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A Comparative Analysis of Financial Performance of Renewable Energy Companies

Prof. (Dr.) Bhisham Kapoor
Head of Department
Faculty of Commerce
Ex Officiating Principal
M.M.H. College, Ghaziabad
Ex Member of Board of Studies
C.C.S. University, Meerut

Jyotanshi Gaba
Research Scholar
M.M.H. College, Ghaziabad

Netrapal Sain
Assistant Professor
DAVCC, Faridabad

Abstract: There is rapid growth in the renewable energy sector owing to the global movement towards sustainable energy sources and increasing concern about reducing carbon emissions. Notwithstanding the potential that the field holds, companies within it have numerous challenges such as demand fluctuations, high capital costs, and changes in regulatory frameworks. This study assesses and compares the financial performance of two major renewable energy companies: IREDA and Suzlon Energy Limited. The study would cover an analysis of critical financial parameters for the past five years from FY 2019-20 to FY 2023-24, through the analysis of financial ratios to bring out the liquidity, solvency, profitability, and market value of the companies. The study also employs statistical testing using an independent t-test to find out whether significant differences exist between the financial performances of the two companies on various financial ratios. The findings of this study helps to understand the financial health of renewable energy companies and, hence, form an empirical basis on which their financial viability and growth potential can be evaluated in a competitive and fast-evolving industry. This research pinpoints the strengths and weaknesses of each company and provides an understanding for all investors, stakeholders and policymakers in renewable energy development.

Keywords: Renewable Energy, Financial Performance, Ratio Analysis, IREDA, Suzlon Energy.

1.Introduction

1.1 Renewable Energy

In the global endeavor to mitigate climate change and transition to sustainable development, renewable energy is emerging as a cornerstone. As fossil fuel reserves diminish and their environmental toll becomes increasingly apparent, the adoption of sources of renewable energy like solar energy, wind energy, biomas, hydroelectric, and geothermal offers a beacon of hope.
Renewable energy is derived from naturally replenished sources that do not deplete over time. Unlike fossil fuels, which require millions of years to form, renewables are harnessed from ongoing natural processes such as sunlight, wind, and water cycles. These sources are abundant, diverse, and offer a cleaner alternative to traditional energy production methods.

Solar, wind, and hydropower have seen remarkable growth, driven by technological advancements and decreasing costs. With its vast natural resources and favorable policies, India has emerged as a key player in this sector.

Renewable energy signifies not merely a remedy for the climate crisis; it serves as a conduit to a more equitable, prosperous, and sustainable future. By adopting renewable energy sources, humanity can effectively tackle urgent environmental issues while concurrently fostering economic development and improving overall quality of life. The transition to renewable energy sources is not simply an alternative; it is an imperative for our collective welfare.

The Indian government's push for renewable energy has been supported by various incentives, subsidies, and ambitious targets. By 2024, India aims to have 175 GW of renewable energy capacity, and both IREDA and Suzlon Energy are integral to this goal.

1.2 Financial Performance

is essential to comprehend the financial performance of organisations in order to conduct strategic business analysis. A company's capacity to generate profits, manage resources efficiently, and sustain growth over time is assessed by this critical metric. As the industry undergoes rapid transformation driven by technological advancements, policy changes, and market dynamics, understanding a company's financial health becomes essential for various stakeholders, including investors, policymakers, and management teams. The financial performance of companies can be dissected into several key components such as revenue and growth, profitability, liquidity, solvency, operational efficiency, and market valuation.

1.3 Company Overview

1.3.1 Indian Renewable Energy Development Agency (IREDA)

IREDA is a government-owned financial institution established in 1987. It is dedicated to promoting energy efficiency and renewable energy in India. IREDA provides funding and loans to renewable energy projects, making it a critical player in the country's clean energy transition. Its mission is to support the development of renewable and new energy sources by providing financial assistance.

1.3.2 Suzlon Energy Limited

Suzlon Energy is one of India's largest wind turbine manufacturers and has a global presence. Founded in 1995, Suzlon has contributed significantly to the renewable energy landscape, particularly in wind power. Despite facing financial difficulties in the past, the company has continually adapted its strategies to remain relevant in an increasingly competitive market.

In India, renewable energy has become a focal point of the government's energy policy, with companies like the IREDA and Suzlon Energy Ltd. leading the charge. Evaluating the financial performance of these two companies over the 2019-2024 period provides insights into their resilience, profitability, and growth potential within a rapidly evolving industry. This article offers a comparative analysis of the financial performance of IREDA and Suzlon Energy, focusing on key metrics such as revenue, profitability, debt, and cash flow. By understanding how these companies have navigated the challenges and opportunities of the renewable energy market, we can better appreciate their current standing and future outlook.

2. Literature Review

Sulistyowati et al. (2024) employ financial ratios to assess the financial performance of food and beverage companies listed on the Indonesia stock exchange for the years 2020-2022. The current ratio, debt-to-equity ratio, and return on equity are used to measure the liquidity, solvency, and profitability of the three companies. The results indicate that the liquidity position of the companies has declined, while the solvency and profitability of the companies have fluctuated.

Rehman & Lahari, (2024) evaluates the performance of GVK Power & Infrastructure Pvt. Ltd. using financial ratios. The Current ratio, Quick ratio, Absolute Quick ratio, Working Capital Turnover Ratio, Gross Profit ratio, Net profit ratio, Operating Profit Ratio, debt-equity ratio, Fixed Asset turnover ratio, and Proprietorship ratio are calculated to measure the liquidity, efficiency, solvency, and profitability of the company. The indicators demonstrate company's strong financial performance in terms of profitability, liquidity, and solvency. Debts and risks of the company need to be avoided.

Juliani et al., (2023) analyzed the effect of the debt-equity ratio, current ratio, and total asset turnover ratio on the financial performance of 10 manufacturing companies that are listed on Stock Exchange of Indonesia for the period 2016-2020 using linear regression analysis. A positive impact of current and debt-equity ratios was found on the financial performance whereas total asset turnover ratios had a negative and insignificant impact.

Aslamiah et al., (2023) examines how profitability, leverage, and liquidity affect financial distress in Indonesian mining and metals companies from 2018-2022. Return On Assets, Debt-equity ratio, and Current Ratio evaluate profitability, leverage, and liquidity. Financial distress was determined using the Altman Z-score model. This study applied Descriptive Statistic Analysis, Pooled Data, Chow Test, Hausman Test, Fixed Effect, Partial Test, and Determination Coefficient Test (R2). The study found that the Return on Asset and Debt to Equity ratio did not significantly impact the financial distress in the Mining and Metal Companies that are listed on the Indonesia Stock Exchange from 2018-2022, while the Current Ratio (CR) did. This indicates that profitability, leverage, and liquidity strongly impact financial distress in Indonesian mining and metals enterprises.

Chairunisa et al., (2023) examines the correlation between the financial performance and key financial ratios within Indonesia's hotel, restaurant, and tourism subsectors from 2016 to 2020. Total Assets Turnover (TATO) and Cash Ratio is positively influenced by Return on Assets (ROA), suggesting that efficient asset utilization and liquidity contribute to profitability. Debt to Assets Ratio (DAR) has negative impact on ROA, indicating detrimental effect of elevated debt levels on financial performance. The Current Ratio demonstrates no significant impact, indicating that an abundance of current assets may not improve profitability. The findings are consistent with financial theories and offer important insights for stakeholders evaluating corporate financial health.

Pal & Soni, (2023) compares the financial performance of five major Indian oil firms (Reliance Oil, ONGC, IOCL, BPCL, and HPCL) from 2017-18 to 2020-21. The financial performance of oil firms has been measured using several parameters, including liquidity, solvency, efficiency, and profitability. ONGC's financial performance is strong regarding Net profit ratio, Liquid ratio, Interest coverage ratio, and Debt-equity ratios, but fixed asset and capital turnover ratios are weaker. Analyzing the return on capital employed and net ratio of chosen oil businesses, HPCL stands well, whereas Reliance has a lower ratio. Limited liquidity in selected oil businesses necessitates maintaining an optimal ratio (2:1).

Singh, (2023) compares the 2018–2022 financial performance of five Indian Maharatna oil and gas companies: ONGC, IOCL, HPCL, BPCL, and GAIL. The study assesses liquidity, leverage, profitability, and activity to assess financial health and fund utilization efficiency. GAIL has the highest liquidity and HPCL the highest leverage ratios, suggesting debt reliance. ONGC leads in gross, net, and operational profit margins but has mixed asset and inventory turnover.

Olayinka, (2022) explores the significance of Financial Statement Analysis (FSA) in aiding investment and funding decisions while mitigating low profitability. Using data from Nestlé Nigeria Plc (2014-2019), the research employs descriptive statistical tools to analyze financial ratios. Findings suggest that FSA is essential for effective decision-making, and firms should utilize a combination of financial ratios to assess performance. The study emphasizes that FSA should be applied beyond investment decisions to other managerial areas. While limited to Nestlé Nigeria Plc's financial reports, the study provides valuable insights for investors in making informed decisions regarding business profitability and financial health.

Dalavaniya Hiralben Pravinbhai & Dr. Alkaben B. Kshatriya, (2022) compares the financial performance of two large Indian power firms, NTPC and GUVNL, spanning three years (2018-19 to 2020-21) using ratio analysis and ANOVA. NTPC has a larger Net Profit Margin than the other company. Return on Assets and Current Ratio were identical, indicating equal asset utilization and liquidity management efficiency. The report stresses the importance of efficient power generation, cost-effective distribution, and regulatory reforms to close India's energy supply-demand imbalance. It also examines electricity sector structural reforms including unbundling governmental organizations and regulatory measures to improve performance.

Alkhyeli et al., (2021) analyses Pfizer's 2017–2020 performance using ratio analysis to assess its financial health and investment appeal. It includes liquidity, profitability, and efficiency statistics using Yahoo Finance data. Pfizer's debt ratio indicated its ability to manage interest expenditures without default risk. Pfizer has profitability ratios that regularly surpass industry standards despite operational cash flow inefficiencies and inventory turnover issues. Cash reserves were affected by liquidity issues in 2019, according to the study. The study says Pfizer is a good investment but risky. Long-term results may be adequate, although pharmacological options may be superior. The research suggests investing in Pfizer, emphasizing the need to compare performance to rivals when making decisions.

BharathiR & Ramya, (2020) analyzed ratios of Indian Oil Corporation Limited (IOCL) to measure liquidity, profitability, and turnover efficiency from 2014 to 2019. The research considers IOCL's financial performance fair but needs liquidity, cost management, and profitability improvements to expand. Cash reserves, expenses, and working capital management should be enhanced to boost the petroleum industry's financial stability and competitiveness.

3. Objectives Of The Study

1. To evaluate the financial performance of the two chosen renewable energy companies.

2. To make comparison of the financial performance of these companies

4. Research Methodology

4.1 Data Sources:
The data is gathered from the company's Annual Reports as well as websites such as moneycontrol

4.2 Sample Size:
In this study two renewable energy companies are taken into consideration:
a. IREDA
b. Suzlon Energy Limited.

4.3 Period of Study:
Financial data for five years from financial year 2019-20 to 2023-24 have been analysed.

4.4 Tools & Technique:
Ratio Analysis and t-test have been employed in this study for analysis.

4.5 Null Hypotheses(Ho)
1. The Liquidity Ratios between IREDA and Suzlon Energy Ltd. do not differ significantly.
2. The Leverage Ratios between IREDA and Suzlon Energy Ltd. do not differ significantly.
3. The Profitability Ratios between IREDA and Suzlon Energy Ltd. do not differ significantly.
4. The Market Value Ratios between IREDA and Suzlon Energy Ltd. do not differ significantly.

5. Data Analysis And Interpretation

5.1 Liquidity

Table 5.1 Liquidity Ratios

Ratio	T Statistic	P Value	Null Hypotheses(Ho) Fail to Reject/ Reject	Interpretation
Current Ratio	-0.097	0.927	p value>0.05, Fail to reject Ho	The ability to pay off short-term liabilities of these two companies appears to be similar over this period.
Quick Ratio	-3.295	0.014	p value<0.05, Reject Ho	In comparison to Suzlon, IREDA's quick ratio is significantly higher, indicating that it may be more capable of meeting its short-term obligations without requiring a significant amount of inventory.

Fig. 5.1 Liquidity

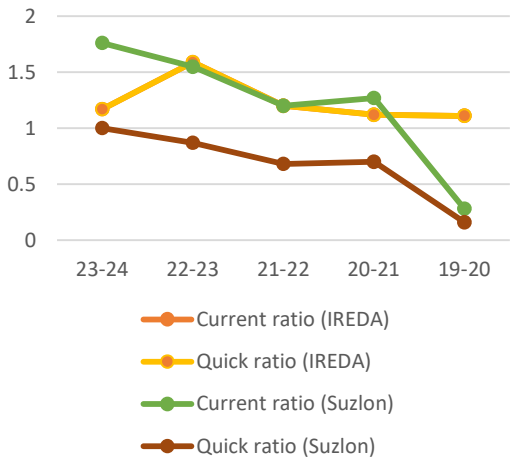
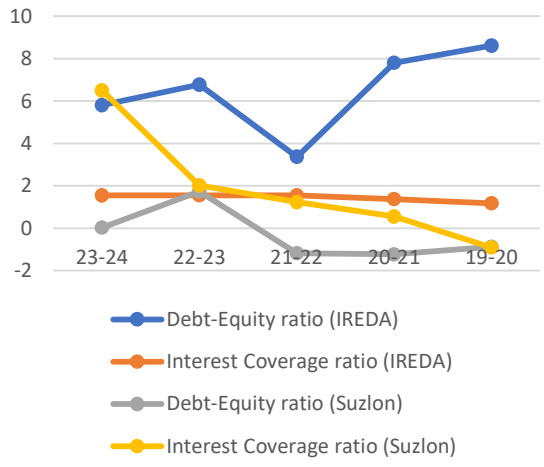


Fig. 5.2 Solvency



5.2 Solvency

Table 5.2 Solvency Ratios

Ratio	T statistic	P Value	Null Hypothesis(Ho) Fails to Reject/ Reject	Interpretation
Debt-Equity Ratio	-6.36	0.0 002	p value < 0.05, Reject Ho,	With a very low p-value of 0.000218, the two firms' debt-equity ratio disparity seems rather improbable to have happened by accident. IREDA maintains significantly higher debt to equity ratios (mean = 6.47) compared to Suzlon (mean = -0.306), indicating fundamentally different capital structure strategies between the two companies.
Interest Coverage Ratio	0.348	0.737	p value>0.05, Fails to reject Ho	Both companies have similar interest coverage ratio patterns over the given period.

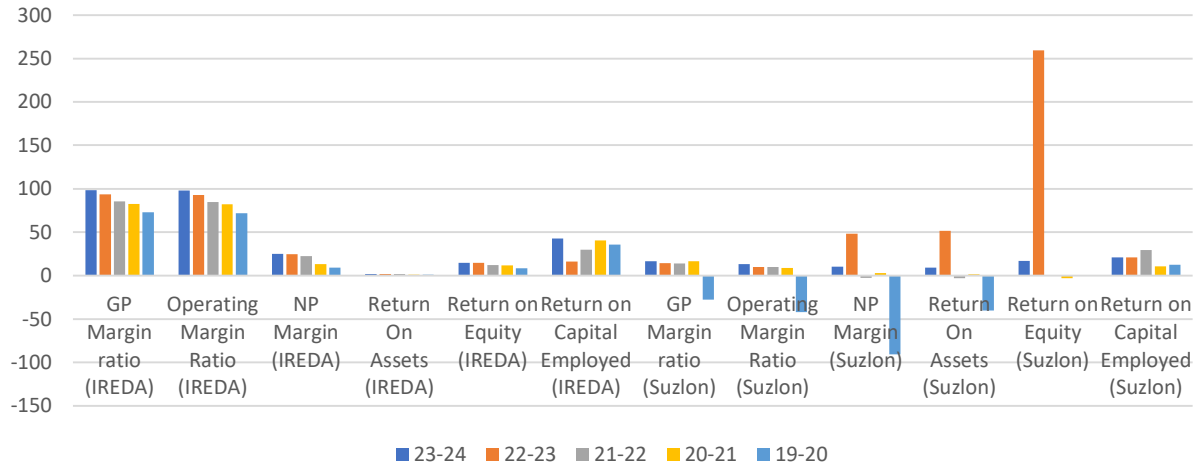
5.3 Profitability

Table 5.3 Profitability Ratios

Ratio	T statistic	P Value	Null Hypothesis(Ho) Fails to Reject/ Reject	Interpretation
Gross Profit Margin	-8.22	0.0 002	p value < 0.05, Reject Ho	IREDA's GP margin ratio is significantly higher than Suzlon's, suggesting that IREDA has a much stronger gross profit margin compared to Suzlon, which could imply better profitability or cost efficiency in generating gross profit.
Operating margin	-7.95	0.000044	p value<0.05, reject Ho	IREDA has a significantly higher operating margin ratio (85.742) compared to Suzlon (0.004) The t-test strongly suggests that IREDA's operating performance is significantly better than Suzlon's during the observed period.
NP Margin	-1.09	0.31	p value>0.05, fails to reject Ho	The negative t-statistic suggests that IREDA's NP ratios tend to be higher than Suzlon's, but this difference is not statistically significant.

Return On Assets	0.1559	0.88	p value>0.05, fails to reject Ho	Despite the apparent differences in the ROA values, there is insufficient statistical evidence to establish a substantial difference between ROA ratios of Suzlon Energy and IREDA The large p-value might be influenced by: • High variability in Suzlon's ROA values • Small sample size (only 5 years of data for each company) • The extreme values in Suzlon's data (particularly -40.46 and 51.58)
Return On Equity	0.826	0.455	p value>0.05, fails to reject Ho	This implies that there is insufficient statistical evidence to establish a substantial disparity in the average ROE between Suzlon and IREDA. Given the high p-value it is possible that any observed differences in ROE between the two companies are the result of random chance rather than an actual underlying difference.
Return On Capital Employed	-2.516	0.0415	p value<0.05, reject Ho	This implies that there is a strong statistical evidence to imply that the mean ROCE ratios of Suzlon and IREDA are significantly different. The negative t-value indicates that IREDA's ROCE ratio is significantly higher than Suzlon's on average.

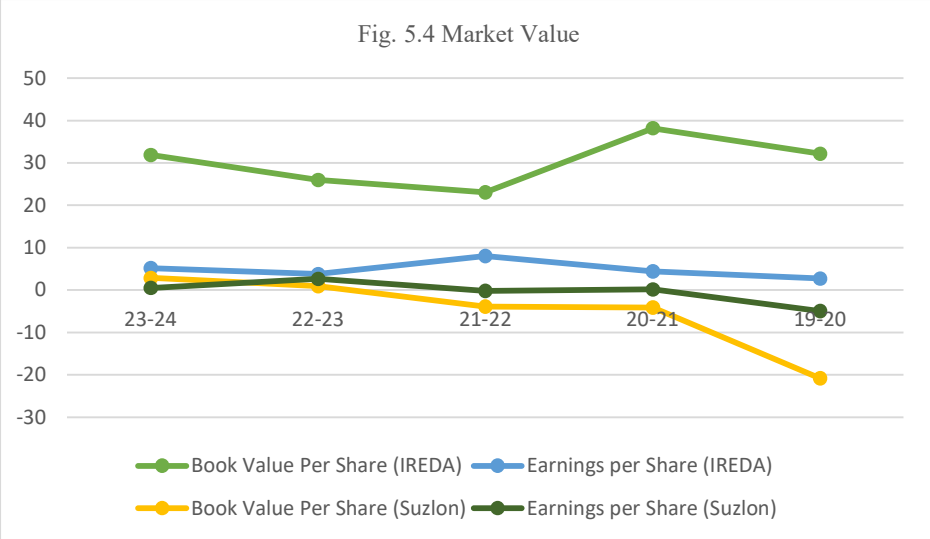
Fig. 5.3 Profitability



5.4 Market Value

Table 5.4 Market Value Ratios

Ratio	T statistic	P Value	Null Hypothesis(Ho) Fails to Reject/ Reject	Interpretation
Book Value Per Share	5.847	0.0004	p value<0.05, Reject Ho	The large difference in means and the statistical significance suggest that IREDA has consistently maintained higher book value per share ratios compared to Suzlon over the observed period.
Earnings Per Share	-3.3857	0.0096	p value < 0.05, Reject Ho	This analysis suggests that IREDA has significantly better earnings per share performance compared to Suzlon over the observed period, with the difference being statistically significant.



6. Conclusion

The comparative financial analysis of IREDA and Suzlon Energy reveals notable distinctions in their performance within India's renewable energy sector from 2019 to 2024.

In terms of Liquidity, IREDA is more capable in fulfilling its short-term obligations without overly dependent on inventory, compared to Suzlon's. Therefore the IREDA has more liquidity as compared to Suzlon Energy Ltd.

In terms of Solvency, IREDA maintains significantly higher debt to equity ratios compared to Suzlon. This means IREDA has been aggressively financing its growth with debt.

In terms of Profitability, IREDA's profitability is much higher than Suzlon's based on GP Margin, Operating Margin, NP Margin and Return on Capital Employed.

In terms of Market Value, IREDA has a higher market value as compared to Suzlon Energy Ltd.

IREDA, as a government-backed institution, has demonstrated stronger financial resilience and profitability, attributed to a robust financial structure and strategic resource allocation. Key metrics such as the Quick Ratio, Gross Profit Margin, Debt-to-Equity Ratio, and Earnings per Share favor IREDA, highlighting its superior ability to manage short-term liabilities, maintain a balanced capital structure, and achieve profitability.

Conversely, Suzlon Energy, a private player focused on wind energy, faces challenges reflected in weaker financial metrics. Its lower ratios in profitability and capital management underscore financial constraints and a reliance on debt, impacting its capacity for expansion and consistent profitability. Despite these challenges, Suzlon's presence in the wind energy sector remains influential.

7. Recommendations

Strengthen Financial Resilience: Suzlon Energy Ltd. could benefit from restructuring its financial model to reduce dependency on debt and improve its Debt-to-Equity and Interest Coverage Ratios. This approach would enhance liquidity and reduce financial risk, supporting sustained growth.

Diversification of Revenue Streams: To increase profitability and reduce vulnerability to sector-specific downturns, both companies, especially Suzlon, should consider diversifying into other renewable energy segments (e.g., solar, hydro). Diversification could mitigate financial risks and stabilize income.

Investment in Technology and Efficiency: Both companies could improve their cost efficiency by investing in advanced technologies. IREDA, for example, might enhance its financing mechanisms with digital solutions, while Suzlon could focus on cost-effective manufacturing and operational upgrades to increase its Gross and Operating Profit Margins.

Strengthen Public-Private Partnerships: Collaborations between government and private entities could support more stable financial performance across the sector. A partnership approach would allow IREDA to provide low-cost financing for Suzlon's expansion, fostering mutual growth.

Policy Advocacy and Alignment: Staying proactive with regulatory changes and advocating for supportive policies, such as tax incentives or green bonds, would allow both companies to maintain a favorable operational environment, furthering their contributions to India's renewable energy goals.

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ANNEXURES

Financial Ratios of Suzlon Energy Limited from FY 2019-20 to 2023-24

Suzlon Energy Limited					
Ratios	**23-24**	**22-23**	**21-22**	**20-21**	**19-20**
Current ratio	1.76	1.55	1.2	1.27	0.28
Quick ratio	1	0.87	0.68	0.7	0.16
Debt to equity ratio	0.03	1.73	-1.18	-1.23	-0.88
Interest coverage ratio	6.5	2.02	1.24	0.56	-0.91
GP Margin	16.3	14.3	13.9	16.6	-28
Operating Margin (%)	13.4	9.91	9.9	8.84	-42.1
NP Margin	10.1	48.4	-2.52	2.99	-90.5
Return on Assets	9.19	51.6	-3.08	1.57	-40.5
Return on Equity	16.8	259	0	-3.02	0
Return on Capital Employed	21	21	29.1	10.6	12.48
Book Value Per Share	2.88	0.9	-3.88	-4.12	-20.8
Earnings Per Share	0.5	2.64	-0.22	0.14	-4.97

Source: Annual Report

Financial Ratios of IREDA from FY 2019-20 to 2023-24

IREDA					
Ratios	**23-24**	**22-23**	**21-22**	**20-21**	**19-20**
Current ratio	1.17	1.59	1.2	1.12	1.11
Quick ratio	1.17	1.59	1.2	1.12	1.11
Debt to equity ratio	5.8	6.77	3.37	7.8	8.61
Interest coverage ratio	1.54	1.56	1.54	1.38	1.18
GP Margin	98.3	93.4	85.5	82.7	72.8
Operating Margin (%)	97.7	92.7	84.7	81.9	71.8
NP Margin	25.2	24.8	22.2	13.3	9.06
Return on Assets	2	1.71	1.72	1.14	0.77
Return on Equity	14.6	14.6	12	11.6	8.5
Return on Capital Employed	42.7	15.9	30	40.3	36
Book Value Per Share	31.9	26	23.1	38.2	32.1
Earnings Per Share	5.16	3.78	8.03	4.42	2.73

Source: Annual Report

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