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# RELATIONSHIP BETWEEN LIQUIDITY AND PROFITABILITY IN STATE PUBLIC SECTOR ENTERPRISES: A STUDY OF GUJARAT

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## ABSTRACT

*The relationship between liquidity and profitability has widely been researched, studies and debated. The relationship has been more important for all the stakeholders. Investors prefer to the company with high level of profitability, to earn high returns on their investments. On the other hand suppliers and employee are more interested in liquidity position of the company as safety parameter. The purpose of this research paper is to know the relationship between liquidity and profitability in public sector enterprises in the state of Gujarat. The relation is measured with the help of various financial ratios viz. current ratio, quick ratio, working capital ratio and return on capital employed and debt equity ratio. Finding from the study shows that there is weak positive relation between liquidity and profitability. Quantitative research design is used as tool for the study. To find the relation and strength of the relation correlation and regression are used. Study recommends that companies need to focus on liquidity management which has a positive relation with the company's profitability.*

## Introduction

The relationship between liquidity and profitability has widely been researched, studies and debated. The relationship has been more important for all the stakeholders. Investors prefer to the company with high level of profitability, to earn high returns on their investments. On the other hand suppliers and employee are more interested in liquidity position of the company as safety parameter. Various studies in the areas of financial management show that profitability and liquidity are vital and contradictory aspects of any enterprise. Liquidity is a measure of the ability of an enterprises to honor its obligations in due data. The survival of any company will be difficult without adequate liquidity. Various stakeholders including employees, creditors, suppliers etc. are interested in the liquidity position of the company because it is one of the safety parameter for them. Profitability, in simple term, is rate of return on the investment made by the company. Unplanned high investments in the assets of the company results in to low return for the company. Profitability of the company is most sought after variable for the investors of the company including shareholders. The long term growth of the company depends on the rate of return. Liquidity and profitability are contradicting with each other. Higher level of liquidity available with the company is an indication that assets of the company are not efficiently utilized, adversely affecting the profitability situation. On the other hand focus of the company towards higher profitability may compromise the liquidity situation. Company need to determine the appropriate balance between liquidity and profitability. Appropriate level of working capital management involves the fundamental decision about the liquidity level of the company and tradeoff between risk and return.

Efficient working capital management requires the process of planning and controlling of current asserts and current liabilities in such a manner that risk of failure to meet obligations is minimized and at the same time excessive investment in assets is also avoided. This working capital management of the company had direct bearing on the profitability of the company.

The ultimate objective of any private sector enterprises is to maximize the profit. Public sector enterprises on the other hand have other objectives as decided by the government. Public sector enterprises are expected to make reasonable profit instead of maximum profit considering the social objectives. Earning profit with the compromising liquidity may be dangerous proposition for any enterprises including public sector. Trade off between liquidity and profitability must be adequately managed by public sector enterprises. The objective of liquidity should not the at the cost of profitability and vice-versa. If enterprises do not care about profit, it cannot survive in the long run. On the other hand if enterprises do not care about liquidity, it cannot survive in the short term, may face the problem of insolvency or bankruptcy. Because of this working capital management should be given adequate importance for all enterprises including public sector enterprises.

State Public Sector Undertakings (SPSUs) in the state of Gujarat consist of State Government Companies and Statutory Corporations. Government of Gujarat has established SPSUs are in order to carry out the activities of commercial nature keeping in view the welfare of people. SPSU plays significant role and occupy an important place in the state economy. According to the report of Comptroller and Auditor General of India (CAG) on Public Sector Undertakings in the state of Gujarat, there were 72 Working SPSUs (68 Companies and four Statutory Corporations) and 14 non-working SPSUs during 2016. Out of total 86 SPSUs (working and non working) four were listed on the stock exchanges.

**Review of Literature**

**Shah P (2010)** has investigated the evaluation of the relationship between profitability and liquidity through application of working capital analysis of pharmaceutical companies. Study is based on the secondary data for the period of five years. The research paper has revealed that liquidity and profitability are vital and contradictory aspects of corporate business life. The research study indicated that the operating cycle period should be given more importance than the current ratio and quick ratio, as a measure and its impact on profitability. Research study has not supported the classical financial management view, with respect to existence of the negative correlation between NOPR and liquidity.

**Abdullah M N & Jahan N (2014)** investigated the impact of liquidity on profitability of the private commercial banks CSE-30 in Bangladesh. Study covers the ratios for five year period. Study is based on the data collected for five private commercial banks for the period of five years. The results of the data do not reject the null hypothesis there is not significant relationship between liquidity and profitability.

**Ahmad R (2016)** studied the relationship between liquidity and profitability of Standard Chartered Bank Pakistan. Quantitative research design is used as tool for the study. To find the relation and strength of the relation correlation and regression are used. Study we came to conclusion that there is weak positive relation between liquidity and profitability. So companies need to focus on liquidity management which has a positive relation with the company's profitability.

**Vieira R S (2010)** analyzed the relationship between liquidity and profitability in a group of companies comprising the major airline carriers in the world between 2005 and 2008. Using the financial data published by the companies, the relationship was studied with the help of statistical procedures and also a two-dimensional analysis. For the medium run it was confirmed that the relationship is positive. It was observed that in almost 2/3 of the cases companies with a bad indicator of profitability or liquidity faced a deterioration of the other indicator. Thus and equilibrium between liquidity and profitability seems to be a condition for financial stability over the medium run. Finally it was observed that during the year of 2008 companies with a high liquidity indicator had a much better performance than the less liquid companies.

**Mushtaq H, Chishti A F, Kanwal S & Saeed S(2015)** investigates the tradeoff between liquidity and profitability in the five sectors of Pakistan (Chemical, Fuel & Energy, Paper-Board & Products, Food (Sugar) Sector & Cement Sectors). An Econometric model of perceived functional relationship is specified, estimated and evaluated. Evaluation is based on relevant statistics of panel regression result. The results show that all the measures of liquidity except debtors' turnover and debt to equity ratio are contributing positively towards the profitability of the firms. If the firm has sound liquidity, then it will ultimately lead towards the profitability because by this the company would be able to generate the spontaneous financing.

**Irawan A & Aturohman T (2015)** conducted a study with the aim to check the relationship between liquidity and profitability in agriculture and consumer goods sectors in Indonesia between 2005 – 2013, aiming to identify the nature of the relationship and whether the relationship is statistically significant or not. The result is there is negative relationship between liquidity and profitability indicators, in line with the risk and return theory.

**Khan A K & Ali M (2016)** investigating the relationship between liquidity and profitability of commercial banks in Pakistan. The main objective of the study is to find the nature of relationship and the strength of relationship exists between the variables. Secondary data was used for analysis which was extracted from the last five years (2008-2014) annual accounts of Habib Bank Limited. After conducting correlation and regression analysis it was found that there as significant positive relationship between liquidity with profitability of the banks.

**Bibi N & Amjad S (2017)** investigated the relationship between firm's liquidity and profitability; and to find out the effects of different components of liquidity on firms' profitability. The relationship between liquidity and firms' profitability is empirically examined by collecting the data of 50 listed firms of Karachi Stock Exchange, Pakistan, The results of correlation and regression analysis showed that there is a significant negative relationship between cash gap and return on assets while current ratio has significant positive relationship with profitability. Results further indicate that log of sales and log of total assets has positive significant relationship with profitability.

**Paliwa R & Chouhan V (2017)** have conducted as study with the main objective to be checked out that whether the automobiles industry is making a perfect balance between the liquidity and profitability or not. It was found that the profitability and liquidity has similar changes in most of the cases in the different companies and the correlation was found to be significant and positive between the liquidity and profitability.

**Olarewaju O M & Adeyemi O K (2015)** have examined the existence and direction of causality between liquidity and profitability of deposit money banks in Nigeria. Fifteen quoted banks out of the existing nineteen banks were selected for the study. The results of the study revealed that there is no causal relationship (be it unidirectional or bidirectional) between liquidity and probability of Guaranty trust bank, Zenith bank, Sterling bank, Diamond bank, IBTC, Unity bank, UBA, Fidelity bank, Wema bank, Union bank, and Eco bank. The result also shows that there is a trace of unidirectional causality relationship running from liquidity to profitability for banks like Skye bank, First bank, Access bank and FCMB. Based on the findings and conclusions, the study recommend that the apex bank (Central Bank of Nigeria) should ensure close supervision and monitoring of deposit money banks' strength and level of liquidity in an attempt to stabilize and strengthen the financial sector of the economy.

**Objectives of the study**

The literature about the relationship between liquidity and profitability provide mixed evidences. Relationship has been proved in some of the cases while relationships do not exist or found to be very week in other cases. Present study is an attempt to evaluate the liquidity and profitability situations of public sector enterprises in the state of Gujarat. The primary objective of the study is it analyzes the relationship between liquidity and profitability among the public sector enterprises in the state of Gujarat.

**Research methodology**

Present study relies on the secondary data for the purpose of analysis. Present research is based on the use of secondary data. Secondary data for the purpose of research work are collected from various sources; (a) annual reports of the respective years of bureau of public enterprises, Gandhinagar, (b) annual Reports of the respective companies, (c) Department of Industrial Development, Ministry of India. The enterprises selected for the purpose of analysis are (a) Gujarat agro industries corporation limited (B) Gujarat State Seeds Corporation Limited (c) Gujarat Sheep and Wool Development Corporation Limited (d) Gujarat State Civil Supplies Corporation Limited (e) Tourism Corporation of Gujarat Limited (g) Gujarat Informatics Ltd (h) Gujarat Rural Industrial Marketing Corporation Limited (h) Gujarat Gopalak Development Corporation Limited and (j) Gujarat State Road Development Corporation Limited. Liquidity has been measured in the form of current and quick ratio and working capital ratio. Profitability is measured by return on capital employed. Sample of nine public sector enterprises was selected for the purpose of analysis. Data for the period 2001-02 to 2012-13 were collected from the annual report of the selected enterprises. Penal data correlation analysis has been used of the purpose of analysis.

**Quick Ratio**

Quick ratio is a measure of how well an organization can meet its short term financial liabilities. Quick ratio is also known as acid-test ratio. Quick ratio is computed as current assets minus inventory divided by current liabilities.

$$\text{Quick Ratio} = \frac{\text{Cash} + \text{Marketable Securities} + \text{Accounts Receivable}}{\text{Current Liabilities}}$$

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

Quick ratio is an indicator of an organization's short term liquidity position. Quick ratio measures organization's ability to meet its short term obligations with its most liquid assets. For this reason inventories are deducted from current assets while computing quick ratio. It generally measures rupee of liquid assets available per rupee of current liabilities. Quick ratio is more conservative than the current ratio because it excludes inventories from current assets, as inventories generally takes time to be converted into cash, and if they have to be sold quickly, organization may have to accept lower prices than the book value of inventories.

| **Average Current Ratio of Public Sector Enterprises (2001-02 to 2012-13)** | | | |
|---|---|---|---|
| Company | Mean | N | Std. Deviation |
| Gujarat Agro | 1.2900 | 12 | .12628 |
| Gujarat Seed | 1.6725 | 12 | .36745 |
| Gujarat Seep | 4.3475 | 12 | 3.11152 |
| Gujarat Civil | 1.2233 | 12 | .10916 |
| Tourism Corp | 5.8333 | 12 | 1.97510 |
| Gujarat Info | 1.9400 | 12 | 1.21010 |
| Gujarat Rural | 1.7867 | 12 | .55406 |
| Gujarat Gopalak | 34.1808 | 12 | 25.46030 |
| Gujarat Road | 2.0658 | 12 | 1.75026 |

It is clearly evident from the data that Gujarat Gopalak has highest average quick ratio of 34.18 during the period 2001-2002 to 2012-13. Other public sector units with higher quick ratio are Gujarat Tourism 5.83, and Gujarat Seep 4.35. On the other hand during the same period lowest average quick ratio of 1.22 has been recorded for Gujarat Civil followed by 1.29 for Gujarat Agro and 1.67 for Gujarat Seed.

**Current Ratio**

Current ratio is a liquidity ratio that measures enterprise's ability to pay short term and long term debt obligations. Current ratio is computed in the consideration of total current assets, both liquid and illiquid, in relation to total current liabilities of enterprise. In terms of calculation, current ratio of any enterprise is computed as a ratio of current assets and current liabilities.

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

Current ratio is mainly used to get an idea about ability of enterprise to pay back its liabilities (debt and account payable) with its assets (cash, marketable securities, inventory, and accounts receivable). Current ratio is normally used to take corrective measures about the health of an organization. Higher the current ratio , the more capable an enterprise is of paying its obligations, as it has higher proportion of assets value relative to the value of its liabilities.

| **Average Current Ratio of Public Sector Enterprises (2001-02 to 2012-13)** | | | |
|---|---|---|---|
| Company | Mean | N | Std. Deviation |
| Gujarat Agro | 1.2900 | 12 | .12628 |
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| Gujarat Rural | 1.7867 | 12 | .55406 |
| Gujarat Gopalak | 34.1808 | 12 | 25.46030 |
| Gujarat Road | 2.0658 | 12 | 1.75026 |

In order to know the trend in current ratio across selected public sector enterprise, average current ratio for the period 2001-02 to 2012-13 has been computed. The result of the computation shows that Gujarat Gopalak has highest average current ratio of 34.18 followed by Gujarat Tourism with 5.833 and Gujarat Seep 4.35. The lowest current ratio 1.22 has been recorded for Gujarat Civil followed by 1.29 for Gujarat Agro and 1.67 for Gujarat Seed.

**Net Working Capital Ratio**

Net working capital is measured as the ratio of working Capital minus short term borrowing to working Capital plus Net Block plus capital work-in-progress plus Investment.

$$Net\ Working\ Capital = \frac{Working\ Capital - Short\ Term\ Borrowings}{Working\ Capital + Net\ Block + Capital\ Work - in - progress + Investments}$$

| Average Net Working Capital Ratio of Public Sector Enterprises (2001-02 to 2012-13 | | | |
|---|---|---|---|
| Company | Mean | N | Std. Deviation |
| Gujarat Agro | .7575 | 12 | .09983 |
| Gujarat Seed | .9417 | 12 | 1.28438 |
| Gujarat Seep | .6317 | 12 | .11999 |
| Gujarat Civil | .1192 | 12 | .42943 |
| Tourism Corp | .2258 | 12 | 1.01258 |
| Gujarat Info | .4875 | 12 | .14796 |
| Gujarat Rural | .5400 | 12 | .18781 |
| Gujarat Gopalak | .7825 | 12 | .19293 |
| Gujarat Road | .7075 | 12 | .66832 |

It is clearly evident from the data that Gujarat Seed has highest average net working capital ratio of 0.7575 during the period 2001-2002 to 2012-13. Other public sector units with higher net working capital ratio are Gujarat Gopalak 0.7825, and Gujarat Agro 0.7575. On the other hand during the same period lowest average net working capital ratio of 0.1192 has been recorded for Gujarat Civil and 0.2258 for Gujarat Tourism.

**Return on Capital Employed**

Return on Capital Employed (ROCE) is the financial ratio used to measure the profitability of company and efficiency with which company is utilizing its capital assets. Return on capital employed is a ratio of operating profit to capital employed. Return of capital employed is very useful measure to compare the profitability of different companies/enterprises. Computation of return on capital required two metrics i.e. earnings before interest and tax and capital employed. Earnings before interest and taxes is known as operating income, which indicates how much company is earning from without considering interest or taxes. Earnings before interest and taxes (EBIT) are computed by deducting cost of goods sold and operation expenses from total revenue. Capital employed is total capital that is utilized by the company in order to earn profit. Capital employed includes shareholder’s equity and debt liabilities i.e. borrowed money. Capital employed is also computed as total assets minus current liabilities. Return on capital employed is computed using following formula;

$$Return\ on\ Capital\ Employed\ (ROCE) = \frac{Earnings\ Before\ Interest\ and\ Tax\ (EBIT)}{Capital\ Employed}$$

| Average ROCE of Public Sector Enterprises (2001-02 to 2012-13) | | | |
|---|---|---|---|
| Company | Mean | N | Std. Deviation |
| Gujarat Agro | .1250 | 12 | .06908 |
| Gujarat Seed | .1225 | 12 | .11005 |
| Gujarat Seep | .4000 | 12 | 1.55074 |
| Gujarat Civil | -3.5742 | 12 | 4.75472 |
| Tourism Corp | .0650 | 12 | .58813 |
| Gujarat Info | .1058 | 12 | .09596 |
| Gujarat Rural | .0150 | 12 | .19412 |
| Gujarat Gopalak | .3658 | 12 | 1.20785 |
| Gujarat Road | .1900 | 12 | .82836 |
| Total | -.2428 | 108 | 2.06140 |

The data about average return on capital employed of selected public sector enterprise in the state of Gujarat shows that Gujarat Civil has lowest average return on capital of -3.5742 followed by 0.015 for Gujarat Rural and 0.065 for Gujarat Tourism. On the other hand highest average return on capital of 0.4 has been registered for Gujarat Seep followed by 0.3658 for Gujarat Gopalak and 0.19 for Gujarat Roads.

**The relationship between liquidity and profitability**

In order to the relationship between liquidity and profitability among public sector enterprises in the state of Gujarat, correlation analysis has been performed on the penal data. The result of correlation analysis is presented in table below;

| Correlations: Liquidity and Profitability | | | | | |
|---|---|---|---|---|---|
| | | Current Ratio | Quick Ratio | Working Capital | ROCE |
| Current Ratio | Pearson Correlation | 1 | .629** | .087 | .143 |
| | Sig. (2-tailed) | | .000 | .370 | .140 |
| | N | 108 | 108 | 108 | 108 |
| Quick Ratio | Pearson Correlation | .629** | 1 | .092 | .194* |
| | Sig. (2-tailed) | .000 | | .341 | .044 |
| | N | 108 | 108 | 108 | 108 |
| Working Capital | Pearson Correlation | .087 | .092 | 1 | .015 |
| | Sig. (2-tailed) | .370 | .341 | | .880 |
| | N | 108 | 108 | 108 | 108 |
| ROCE | Pearson Correlation | .143 | .194* | .015 | 1 |
| | Sig. (2-tailed) | .140 | .044 | .880 | |
| | N | 108 | 108 | 108 | 108 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | | |
| *. Correlation is significant at the 0.05 level (2-tailed). | | | | | |

The results of the correlation analysis as presented above shows that there is positive correlation between liquidity and profitability in the case of public sector enterprises in the state of Gujarat. But the relationship with profitability has been found to be very week in the case of current ratio and quick ratio r = 0.143 and r = 0.194 respectively. The relationship between profitability and working capital ratio has been found to be nearly zero r = 0.015. Between three variables of liquidity i.e. current ratio, quick ratio and working capital ratio, the significant association has been found between quick ratio and profitability.

## Conclusion

The association between liquidity and profitability is not clearly established in the empirical studies. The analysis of variables for public sector enterprises in the state of Gujarat does not provide any clear evidence of direction and strength of relationship. Public sector enterprises are doing business with public money, hence expected to protect the interest of owner by earning reasonable profit. The working capital management of public sector enterprise need special focus towards making best use of available resources and generating profit for the long term survival and growth of the company.

## References


1. Shah P (2010) Evaluation of Profitability and Liquidity Relationship through Multivariate Working Capital Analysis, Symbiosis Centre for Management and HRD, Vol 3, No. 2
2. Abdullah M N & Jahan N (2014) The Impact of Liquidity on Profitability in Banking Sector of Bangladesh: A Case of Chittagong Stock Exchange, EPRA International Journal of Economic and Business Review, Vol 2, Issue 10
3. Ahmad R(2016) A Study of Relationship between Liquidity and Profitability of Standard Chartered Bank Pakistan: Analysis of Financial Statement Approach,. Global Journal of Management and Business Research: Finance, Volume 16 Issue 1 Version 1.0 Year 2016
4. Vieira R S (2010) The relationship between liquidity and profitability An exploratory study of airline companies between 2005 and 2008, Master Thesis, UMEA University
5. Mushtaq H, Chishti A F, Kanwal S & Saeed S(2015) Tradeoff between Liquidity and Profitability, International Journal of scientific research and management (IJSRM), Volume 3 Issue 5 Pages 2823-2842
6. Irawan A & Aturohman T (2015) A Study Of Liquidity And Profitability Relationship:Evidence From Indonesian Capital Market, Proceedings of 31st The IIER International Conference, Bangkok, Thailand, 2nd Aug. 2015, ISBN: 978-93-85465-65-9
7. Khan A K & Ali M (2016) Impact of Liquidity on Profitability of Commercial Banks in Pakistan: An Analysis on Banking Sector in Pakistan, Global Journal of Management and Business Research: C Finance, Volume 16 Issue 1 Version 1.0 Year 2016

8. Bibi N & Amjad S (2017) The Relationship between Liquidity and Firms' Profitability: A Case Study of Karachi Stock Exchange, Asian Journal of Finance & Accounting, Vol. 9, No. 1
9. Paliwa R & Chouhan V (2017) Relationship between Liquidity and Profitability in Indian Automobile Industry, International Journal of Science and Research (IJSR), Volume 6 Issue 5, May 2017
10. Olarewaju O M & Adeyemi O K (2015) Causal Relationship between Liquidity and Profitability of Nigerian Deposit Money Banks, International Journal of Academic Research in Accounting, Finance and Management Sciences, Vol. 5, No.2, April 2015, pp. 165–171