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Profitability Performance of Select Public Sector Power Companies in India: An Empirical Study

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Abstract:

This paper evaluates the profitability of five major central public sector undertakings in India's power industry i.e. NTPC, Powergrid, NHPC, SJVN, and NLC covering the period 2003–04 to 2017–18. Profitability indicators such as Operating Profit Ratio (OPR), Net Profit Ratio (NPR), and Return on Net Worth (RONW) were employed to examine financial performance, using data mainly from the Capitaline database. The results highlight that SJVN consistently achieved the strongest average profitability, while Powergrid displayed the most stable outcomes. NTPC experienced downward movements in some indicators. In overall ranking, SJVN emerged as the leader, followed by Powergrid and NTPC (with similar performance), NLC, and NHPC. These findings provide useful insights for investors, managers, and policymakers interested in the financial health of the power sector.

Keywords: Profitability Analysis, Indian Power Sector, Financial Ratios, Public Sector Undertakings, Company Performance

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Introduction

India's power industry forms the backbone of economic progress, as growing industrialization and urban expansion drive continuous increases in electricity consumption. The sector includes both state-owned and private enterprises across the value chain—generation, transmission, and distribution. Ongoing reforms and a shift toward renewable energy have made financial assessment of power utilities more relevant than ever. Examining profitability enables stakeholders to understand efficiency levels, sustainability, and potential returns. Public sector entities, while enjoying government backing, often face structural challenges in operations. This study investigates the profitability of selected central public enterprises in the Indian power sector by applying ratio analysis. The outcomes are expected to assist investors, regulators, and policymakers in formulating decisions in line with the evolving energy market.

Literature Review

Panigrahi (2012) investigated the influence of working capital management on the profitability of ACC Ltd., a major cement producer, over the period 2000–01 to 2009–10. Using data sourced from moneycontrol.com, the study applied multiple regression analysis where operating profit margin served as the dependent variable and several liquidity and efficiency ratios as independent variables. The findings revealed no significant statistical association between liquidity and profitability.

Sheela and Kartikeyan (2012) assessed the financial performance of three leading Indian pharmaceutical firms—Cipla, Dr. Reddy's Laboratories, and Ranbaxy for the years 2002–03 to 2011–12. Employing DuPont analysis to evaluate return on equity and return on assets, they concluded that Cipla consistently performed better than the other two firms.

Sreedevi (2013) explored the connection between liquidity and profitability in Sun Paper Mills Ltd. for the five-year span from 2005–06 to 2009–10. Using ratios such as current ratio, quick ratio, and inventory turnover alongside profitability measures like return on assets and return on capital employed, and applying Mortaal's comprehensive test, the study reported no meaningful relationship between liquidity and profitability.

Tayyaba (2013) analyzed the role of leverage in determining profitability for 25 petroleum companies in Pakistan between 2006–07 and 2011–12. The application of regression analysis demonstrated that financial leverage positively affected profitability, while operating leverage had a negative impact.

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Innocent et al. (2014) studied the effect of leverage on the performance of three pharmaceutical firms listed on the Nigerian Stock Exchange from 2000–01 to 2011–12. Using debt–equity and interest coverage ratios as indicators of leverage and return on assets as a measure of profitability, they found no significant influence of leverage on firm performance when applying ordinary least squares estimation.

Dey (2014) conducted a comparative analysis of two firms in the Indian paper industry covering 2000–01 to 2012–13. Using annual report data, the study examined ratios relating to solvency, liquidity, and efficiency. Employing ANOVA, the research was unable to identify a consistently superior performer between the two firms.

Vijayalakshmi and Srividya (2014) investigated the determinants of profitability in ten Indian pharmaceutical firms during 2009–10 to 2013–14. Drawing data from CMIE and applying regression and ANOVA methods, they observed that all firms maintained satisfactory levels of profitability, although specific causal factors could not be clearly identified.

Kumar and Bhatia (2014) compared Tata Motors and Maruti Suzuki over the twenty-year period from 1992–93 to 2012–13. Using reports published by the Society of Indian Automobile Manufacturers, they analyzed multiple financial ratios. Their findings suggested comparable performance between the two companies, except in the area of capital gearing, where differences were noted.

Gulia (2014) examined the relationship between working capital management and profitability among six pharmaceutical companies in India from 2008–09 to 2012–13, based on CMIE data. While the firms maintained good liquidity positions, the results showed a statistically significant negative correlation between net working capital and profitability.

Arab et al. (2015) studied five Indian steel manufacturing companies for the period 2003–04 to 2012–13. Selected from a pool of 206 firms through convenience sampling, the analysis incorporated 16 ratios relating to profitability, liquidity, and solvency. Techniques such as one-way ANOVA revealed notable variation across all the financial indicators considered.

Devi and Sabarinathan (2015) reviewed the financial health of five cement firms in India during 2004–05 to 2013–14. By analyzing accounting ratios, they concluded that the overall financial performance of the firms was satisfactory throughout the study period.

Sharma and Kaur (2016) examined Bharti Airtel's liquidity and working capital management efficiency between 2007–08 and 2015–16. Their analysis, which utilized accounting ratios and Mortaal's rank test, highlighted that while profitability and credit management were at acceptable levels, the firm's liquidity position remained weak.

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Chavda (2017) carried out an analysis of five leading FMCG companies in India for 2012–13 to 2016–17. Using company reports and employing ratios related to profitability and liquidity, the study applied one-way ANOVA and found statistically significant differences across firms in both profitability and liquidity measures during the study timeframe.

Research Methodology

This study adopted a purposive sampling technique for the selection of central public enterprises in the Indian power sector. The five companies chosen for analysis were:

1. NTPC Ltd.
2. Powergrid Corporation of India Ltd.
3. NHPC Ltd.
4. SJVN Ltd.
5. NLC Ltd.

The research is based entirely on secondary data. The primary source of information was the Capitaline Corporate Database, maintained by Capital Market Publishers (India) Ltd., Mumbai. In addition, supplementary references were drawn from published annual reports of the enterprises, relevant books, academic journals, magazines, newspapers, survey reports, and authenticated websites.

To assess profitability, three key ratios were used:

- Operating Profit Ratio (OPR) – to evaluate operational efficiency,

- Net Profit Ratio (NPR) – to determine net earning ability, and

- Return on Net Worth (RONW) – to examine profitability from shareholders' perspective.

Data for the period from 2003-04 to 2017-18 was used in this study. Due COVID-19 Pandemic, data for the period from 21-22 to 23-24 is not representing real picture of the selected companies. That is why I selected a period where there was no effect of COVID-19 shutdown

Results and Discussion

Operating Profit Ratio (OPR):

The OPR represents the proportion of operating profit to net sales, serving as an indicator of operating efficiency. A higher OPR reflects stronger operating profitability.

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The analysis (Table 1) shows that SJVN's OPR fluctuated between 91.68 (2010–11) and 115.41 (2006–07), with an average of 99.79. Powergrid maintained a narrow fluctuation band, ranging from 86.28 (2010–11) to 102.15 (2004–05), with an average of 91.15. NTPC recorded significant variation, with values between 24.99 (2015–16) and 59.80 (2004–05), and a mean of 34.54. NLC's ratio ranged widely from 27.04 (2016–17) to 78.07 (2005–06), averaging 54.36. NHPC displayed a fluctuating OPR between 59.33 (2014–15) and 98.51 (2011–12), with an average of 84.66.

On the whole, except for NTPC, most companies reflected satisfactory operating margins. At the industry level, the average OPR initially rose to 84.60 in 2004–05, declined to 70.00 by 2010–11, and showed irregular movements thereafter, settling at 66.66 in 2017–18. In terms of averages, SJVN ranked highest, followed by Powergrid, NHPC, NLC, and NTPC. Regarding consistency, Powergrid was the most stable, while NTPC was least consistent.

Net Profit Ratio (NPR):

The NPR measures the net earnings relative to sales, highlighting overall profit-generating capacity.

The results (Table 2) reveal a wide range for SJVN, from –42.92 (2004–05) to 62.56 (2017–18), averaging 48.27. Powergrid exhibited limited variation, with its lowest NPR at 28.63 (2010–11) and highest at 34.25 (2007–08), averaging 30.99. NTPC showed a declining pattern, falling from 27.88 (2003–05) to 11.99 (2017–18), with an average of 18.72. NLC's NPR dropped from a high of 41.75 (2003–04) to a low of 3.46 (2016–17), averaging 29.29. NHPC fluctuated between 17.68 (2014–15) and 51.28 (2011–12), with an average of 40.60.

The industry average demonstrated an inconsistent trend, starting at 33.45 (2003–04), decreasing to 21.32 (2004–05), rising again in subsequent years, and eventually settling at 32.00 in 2017–18. SJVN secured the top position in average NPR, followed by NHPC, Powergrid, NLC, and NTPC. Powergrid, however, ranked highest in terms of stability.

Return on Net Worth (RONW):

RONW expresses earnings attributable to shareholders as a proportion of owners' equity, serving as a key profitability indicator from the investors' viewpoint.

According to Table 3, SJVN's RONW ranged from 0.1251 (2006–07) to 0.1742 (2015–16), averaging 0.1402. Powergrid recorded values between 0.0868 (2003–04) and 0.1703 (2013–14), with a mean of 0.1282. NTPC varied between 0.1001 (2017–18) and 0.1642 (2013–14), averaging 0.1367. NLC showed wider variation, from 0.0694 (2007–08) to 0.2702 (2017–18),

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with a mean of 0.1341. NHPC's RONW was the lowest, ranging between 0.0484 (2014–15) and 0.1088 (2012–13), averaging 0.0702.

At the industry level, the RONW fluctuated narrowly, moving between 0.1020 (2006–07) and 0.1480 (2017–18). Based on average values, SJVN ranked first, followed by NTPC, NLC, Powergrid, and NHPC. In terms of consistency, NTPC was the most stable, followed by SJVN and Powergrid, while NLC ranked lowest.

Conclusion

The comparative ranking of profitability ratios indicates that SJVN achieved the highest position based on average values, whereas Powergrid excelled in consistency. When both criteria were considered jointly, SJVN maintained the top spot, followed closely by Powergrid and NTPC, with NLC and NHPC trailing behind. Overall, the analysis underscores that while SJVN has the strongest profitability profile, Powergrid's stable performance is equally noteworthy. These insights underline the importance of financial ratio analysis in identifying strengths and weaknesses among enterprises in the Indian power sector.

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Table 1: Descriptive Analysis of Operating Profit Ratio of the Selected Companies

Company Year	SJVN	POWERGRID	NTPC	NLC	NHPC	Industry Avg.
2003-04	97.56	91.19	32.94	71.33	89.79	57.05
2004-05	97.54	102.15	59.80	70.48	93.02	84.60
2005-06	97.06	94.16	43.38	78.07	94.16	81.37
2006-07	115.40	90.95	39.91	63.06	84.92	78.85
2007-08	94.92	96.28	39.73	64.81	87.78	76.70
2008-09	96.73	87.44	38.60	63.25	91.33	75.47
2009-10	105.20	87.26	32.69	45.26	81.06	70.30
2010-11	91.68	86.28	33.09	47.52	91.44	70.00
2011-12	95.07	91.19	28.99	50.96	98.51	72.94
2012-13	97.30	89.66	27.13	51.88	80.23	69.24
2013-14	100.20	90.39	33.33	49.23	86.09	71.85
2014-15	98.29	88.16	28.48	48.73	69.33	66.60
2015-16	97.70	89.39	24.99	48.71	79.85	68.13
2016-17	104.20	91.24	26.98	27.04	69.39	63.78
2017-18	105.70	91.52	28.12	35.03	72.95	66.66
Mean	99.79	91.15	34.54	54.36	84.66	71.57
Minimum	91.68	86.28	24.99	27.04	69.33	57.05
Maximum	115.40	102.15	59.80	78.07	98.51	84.60
CC	16.51	22.78	3.88	3.89	9.38	10.09

Source: Compiled and computed from Capitaline Corporate Database,Capital Market Publishers (India) Ltd., Mumbai

Consistency Coefficient = CC

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Table 2: Descriptive Analysis of Net Profit Ratio of the Selected Companies

Company Year	SJVN	POWERGRID	NTPC	NLC	NHPC	Industry Avg.
2003-04	46.52	30.56	18.94	41.75	42.56	33.45
2004-05	-42.92	33.06	27.88	40.39	48.20	21.32
2005-06	46.18	31.26	25.73	40.32	46.48	37.99
2006-07	55.11	32.08	21.77	31.90	44.67	37.11
2007-08	46.12	34.25	21.04	26.89	49.11	35.48
2008-09	52.84	31.39	19.99	36.88	43.98	37.02
2009-10	57.70	29.71	19.54	24.44	39.52	34.18
2010-11	54.97	28.63	18.82	30.20	49.00	36.32
2011-12	49.85	32.15	16.53	29.89	51.28	35.94
2012-13	55.44	32.02	14.86	28.52	46.82	35.53
2013-14	62.56	33.19	19.20	26.10	44.22	37.05
2014-15	59.49	29.53	15.24	25.17	17.68	29.42
2015-16	59.51	28.99	14.05	25.88	31.23	31.93
2016-17	56.43	28.78	15.20	3.46	25.55	25.88
2017-18	62.55	29.24	11.99	27.60	28.63	32.00
Mean	48.27	30.99	18.72	29.29	40.60	33.38
Minimum	-42.92	28.63	11.99	3.46	17.68	21.32
Maximum	62.56	34.25	27.88	41.75	51.28	37.99
CC	1.80	17.29	4.33	3.16	4.03	7.12

Source: Compiled and computed from Capitaline Corporate Database,Capital Market Publishers (India) Ltd., Mumbai

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Table 3: Descriptive Analysis of Return on Net Worth of the Selected Companies

Company Year	SJVN	POWERGRID	NTPC	NLC	NHPC	Industry Avg.
2003-04	0.1401	0.0868	0.1199	0.2078	0.0565	0.1178
2004-05	0.1406	0.0923	0.1303	0.1785	0.0588	0.1150
2005-06	0.1403	0.0899	0.1485	0.1673	0.0548	0.1202
2006-07	0.1251	0.1065	0.1493	0.0770	0.0521	0.1020
2007-08	0.1282	0.1177	0.1468	0.0694	0.0587	0.1042
2008-09	0.1309	0.1299	0.1465	0.1268	0.0593	0.1187
2009-10	0.1730	0.1182	0.1491	0.1421	0.0610	0.1287
2010-11	0.1532	0.1317	0.1457	0.1260	0.1013	0.1316
2011-12	0.1316	0.1438	0.1397	0.1208	0.0906	0.1253
2012-13	0.1422	0.1451	0.1307	0.1216	0.1088	0.1297
2013-14	0.1297	0.1703	0.1642	0.1168	0.0867	0.1335
2014-15	0.1277	0.1482	0.1321	0.1119	0.0484	0.1137
2015-16	0.1742	0.1371	0.1229	0.0937	0.0782	0.1212
2016-17	0.1309	0.1451	0.1245	0.0812	0.0647	0.1093
2017-18	0.1356	0.1607	0.1001	0.2702	0.0734	0.1480
Mean	0.1402	0.1282	0.1367	0.1341	0.0702	0.1212
Minimum	0.1251	0.0868	0.1001	0.0694	0.0484	0.1020
Maximum	0.1742	0.1703	0.1642	0.2702	0.1088	0.1480
C.C	8.4397	4.9779	8.5774	2.5016	3.7369	10.0467

Source: Compiled and computed from Capitaline Corporate Database,Capital Market Publishers (India) Ltd., Mumbai

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