e-ISJN: A4372-3114
p-ISJN: A4372-3115

ISSN: 2321-7782 (Online)
ISSN: 2347-1778 (Print)
Impact Factor: 6.012

Volume 13, Issue 2, February 2025

International Journal of Advance Research in Computer Science and Management Studies

Research Article / Survey Paper / Case Study

Available online at: www.ijarcsms.com

A Monthly Double-Blind Peer Reviewed, Refereed, Open Access, International Journal - Included in the International Serial Directories

Assessing Financial Health of Power Utilities of Punjab Using Ratio Analysis Technique

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DOI: https://doi.org/10.61161/ijarcsms.v13i2.3

Introduction

One of the main objectives of power sector reforms was to improve the financial health of power utilities. Various state governments took initiatives to restructure their power sector to improve the final performance of the sector. Punjab was one of the states who took reform initiatives in late 90s. Financial performance has two aspects. One the operation efficiency that how efficiently the business is being run. Two, whether the tariff charged from consumers is adequate to recover the cost of supplying electricity.

In this research paper, ratio analysis that a very crucial tool to analyze the financial viability of any institution has been used as technique of analysis. While using the ratio analysis, we examine the relationship between the various items of the financial statement of that institution. The main use of the method of ratio analysis is to measure the financial health of Power utilities in Punjab. Some special ratios like current ratio, quick ratio, working capital ratio and some others are used to analyse the performance of power utilities. Mathematically, a ratio shows the arithmetic relationship between two or more selected variables.

Ratio analysis can may be used to study the various parameters related to financial performance. At the outset, it is used to measure the overall operating efficiency. Secondly, ability of any institution to meet its current liabilities and its solvency position is also studied. It can also be used to make a comparative analysis by making a comparison with similar firms operating in the market. In sum up historically, it has been used as a measurement of overall efficiency of the firms.

This paper is divided into four Sections including the current section, Section I which deals with introduction. In the Section II major short-term ratios have been computed and analysed. In the section III, a focus on long term ratios has also been done. Section IV draws the Conclusions and suggestions.

Major-Short Term Ratios

Hence ratio analysis is an accurate tool to measure the short term and long -term financial health of power utility. Short term ratio includes Current ratio, quick ratio, cash ratio and working capital ratio.

Short term financial position of the utility had been present in that section short term ratio includes Liquidity Ratios and Working Capital Ratios. Liquid Ratio present the status of the liquidity of any institution which maintain the ability of an institution to meet current liabilities such as B/Pills, short term bank loans, liability to pay income tax, etc. Status of Current Ratio, status of Quick Ratio and Cash Ratio are those which is mostly used as liquidity ratios.

Status of Current Ratio

Status of current ratio presents the relationship between current resources and current obligation of the intuition. Cash in hand and most liquid asset like bank balance and sundry receivables are including in current resources. Bills payable, very short-term bank loans, income tax liability, etc., are major items of the current liabilities sundry receivables**.**

Position of Current Status of the Utility of Punjab

Status of Current Ratio may be calculated by the division of Current asset by Current liabilities of the utility.

Table2. 1. Present the status of current ration in Punjab (CA/CL in crore)

Time Period	Status of Current Assets	Status of Current Liabilities	Status of Current Ratio
2016-17	9378	9070	1.03
2017-18	11741	10713	1.09
2018-19	14974	28039	0.53
2019-20	15217	12970	1.17
2020-21	16725	14121	1.18
2021-22	18257	12904	1.41

Tariff Order issued by PSERC on proposal of Power Utilities in Punjab

Present Table shows the highest figure of current ratio which is 1.41 in FY 2021-22 **during the** FY 2016-17 to 2021-22, indicating a positive margin of safety for creditors but decline in 2018-19 and not satisfied the position of required benchmark means Punjab Power Utility was in in a position to pay its current liabilities then again starting increasing in next 2019-20 to 2021-22 which is a positive sign of the viability of Power Utility.

Status of Quick Ration

Quick ratio maintains relationship between the quick assets of any corporation and its current liabilities on the basis of performance. An asset is said to be quick if it can be converted into liquid form without any time delay. It should be converted at the earliest possible without making any adverse impact on the financial liability of the corporation. Inventories are not such assets such hence it is excluded from current assets. Quick Ratio may be achieved by the division of quick asset by current assets. Table 2 present the Status of quick ratio of the cooperation.

Table 2.2 Status of Quick Ratio of Power Utility (All Assets preset rs in crore)

Time Period	Status of Current Assets	Status of Inventories	Status of Quick Assets	Status of Current Liabilities	Status of Quick Ratio*
2016-17	9378	737	8641	9070	0.95
2017-18	11741	454	11287	10713	1.05
2018-19	14974	733	14241	28039	0.50
2019-20	15217	548	14669	12970	1.13
2020-21	16725	348	16377	14121	1.15
2021-22	18257	443	17814	12904	1.38

Sources: Annual Report of Planning Commission on SEBs

Electricity Statistics of Punjab Power Utilities

Tariff Order on the Annual Revenue Requirement (ARR) of PPDC

It may be noted that inventories are deducted from current assets to achieve the status of quick assets of the corporations.

Benchmark which is decided for the quick ratio is **1:1**, meaning an institution's quick assets must be equal to its current liabilities, so that it ensures its short-term claims immediately. It is clear from the table that the quick ratio was reported in the range of .95 in 2016-17 very worse position in 2017-18 reported .50 but after that it shows increasing trend and reached 1.38 in2021-22that shows positive improvement in the financial health of PSEB

Status of Cash Ratio:

Cash ratio is used to define the relationship between the cash and bank balance and the status current liabilities. When our Cash & bank Balance are divided by the current liabilities, we find that cash ratio are in satisfactory position of cash ratio when it is between the range of 0.5:1 or nearer to it.

Table2. 3: Status of Cash Ratio of PSEB (All Assets in crore)

Time Period	Status of Cash & Bank Balance	Status of Current Liabilities	Status of Cash Ratio
2016-17	285	9070	0.031
2017-18	337	10713	0.031
2018-19	228	28039	0.008
2019-20	161	12970	0.012
2020-21	98	14121	0.006
2021-22	170	12904	0.013

Sources; Annual Accounts Statement of PSEB

Above table presents that status of cash ratio remained consistently below the satisfactory level of 0.5:1 throughout the study period, indicating less liquidity concerns. Hence it is suggested that the utility needs to take corrective measures, to ensure the smooth recovery electricity dues to improve its liquidity position and maintain financial stability.

Status of Working Capital of Power Utilities

Status of working capital include gross working capital which is equal to total current assets of the organization and the second is net working capital. Net working capital is received by subtracting current liabilities from total current assets. It may be noted that current assets must be exceed than the current liabilities. Only then, there will be net working capital otherwise there will be working capital deficit.

Status of Gross working capital:

Status of Gross working capital present as the current assets that can be changed into most liquid form like cash within a very short period of time. B/R, loans and advances cash and bank balance, stock and sundry receivables are most common examples of gross working Capital.

Table 2.4: Status of Gross Working Capital of PSEB

Particular	Stocks	Receivable against sale	Cash	Loan &Sundry Receivable	Working capital
2016-17	737(8)	3144(34)	285(3)	5050(54)	9378(100)
2017-18	454(3)	3703(31)	337(2)	7073(60)	11741(100)
2018-19	733(5)	4431(29)	228(0.1)	8742(58)	14974(100)
2019-20	548(4)	5250(34)	161(1)	8366(55)	15217(100)
2020-21	348(2)	5709(34)	98(0.5)	9556(57)	16725(100)
2021-22	443(2)	6317(35)	170(0.9)	10212(56)	18257(100)

Sources: Account Statements of PSEB
Brackets numbers shows relative shares of gross working capital for that year

Above table present that in the earlier years, sundry receivables remained the dominant part of gross working capital, accounting above 50% of gross working capital and the receivables from power supply ranked second position, consistently exceeding above 30%. However, the share of power supply receivables grew significantly, reflecting PSEB's improved collection efficiency. This shift highlights operational progress but also emphasizes the need for sustained financial stability.

Status of Net Working Capital (NWC)

NWC is the difference between current assets and current liabilities. Hence our NWC will be positive only when our CA exceeds from CL and in case of any opposite situation we have to face the problem of negative working capital which means the deficit of working capital.

Table 2.5: Status of (NPW) Net working Capital (All figures in Rs. crore)

FinYear	Status of (CA)	Status of (CL)	NPW
2016-17	9378	9070	308
2017-18	11741	10713	1028
2018-19	14974	28039	(13064)*
2019-20	15217	12970	2247
2020-21	16725	14121	2604
2021-22	18257	12904	5352

Source: Annual statement of accounts of Power Utilities

*Represents the negative working capital

Table 5 presents that net working capital was positive and showed an increasing trend in the FY 2016-18 but negative in to FY 2017-18 However, the position reversed after that reported positive trend, which is a positive sign for financial health of power sector. To improve its financial health, PSPCL should focus on increasing current assets, ensuring timely recovery of dues, and reducing unproductive expenditures

Long Term Viability

Section III, this section presents the status of long-term viability of power utility of State Punjab. When any institution is able to meet its long term loans and interest payments it is said viable for long term liabilities for that the structure of capital formation, capital employed, their trends and several ratios such as rate of return ratio, asset turnover ratio, profitability ratios may be calculated first we see the status of fixed assets of the utility which is as under

Status of fixed Assets of Power Utility

Status of fixed asset is a crucial indicator of the financial health of any institution. Increment in fixed assets is a good sign vice-versa. Fixed Asset Status of Power Utility is presented by the table below.

Table 3.1 Status of fixed Assets of Power Utility **(**In Rs crore)

Year	Fixed Assets
2016-17	35627
2017-18	35929
2018-19	36719
2019-20	36665
2020-21	36880
2021-22	37029

Sources: Account statements of Power Utilities

Above table present that that the fixed assets of Power Utility have been showing increasing throughout research period which is a good sign for the financial health of Power Utility**.**

States of Assets turnover ratio of Power Utility

Relationship between the sales and the assets is known as assets turnover ratio have two types I) Fixed assets turnover ratio II) Current assets turn over ratios

1. Position of Fixed assets turnover ratio of Power Utility

Fixed assets turnover ratio maintains the relationship between total sales and fixed assets. When it gains higher value, it indicates better financial health and vice-versa

Table 3.2: Status of **Fixed Assets Turn Over Ratio of Power Utility (In Rs. Cr)**

Time Period	Status of total sales	Status of fixed assets	Value of Fixed-Assets Turnover ratio
2016-17	18202	35627	0.51
2017-18	20394	35929	0.56
2018-19	22145	36719	0.60
2019-20	22721	36665	0.61
2020-21	20714	36880	0.56
2021-22	22720	37029	0.61

Source; Accounts statement of PSEB

Above Table 2.2 presents that the fixed assets turnover ratio gains fluctuating values over the study years. Values remained above 0.50 and reported in the range of 0.5 to 0.6 asset utilization efficiency

Status of Current Assets Turn Over Ratio of Power Utility

Status of Current assets turnover ratio may be seen as relationship between (CA)current asset and (TS)total sales.

Table 3.3 Status of Current assets turnover ratio

Year	Status of Total Sales(cr)	Status of current assets(cr)	Status of current assets Turnover ratio
2016-17	18202	9378	1.94
2017-18	20394	11741	1.73
2018-19	22145	14974	1.47
2019-20	22721	15217	1.49
2020-21	20714	16725	1.23
2021-22	22720	18257	1.24

Source: Accounts statement of PSEB years

Above table present that current assets turnover ratio shows decreasing trend. It was 1.9 in FY 2016-17 decreased throughout the study period indicating reduced efficiency.

Status of Profitability Ratio of the Utility

Main objective of the Utility was to provide improved quality of services to the consumers fulfilling the increasing demand for the energy. An organisation is required to generation some profit margin for the survival in the long run. Profit is defined as difference between the revenue realised and expenses incurred over a period of time.

Status of Profitability Ratio of Power Utility

Interrelation between the sale revenue and the profits of the organisation may be define as profitability ratio. It has two types- Gross profit margin ratio & Net profit margins Gross profit may be defined as the total profit of the organisation and net profit is calculated by subtracting some items from Gross Profit.

Status of Gross Profit margin ratio of Power Utility

Interrelation between total sale revenue and the gross profit is known as GPMR. It is calculated by dividing the gross profit by sales revenue

Table 3.4 St00atus of Gross profit Ratio of Power Utility (in Rs. crore)

Time Period	Status of Sales	Status of Gross profit	Status of Gross Profit Ratio
2016-17	18202	1264	7%
2017-18	20394	1755	9%
2018-19	22145	(1556)*	-7%
2019-20	22721	(95)*	*-0.4%*
2020-21	20714	(266)*	-1.2%
2021-22	22720	(221)*	-0.9%

Source; Annual statement of accounts of Power Utility various years

Above table present that PSPCL's **gross profit margin ratio** has been increased in 2017-18 but in 2018-19 it became negative means shown great loss but after that shown improvement over the years and losses are declining but despite attempts to stabilize it, the reduction was limited.

Status of Net Profit Margin Ratio

When operating expenses are subtracted from the gross profit, we find Net Profit Margin and Net Profit margin ratio is the relation between net profit and the total sales revenue

Table 3.5: Status Net Profit Ratio of Power Utility (In Rs. Crore)

Time Period	Status of Total Sales	Status of Net Profit	Status of Net Profit Margin Ratio
2016-17	18202	(2836)*	-15%
2017-18	20394	(906)*	-4%
2018-19	22145	(37)*	-0.1%
2019-20	22721	(1158)*	-0.5%
2020-21	20714	144	0.6%
2021-22	22720	106	0.4%

Source; Accounts statement of **Power Utility**

It is shows by the above table that net profit has been showing negative means net loss indication which was a critical financial situation for the utility but losses has been presenting a declining trend over the years because of remedial measures were taken, but further corrective actions are necessary to stabilize financial health of PSEB.

Status of Return on capital employed

Interrelation between capital base and profit margin is called return on capital employed. Efficiency of the capital utilized to generate profit is measured by the ratio named return on capital employed, higher the value of that ratio shows the more efficient utilization of Capital

Table 3.6: Status of Return on capital Employed in %

Time Period	EBIT	Capital employed	Return on capital employed in %
2016-17	(2836)*	41844	(6.7)
2017-18	(906)*	41596	(2.1)
2018-19	(37)*	27176	(0.13)
2019-20	(1158)*	43240	*(2.6)*
2020-21	1446	43678	3.3
2021-22	1069	46524	2.2

Annual Statement of Accounts 20016-17,2017-18,2018-19,2019-20,2020-21,2021-22,

During most of the period under consideration, the return on capital employed remained negative, reflecting inefficient working conditions and sub optimal utilization of capital. However, improvements were observed in 2020-21, 2021-22 where a positive return on capital employed was recorded. This suggests that during these years, better financial management and investment decisions led to improved operational performance.

Conclusions and Key Findings

One of the main objectives of power sector reforms was to improve the financial performance of power utilities. Same way, the power sector reforms were undertaken in the state of Punjab. However, there are variations in the performance of power utilities in Punjab.

Short-Term Financial Performance can be measured using Liquidity Ratios. The main indicators of liquidity ratios are Current Ratio, case ratio and the quick ratios. It was reported that current ratio was reported in the range of 0.53 to 1.41 during the study period. Similarly, the Quick Ratio ranged from 0.50 to 1.38 but fell below 1 in 2022-23 (0.90) and 2023-24 (0.89). It shows that there was reduced ability to meet the short-term obligations.

Similarly, the cash ratio was also not reported to be very good. It remained consistently below the satisfactory level. It was reported below 0.5 levels. Moreover, it was reported hitting 0.0008 in 2023-24, reflecting severe cash shortages.

Therefore, the analysis of short-term finance concludes that the utility has a long way to improve its financial performance. The current ratio, quick ratio and cash ratios were reported at the low level.

Long -Term Financial Performance can be measured using fixed assets status Capital Turn Over ratio and Assets Turn over Ratio. It was observed that Fixed Assets Increased steadily from ₹35,627 crore in 2016-17 to 37029 in 2021-22. Fixed Assets Turnover Ratio was improved from0.51 in 2016-17 to 0.64 2021-22. It is indicating better utilization of the resources. Current assets turnover was observed to be declining in 2021-22. It can be reported as reduced efficiency on part of company. Profitability Gross Profit Margin was reported to be negative in most years. In FY 2021-22, a steep loss of 67% was reported. Consequently, Net Profit Margin remained Negative for almost all the years except for 2020-21. In this year it was reported to be 0.6%. Similarly, Return on Capital Employed (ROCE) was also remained Negative for most of the years, except for 2020-21 which was reported to be 3.3%.

Key Findings

Over the time, a liquidity crisis was report in the financial performance of the Company. The cash reserve ratios remained at the lower level. Similarly working capital was also not as per requirement. Hence, the capital cost was not optimal. Consequently, the company stilled remained a loss-making unit and needs to improve its performance so that it can come out of its bankruptcy. The profit generation still remained an unrealised dream to the company.

Similarly, the operational performance was also not up to acceptable standards. It was seen continuously under pressure. The company has to borrow money to meet out the current liabilities. Therefore, the company has to still take steps to improve its financial health. Firstly, the company should Improve Liquidity by boosting cash reserves and reducing current liabilities so that it can focus of capital management. In order to enhance profitability, there was an urgent need to address the operational inefficiencies. There should be an effective cost management system over the time. Similarly, it should Strengthen the Recovery Mechanisms by ensuring the timely collection of receivables to improve cash flow.

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How to cite this article?

Kumar, R., Manju., M., & Kadyan, S. (2025). Assessing Financial Health of Power Utilities of Punjab Using Ratio Analysis Technique. INTERNATIONAL JOURNAL OF ADVANCE RESEARCH IN COMPUTER SCIENCE AND MANAGEMENT STUDIES, 13(2), 13–20. https://doi.org/10.61161/ijarcsms.v13i2.3

