asset-light and may achieve high asset turnover with limited borrowings. Consumer-goods businesses depend on brand strength, distribution and working-capital discipline. Infrastructure companies require large asset commitments and generally operate with longer project cycles. Banks, in contrast, use deposits and borrowings as core operating resources, which naturally produces a high equity multiplier and a low ratio of revenue to total assets. A useful comparison must recognize these structural differences. The five-year period selected for the study includes the economic recovery after the pandemic, significant commodity-price movements, changes in interest rates, large corporate restructuring events and the completion of the HDFC-HDFC Bank merger. These developments make the period suitable for observing how the separate DuPont components respond to changing business conditions.

II. REVIEW OF LITERATURE

1. Soliman (2008) demonstrated that changes in profit margin and asset turnover driven by DuPont

disaggregation yield superior predictions of future profit changes compared to aggregate Return on Equity (ROE) tracking.

2. Fairfield and Yohn (2001) proved that decomposing ROE into net profit margin and asset turnover is critical for forecasting, as the change in asset turnover provides a more persistent indicator of future profitability than profit margin changes.
3. Stickney and Brown (1999) established that the profit margin component reflects a firm's strategic positioning, showcasing whether a company operates as a low-cost leader or differentiates its products to command a premium.
4. Nissim and Penman (2001) leveraged an expanded DuPont model to separate operating items from financing items, concluding that operating profit margins provide a stabler reflection of core corporate health over long horizons.
5. Palepu et al. (2000) emphasized that analyzing profit margin trends through DuPont metrics allows investors to detect early signs of intense industry competition before it visibly depresses net income.
6. Bodie et al. (2014) noted that a declining net profit margin in a steady-revenue environment highlights structural inefficiencies, such as rising overhead expenses or poor raw material pricing power.
7. Selling and Stickney (1989) established that a firm's profit margin is intrinsically tied to its industry classification, noting capital-intensive industries require higher margins to survive lower turnover velocities.
8. Amir et al. (2011) examined R&D-heavy firms and discovered that aggressive innovation investments compress short-term DuPont profit margins but exponentially expand long-term profit margins.
9. Healy et al. (1992) utilized DuPont analytics to evaluate post-merger performance, finding that successful corporate mergers generally yield immediate improvements in operating profit margins due to synergy realizations.
10. Dehning and Stratopoulos (2003) analyzed the financial impact of Information Technology investments, showing that successful IT adoption primarily manifests as improved DuPont net profit margins via cost reduction.

III. RESEARCH GAP

Many student projects calculate ROE and its components but stop at a table of percentages. Others combine questionnaire responses with secondary financial ratios even when the research objective concerns company performance. The present study addresses this gap by relying entirely on audited secondary data, using average balance-sheet values, explaining company-specific events and adding inferential statistics. It also explicitly separates the interpretation of banks from that of non-financial firms.

IV. RESEARCH DESIGN AND METHODOLOGY

Nature of the Study: The study is descriptive and analytical. It describes the movement of financial variables and applies ratio and statistical analysis to explain performance. No primary survey or questionnaire is used. The unit of analysis is the company-year observation.

Statement of the Problem: A conventional comparison based only on profit growth or ROE can lead to incomplete conclusions. A high ROE may result from strong operating performance, but it may also arise from unusually high leverage or a temporary exceptional gain. Similarly, a low ROE may reflect a capital-intensive business model rather than managerial weakness. The central problem addressed in this study is therefore to identify the operating and financing factors behind the ROE of selected companies and to distinguish recurring strength from one-time or structural effects.

Need for the Study: To move beyond a single-ratio evaluation and identify the source of shareholder return compare profitability, asset productivity and leverage over a common five-year period, understand why firms from different sectors may report very different ROE levels and also to support investors, managers and students in interpreting financial statements more carefully by demonstrating the use of statistical tools with accounting ratios rather than relying only on descriptive commentary.

Objectives of the Study

1. To analyze the financial performance of selected companies by applying the three-step DuPont model.
2. To compare the average DuPont components and rank the selected companies on the basis of mean ROE.
3. To study the relationship between DuPont components and ROE through correlation analysis.

Sample Design

Purposive sampling is used. The companies were selected because they are widely followed, represent different sectors, and have continuous consolidated data for the period. The sample is not intended to estimate the performance of all Indian companies; it is designed for comparative analytical study.

Variables

Variable	Measurement	Role
Revenue	Consolidated operating revenue / total income	Scale and turnover numerator
Net profit	Consolidated profit after tax	Profitability numerator
Average total assets	(Opening assets + Closing assets) ÷ 2	Asset base
Average equity	(Opening equity + Closing equity) ÷ 2	Shareholder capital base
NPM	Net profit ÷ Revenue	Profitability driver
ATO	Revenue ÷ Average assets	Efficiency driver
EM	Average assets ÷ Average equity	Leverage driver
ROE	Net profit ÷ Average equity	Outcome variable

Hypotheses

- H01: There is no significant difference in ROE among the selected companies over the study period.
- H11: At least one selected company has a different ROE distribution.
- H02: There is no significant difference in the cross-company ROE pattern across the five years.
- H12: The cross-company ROE pattern differs across at least one year.

Statistical Tools

1. Descriptive statistics: mean, standard deviation, minimum, maximum and coefficient of variation.
2. Pearson correlation to measure linear association among the DuPont components and ROE.
3. Spearman rank correlation as a distribution-free check of monotonic association.
4. Shapiro-Wilk test to assess normality of pooled ROE observations.
5. One-way ANOVA as a parametric reference test for company differences.
6. Kruskal-Wallis test as the principal non-parametric test because normality is rejected.
7. Friedman test to examine whether company ROE ranks differ across the five years..

The Three-Step DuPont Identity

ROE = Net Profit Margin × Total Asset Turnover × Equity Multiplier

Component	Formula	Interpretation
Net Profit Margin	Net Profit ÷ Revenue	Profit retained from each rupee of revenue
Total Asset Turnover	Revenue ÷ Average Total Assets	Revenue generated from each rupee invested in assets
Equity Multiplier	Average Total Assets ÷ Average Equity	Degree to which assets exceed shareholders' funds
Return on Equity	Net Profit ÷ Average Equity	Return earned on shareholders' average investment

Data Analysis and Interpretation:

Reliance Industries

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	694,673	67,845	9.77	0.493	1.905	9.17
2023	876,396	74,088	8.45	0.565	2.076	9.91
2024	899,041	79,020	8.79	0.535	2.227	10.47
2025	962,820	81,309	8.44	0.520	2.264	9.94

2026	1,055,780	95,754	9.07	0.512	2.362	10.96
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(source: calculated values)

Over the five-year period, the company recorded an average net profit margin of 8.90 per cent, average asset turnover of 0.525 times and average equity multiplier of 2.167 times. The resulting mean ROE was 10.09 per cent, with a minimum of 9.17 per cent and a maximum of 10.96 per cent. ROE remained within a narrow band, indicating stability, but the level was lower than that of most sample firms because the asset base expanded faster than the return generated from equity. Between FY2021-22 and FY2025-26, ROE increased by 1.79 percentage points. Net profit margin moved from 9.77 per cent to 9.07 per cent, while asset turnover changed from 0.493 to 0.512 times. The equity multiplier moved from 1.905 to 2.362 times. These movements show the relative contribution of operating performance and financing structure to the final shareholder return.

TCS

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	191,754	38,449	20.05	1.416	1.543	43.80
2023	225,458	42,303	18.76	1.589	1.580	47.12
2024	240,893	46,099	19.14	1.671	1.594	50.96
2025	255,324	48,797	19.11	1.679	1.642	52.68
2026	267,021	49,454	18.52	1.572	1.682	48.97

(source: calculated values)

Over the five-year period, the company recorded an average net profit margin of 19.12 per cent, average asset turnover of 1.585 times and average equity multiplier of 1.608 times. The resulting mean ROE was 48.71 per cent, with a minimum of 43.80 per cent and a maximum of 52.68 per cent.

The company maintained the highest average ROE in the sample. High asset turnover and a consistently strong margin, rather than excessive leverage, were the

principal drivers. Between FY2021-22 and FY2025-26, ROE increased by 5.17 percentage points. Net profit margin moved from 20.05 per cent to 18.52 per cent, while asset turnover changed from 1.416 to 1.572 times. The equity multiplier moved from 1.543 to 1.682 times. These movements show the relative contribution of operating performance and financing structure to the final shareholder return.

Infosys

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	121,641	22,146	18.21	1.085	1.478	29.20
2023	146,767	24,108	16.43	1.216	1.601	31.98
2024	153,670	26,248	17.08	1.179	1.594	32.10
2025	162,990	26,750	16.41	1.149	1.543	29.09
2026	178,650	29,474	16.50	1.183	1.601	31.24

(source: calculated values)

Over the five-year period, the company recorded an average net profit margin of 16.92 per cent, average asset turnover of 1.162 times and average equity multiplier of 1.563 times. The resulting mean ROE was 30.72 per cent, with a minimum of 29.09 per cent and a maximum of 32.10 per cent.

HDFC Bank

HDFC Bank is a financial intermediary; deposits and borrowings form part of its operating funding. The 2023-24 figures reflect the merger with HDFC Ltd.

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	135,936	38,151	28.07	0.069	8.580	16.69
2023	170,754	46,149	27.03	0.073	8.669	17.20
2024	283,649	65,446	23.07	0.086	8.796	17.55
2025	336,367	73,440	21.83	0.080	8.610	15.02

2026	348,615	79,219	22.72	0.075	8.394	14.30
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(source: calculated values)

Over the five-year period, the company recorded an average net profit margin of 24.54 per cent, average asset turnover of 0.077 times and average equity multiplier of 8.610 times. The resulting mean ROE was 16.15 per cent, with a minimum of 14.30 per cent and a maximum of 17.55 per cent.

ICICI Bank

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	95,407	26,538	27.82	0.057	9.794	15.63
2023	121,067	35,461	29.29	0.065	9.359	17.88
2024	159,516	46,081	28.89	0.074	9.184	19.58
2025	186,331	54,569	29.29	0.074	8.782	19.15
2026	195,218	57,936	29.68	0.070	8.208	17.12

(source: calculated values)

Over the five-year period, the company recorded an average net profit margin of 28.99 per cent, average asset turnover of 0.068 times and average equity multiplier of 9.065 times. The resulting mean ROE was 17.87 per cent, with a minimum of 15.63 per cent and a maximum of 19.58 per cent.

Hindustan Unilever

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	52,446	8,892	16.95	0.753	1.439	18.38
2023	60,580	10,143	16.74	0.844	1.445	20.42
2024	61,896	10,282	16.61	0.817	1.493	20.26
2025	61,328	10,671	17.40	0.775	1.574	21.21
2026	64,468	15,059	23.36	0.808	1.626	30.69

(source: calculated values)

Over the five-year period, the company recorded an average net profit margin of 18.21 per cent, average asset turnover of 0.799 times and average equity multiplier of 1.515 times. The resulting mean ROE was 22.19 per cent, with a minimum of 18.38 per cent and a maximum of 30.69 per cent.

Larsen & Toubro:

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	156,521	10,419	6.66	0.498	3.975	13.17
2023	183,341	12,531	6.83	0.565	3.778	14.59
2024	221,113	15,547	7.03	0.661	3.810	17.70
2025	255,734	17,673	6.91	0.712	3.906	19.21
2026	285,874	18,954	6.63	0.688	4.018	18.32

(source: calculated values)

Over the five-year period, the company recorded an average net profit margin of 6.81 per cent, average asset turnover of 0.625 times and average equity multiplier of 3.897 times. The resulting mean ROE was 16.60 per cent, with a minimum of 13.17 per cent and a maximum of 19.21 per cent.

Maruti Suzuki :

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	88,330	3,880	4.39	1.210	1.354	7.20
2023	117,571	8,211	6.98	1.477	1.360	14.02
2024	141,858	13,488	9.51	1.419	1.356	18.30
2025	152,913	14,500	9.48	1.237	1.360	15.94
2026	183,316	14,680	8.01	1.305	1.381	14.43

(source: calculated values)

Over the five-year period, the company recorded an average net profit margin of 7.68 per cent, average asset turnover of 1.330 times and average equity multiplier of 1.362 times. The resulting mean ROE was 13.98 per cent, with a minimum of 7.20 per cent and a maximum of 18.30 per cent.

2024	35,495	5,558	15.66	1.275	1.604	32.02
2025	33,906	3,710	10.94	1.125	1.580	19.46
2026	35,584	4,395	12.35	1.097	1.591	21.56

(source: calculated values)

Asian Paints

Year	Revenue	Net Profit	NP M %	AT O	EM	RO E %
2022	29,101	3,085	10.60	1.344	1.627	23.18
2023	34,489	4,195	12.16	1.415	1.635	28.15

Over the five-year period, the company recorded an average net profit margin of 12.34 per cent, average asset turnover of 1.251 times and average equity multiplier of 1.608 times. The resulting mean ROE was 24.87 per cent, with a minimum of 19.46 per cent and a maximum of 32.02 per cent.

Consolidated Comparison

Rank	Company	Mean NPM %	Mean ATO	Mean EM	Mean ROE %	ROE SD
1.0	TCS	19.12	1.585	1.608	48.71	3.45
2.0	ITC	31.35	0.829	1.244	32.35	9.21
3.0	Infosys	16.92	1.162	1.563	30.72	1.48
4.0	Asian Paints	12.34	1.251	1.608	24.87	5.12
5.0	Hindustan Unilever	18.21	0.799	1.515	22.19	4.86
6.0	ICICI Bank	28.99	0.068	9.065	17.87	1.59
7.0	Larsen & Toubro	6.81	0.625	3.897	16.60	2.59
8.0	HDFC Bank	24.54	0.077	8.610	16.15	1.42
9.0	Maruti Suzuki	7.68	1.330	1.362	13.98	4.15
10.0	Reliance Industries	8.90	0.525	2.167	10.09	0.67

(source: calculated values)

TCS ranked first on five-year mean ROE and also reported low relative variation, which indicates that the result was not dependent on a single exceptional year. ITC ranked second, but its standard deviation was much higher because FY2024-25 contained an exceptional profit. Infosys ranked third with one of the most stable ROE profiles. Reliance ranked last on mean ROE, although its variation was low, suggesting stable but comparatively modest shareholder return from a very large capital base.

Descriptive Statistics

Company	Mean ROE %	SD	Minimum	Maximum	CV %
TCS	48.71	3.45	43.80	52.68	7.08
ITC	32.35	9.21	25.25	48.50	28.46
Infosys	30.72	1.48	29.09	32.10	4.82
Asian Paints	24.87	5.12	19.46	32.02	20.59
Hindustan	22.19	4.86	18.38	30.69	21.91

Company	Mean ROE %	SD	Minimum	Maximum	CV %
Unilever					
ICICI Bank	17.87	1.59	15.63	19.58	8.92
Larsen & Toubro	16.60	2.59	13.17	19.21	15.59
HDFC Bank	16.15	1.42	14.30	17.55	8.78
Maruti Suzuki	13.98	4.15	7.20	18.30	29.65
Reliance Industries	10.09	0.67	9.17	10.96	6.66

The coefficient of variation identifies stability relative to the average level. Infosys, Reliance and TCS displayed comparatively low variation. Maruti Suzuki and ITC showed much higher variation, although the causes were different: Maruti experienced an operating recovery from a weak base, while ITC contained a one-time exceptional observation. This demonstrates why the average should not be interpreted without the dispersion.

Correlation Analysis

Variable	NPM	ATO	EM	ROE
NPM	1.000	-0.354	0.407	0.403
ATO	-0.354	1.000	-0.817	0.597
EM	0.407	-0.817	1.000	-0.347
ROE	0.403	0.597	-0.347	1.000

Pearson correlation shows that ROE had its strongest positive association with asset turnover ($r = 0.597$), followed by net profit margin ($r = 0.403$). The equity multiplier had a negative pooled association with ROE ($r = -0.347$). This does not mean leverage always reduces ROE. It reflects the mixed-sector sample: banks have very high multipliers but moderate ROE, whereas technology firms have lower multipliers and much higher asset productivity.

Variable	NPM	ATO	EM	ROE
NPM	1.000	-0.275	0.085	0.424
ATO	-0.275	1.000	-0.666	0.582
EM	0.085	-0.666	1.000	-0.363
ROE	0.424	0.582	-0.363	1.000

The Spearman coefficients are similar in direction, which supports the conclusion that the observed relationships are not produced only by a few extreme values. Correlation is an association measure and should not be interpreted as proof of causation.

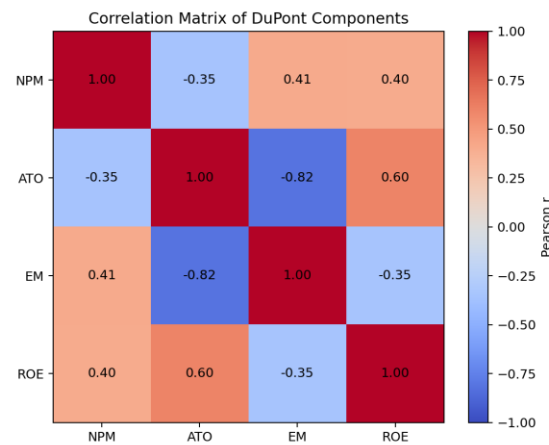


Figure: Correlation matrix of DuPont components

4.15 Normality Test

Test	Statistic	p-value	Decision
Shapiro-Wilk	0.8808	0.000118	Reject normality at 5%

The Shapiro-Wilk p-value is below 0.05. The pooled ROE values are therefore not normally distributed. The non-normality is understandable because the sample combines banks, asset-light technology firms, consumer companies and a few exceptional profit observations. The Kruskal-Wallis test is accordingly treated as the main test of company differences.

One-Way ANOVA

F statistic	p-value	Decision
36.692	1.430466e-16	Reject H01

Kruskal-Wallis Test

H statistic	Degrees of freedom	p-value	Decision
43.684	9	1.613653e-06	Reject H01

The Kruskal-Wallis test rejects the null hypothesis. The ROE distributions are not the same across the ten companies. The result supports the company-wise analysis: the return profile of TCS and Infosys is systematically different from that of Reliance, banks and capital-intensive firms. Statistical significance should still be interpreted with sector characteristics in mind.

Friedman Test for Year Effect

Chi-square	Degrees of freedom	p-value	Decision
13.680	4	0.008390	Reject H02

The Friedman test rejects the hypothesis that the cross-company ROE ranks were unchanged across all five years. The period contains a post-pandemic operating recovery, the HDFC merger and exceptional income in selected firms. These events changed the relative ranking of companies from one year to another.

Findings

1. TCS recorded the highest five-year mean ROE and combined high asset turnover with a strong profit margin. Its return was not dependent on unusually high leverage.
2. ITC ranked second on average ROE, but the figure was influenced by an exceptional profit in FY2024-25. Its underlying operating model nevertheless remained strong and lightly leveraged.
3. Infosys maintained a stable ROE profile with healthy margin, efficient assets and moderate leverage.
4. Asian Paints and Hindustan Unilever generated strong returns through brand-supported margin and asset productivity, but recent exceptional income and profit volatility require careful interpretation.
5. ICICI Bank reported a higher average ROE than HDFC Bank. Both banks had low asset turnover and

high equity multipliers, which are normal features of banking intermediation.

6. HDFC Bank's asset and equity base rose sharply in FY2023-24 because of the merger, making simple year-to-year comparisons difficult.

7. Larsen & Toubro improved ROE over the period as profit and revenue expanded, although its project model required higher financing intensity.

8. Maruti Suzuki showed one of the strongest operating recoveries. ROE increased as margin and asset use improved, not because of high leverage.

9. Reliance Industries produced large absolute profits but had the lowest average ROE in the sample because of its enormous and expanding asset base.

10. The pooled correlation analysis identified asset turnover as the strongest positive associate of ROE, followed by net profit margin.

11. The Shapiro-Wilk test rejected normality. The Kruskal-Wallis test confirmed significant differences among companies, and the Friedman test confirmed differences across years.

Suggestions:

- 1 Focus on sustainable ROE rather than merely high ROE. Companies should improve profitability through recurring operating performance, efficient asset utilisation and prudent financing.
- 2 Strengthen capital allocation and investment productivity. Firms should ensure that new investments generate adequate returns relative to the capital employed.
- 3 Improve operating margins through efficiency and value creation. Management should focus on cost control, pricing, productivity and product mix.
- 4 Enhance asset utilization and working-capital efficiency. Better inventory management, receivable collection and capacity utilisation can improve asset turnover and ROE.
- 5 Adopt sector-specific interpretation of financial ratios. ROE and leverage should not be compared directly across industries without considering differences in business models.
- 6 Evaluate leverage from a risk-adjusted perspective. A higher equity multiplier can improve ROE but may simultaneously increase financial, liquidity and solvency risks.
- 7 Distinguish recurring performance from exceptional items. Analysts should adjust for asset sales,

demergers, exceptional income and tax effects when evaluating profitability.

8 Integrate DuPont analysis with broader financial indicators. ROE analysis becomes more meaningful when combined with cash flows, debt servicing, valuation and invested-capital measures.

9 Use long-term and statistical analysis for investment decisions. Multi-year trends and panel-based analysis can provide stronger evidence than a single year's ROE.

10 Promote sustainable financial performance through balanced managerial decisions. Management should simultaneously consider profitability, asset productivity, financing structure and future investment requirements.

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