

Impact of Liquidity and Solvency on Profitability- An Empirical Analysis of the Pharmaceuticals and Chemicals Sector of Bangladesh

Abm Absar Hamid

Department of Accounting, Army Institute of Business Administration, Sylhet-3104, Bangladesh.

*Corresponding author; Email: abmabsarhamid@gmail.com



Received: 30 January 2023

Available Online: 20 March 2023

Revision: 19 February 2023

Published: 20 March 2023

Accepted: 01 March 2023

Volume-4, Issue-1



Cite This: *ICRRD Journal*, 2023, 4(1), 112-126

ABSTRACT: This study evaluates the impact of liquidity and solvency on profitability using a sample of 29 Dhaka Stock Exchange (DSE)- listed pharmaceutical and chemical companies. Companies' financial statements from 2017 to 2021 were used to collect the secondary data. Descriptive statistics and linear regression were used. The regression findings reveal that there is no significant relationship between liquidity (current ratio, acid-test ratio) and profitability as measured by ROE and ROA. The relationship between solvency (debt-to-equity, debt-to-assets) and profitability as measured by ROE and ROA is statistically significant. Current ratio, debt-to-equity, debt-to-assets have positive impact on ROE and acid-test ratio has negative impact on ROE. The other part of the result concluded that acid-test ratio, debt-to-equity have positive impact on ROA and current ratio, debt-to-assets have negative impact on ROA.

Keywords: Liquidity, Solvency, Profitability, ROE, ROA.

1. Introduction

Using a company's resources, managers and executives must increase their total profits and attract the interests of potential investors. Financial reports are essential for informing investors, enterprises, and everyone else about a company's financial health. A financial ratio analysis is necessary to understand a company's financial health. The word "liquidity" is used to describe the capability of a business to pay immediate financial debt. Every individual who scrutinizes financial statements is interested in the capacity of a company to settle its immediate financial obligations. The repayment of the company's long-term debt will be difficult and investors will be dissatisfied if it cannot pay its short-term obligations. A company's profitability is more likely to be influenced by its cash on hand. Managing liquidity is an ongoing process that ensures the organization has a plan in place to pay its immediate liabilities without taking on significant losses. Liquidity ratios are useful for analyzing if a company can pay its short-term debt. The organization must have sufficient funds to assure its survival. It should be neither excessive nor insufficient. It is possible for excessive liquidity to result in decreased profitability. Insufficient capital affects business operations. For the smooth operation of a corporation, balancing these two extreme conditions requires adaptable and proficient liquidity management (Suliman Alshatti, 2014). According to (Madushanka and Jathurika, 2018), the backbone of the company is its liquidity management. If a company cannot turn a profit, it is considered to be

in a state of unsustainable decline. However, if the organization does not have enough funds, it will continue to decline until it finally collapses. If a company does not have enough cash on hand, both its profitability and its capacity to remain solvent are at stake. To put it simply, if a company can't turn a profit, it's unhealthy. However, if there is a shortage of cash, the company will inevitably fail. If a business lacks sufficient cash, its profitability and solvency are at risk. A business or investor in a low-risk position can benefit from a large level of liquidity, but this diminishes their profitability. Quick and current ratios are most frequently used for assessing a company's liquidity (Periyathampy and Karthika, 2016)

The word "solvency" is used to describe the financial security of a business over the long term. Investors, banks, creditors, and others use liquidity and solvency ratios to figure out if a company can pay back its debts. The solvency ratio is one way to find out if the capital on hand is enough to cover the loss of all assets (Syarifah, 2021). The company's solvency ratios provide a study of its capital structure and its capacity to meet interest spending and fixed costs such as rent and mortgages (A, Aziz and Abdul, 2017). Liquidity and solvency must be evaluated because they could affect the institution's reputation and performance (Abdelrahim DAHIYAT *et al.*, 2021)

The capacity of an organization to generate revenue is known as its profitability. Financial institutions' profitability shows the institution's development, which is one of the most influential evaluative factors for investors. Profitability changes economic growth because earnings impact on how businesses spend and save (Jeris, 2021). According to (Gatsi *et al.*, 2013) the ability of a business to turn a profit indicates the efficiency with which its resources are administered. A company's profitability ratio indicates its performance (Winarko and Faris, 2018). Companies with higher profitability ratios are able to turn a profit. This may attract investors, resulting in a higher stock price for the company (Satryo *et al.*, 2017). The company's profitability is scrutinized by managers, investors, creditors, and other stakeholders. They can generate a business concept that is centered on profitability. Investors will lose interest in the company if it has a low profit margin. The profitability ratio informs senior management of the efficiency and efficacy with which a business is managed.

A significant portion of Bangladesh's economy is focused on the pharmaceutical and chemical industries. Bangladesh's pharmaceutical and chemical sectors are among the country's fastest growing. These products are in high demand around the world. This industry contributes significantly to the national economy. Most of the biggest chemical and drug companies in the world also make food and supplements for both people and animals. The author has chosen to study the pharmaceutical and chemical industry as it plays a crucial role in the economy of Bangladesh.

Many studies have investigated the relationship between liquidity and profitability, as has solvency and profitability in various industries and nations. As evidenced by the literature review, the results are mixed. The effects may vary by business and industry. This research employs a sample of 28 Dhaka Stock Exchange (DSE) listed-pharmaceutical and chemical companies to analyze the bearing of liquidity and solvency on profitability. The other sections of the article are: Section 2 provides a literature review; Section 3 gives the data and methodologies used; Section 4 provides the empirical results and discussion; and Section 5 concludes the work.

1.1 Objectives of the study

- To investigate the impact of liquidity (current ratio, acid-test ratio) on profitability (return on equity, return on assets).
- To investigate the impact of solvency (debt-to-equity, debt-to-assets) on profitability (return on equity, return on assets).

2. Review of Literature

2.1 Liquidity and Profitability

In their study, (Akter and Mahmud, 2014) explored the correlation between profitability (ROA) and liquidity (current ratio) in the Bangladeshi banking industry. Twelve banks were considered in this investigation from 2006 to 2011. They discovered no substantial correlation between liquidity (indicated by current ratio) and profitability (indicated by ROA) in the Bangladeshi banking industry.

Five Tanzanian banks were evaluated by (Mwizarubi, 2015), assessing links with liquidity and profitability from 2006 to 2013 and found no significant correlation between the two variables. They recommended banks prioritize expanding profitability while preserving liquidity.

From 2010 to 2015, six Islamic banks in Bahrain were analyzed by (Khasharmeh, 2018) to assess the link between liquidity and profitability. The data indicates a favorable correlation between ROE and cash and dues from total assets (CDTA) and investment to total deposits (INVSTD). Moreover, the ratio of cash and due from the bank to total assets (CDTD) and the ratio of investments to total assets (INVSTA) were both inversely related to ROE.

Based on data from the Bombay Stock Exchange-listed 82 pharmaceutical companies for the years 2008–2017, (Yameen *et al.*, 2019) look into the impact of liquidity on profitability. They founded control variables like leverage, company size, and age had a negative influence on profitability as indicated by ROA, the current liquidity ratio and the quick ratio had a favorable and substantial effect.

In their study, (Samo and Murad, 2019) looked at 40 textile companies in Pakistan that were publicly traded from the year 2006 to 2016 and analyzed the effect that liquidity and financial leverage had on their profitability. The findings showed a favorable association between liquidity and profitability, financial leverage is inversely related to profitability.

From the years 2004 to 2009, (Saleem and Rehman, 2011) analyzed data from 26 Karachi Stock Exchange-listed Pakistani oil and gas companies to find out exactly whether liquidity affected by profitability. Using linear regression, the association is uncovered. Dependent variables included ROA, ROE, and ROI, while independent variables included the current ratio, acid-test ratio, and liquid ratio. They discovered that the liquid ratio has a minimal effect on ROE and ROI, but a substantial effect on ROA. They also found that the current, quick and liquid ratio have little of an effect on ROE but have a big effect on ROI.

Between 2007 and 2011, (Niresh, 2012) looked at 31 Colombo Stock Exchange - listed different industrial firms to compare their liquidity and profitability in relation to each other. The author employed descriptive statistics and correlation analysis. He concluded that liquidity and profitability are unrelated. (Eljelly, 2004) looked into 29 Saudi Arabian joint stock companies that weren't in the

energy or banking industries to understand how liquidity and profitability are related. The researcher used correlation and regression analysis. He discovered that liquidity and profitability were negatively correlated. In a study that was done by (Suliaman Alshatti, 2014) about how liquidity influenced the profitability of thirteen Jordanian commercial banks from the years 2005 to 2012. He showed that raising the quick ratio and investment ratio of funds had a beneficial impact on profitability, whereas increasing the capital ratio and liquid asset ratio had the opposite effect. He suggested banks adopt a complete framework for managing their liquidity in order to get the most out of it.

(Ben-Caleb, 2013) conducted research on thirty Nigerian industrial firms registered on the Nigeria stock exchange between 2006 and 2010. The cash conversion period was found to be negatively related to profitability, while the current and liquid ratios were found to be positively related.

According to research conducted by (J Zygmunt, 2013), the liquidity of Polish-listed IT companies has a direct impact on profitability.

From 2005 to 2018, (Omari, 2020) did a study on the pharmaceutical industry in Jordan. He found that profitability, as indicated by ROA, was positively correlated with solvency, as indicated by the debt-to-equity ratio, and inversely related to liquidity (current ratio).

2.2 Liquidity, Solvency and Profitability

(Rehman and Khidmat, 2016) investigated the association among liquidity, solvency and profitability. The research was done over nine years, from 2001 to 2009, using ten publicly traded chemical businesses in Pakistan as a sample. They concluded in this research that ROA and ROE are negatively and statistically significantly affected by the solvency ratio. In addition, they found that the liquidity ratio influences ROA and ROE favorably.

(Marjohan, 2020) evaluated the business organization's capability to pay both short- and long-term debt, as well as its influence on profitability and the value of the Indonesia Stock Exchange-listed manufacturing company. According to the findings, the return on assets is significantly affected by the current ratio, but ROA is unaffected by a company's debt-to-assets ratio.

Using data from the Amman Stock Exchange between 2012 and 2014, (DAHIYAT, 2016) investigates the influence of liquidity and solvency on bank profitability. Profitability is significantly affected by liquidity constraints, while solvency has no bearing on profitability.

(Abdelrahim DAHIYAT *et al.*, 2021) investigated the influence on the industry's financial outcomes of its liquidity and solvency management of Amman Stock Exchange- listed Jordanian manufacturing enterprises listed between 2010 and 2019. In the data, correlation and regression analysis were performed. In this study, on the financial performance, a statistically significant influence was detected from both independent and control elements, which included liquidity and solvency management, as well as business size. However, the specific data contradicts the premise that liquidity financial performance is not impacted by liquidity. Size has a significant and positive consequence on performance. Whereas solvency has a substantial negative impact. They proposed boosting

investments in a company's assets while focusing on internal finance to improve the performance of large firms with low leverage.

(Abdullah M, 2015) investigates Bangladeshi banks' liquidity, profitability, and solvency. Secondary data was gained from annual public reports for a sample of 29 banks from FY2009 to FY2014. The researchers set out to analyze the effectiveness of Bangladeshi banks. After evaluating the ratios of many banks, he discovered seven banks were in excellent financial standing throughout this time period, whereas 22 were insolvent. Traditional financial institutions are inferior to Islamic or Shariah-compliant institutions. The performance of state-owned banks did not improve prior to IT.

(Batrancea, 2021) analyzed 34 New York Stock Exchange-listed healthcare business organizations from the fourth quarter of 2005 to the fourth quarter of 2020, concentrating on the consequences of liquidity and solvency on performance. In this study, liquidity indicated by the current ratio and quick ratio, solvency indicated by debt-to-equity ratio had a substantial impact on ROA, gross margin ratio, operating margin ratio, and profits before interest, taxes, depreciation, and amortization.

(Refni Sukmadewi *et al.*, 2021) looked at the impact of liquidity and solvency on the profitability of Indonesia Stock Exchange- listed plantation subsector from 2017 to 2020. It was discovered that liquidity and solvency impact profitability.

The study found that a higher level of liquidity positively impacts the profitability of industrial companies listed in Jordan, while profitability is affected negatively by high levels of financial leverage (Zaitoun and Alqudah, 2020). Twenty-five enterprises in the property subsector, real estate, and building construction were studied by (Asikin *et al.*, 2021), who looked at the impact of liquidity, solvency, and profitability on stock returns from 2014 to 2017. Evidence from studies indicates stock returns are affected by liquidity, solvency, and profitability.

3. Data and Methodology

3.1 Data and Sample

The annual financial statements of 29 Dhaka Stock Exchange (DSE)- listed pharmaceutical and chemical companies from the year 2017 to 2021 were used to compile the study's data. Annual statements are available on the websites of the respective companies. Companies are picked based on data availability. Liquidity is indicated by the current ratio and the acid-test ratio, solvency is indicated by debt-to-equity ratio and debt-to-assets ratio, profitability is gauged by ROE and ROA.

The variables used in this study are provided in Table- i.

Table-i:

Variables	Description	Formula
Dependent Variables:		
ROE	Return on Equity	Net Income/Average Total Equity
ROA	Return on Assets	Net Income/Average Total Assets

Independent Variables:		
CR	Current Ratio	Current Assets/Current Liabilities
ATR	Acid-test Ratio	(Current Assets-Inventories)/Current Liabilities
DTE	Debt to Equity	Total Liabilities/Total Equity
DTA	Debt to Assets	Total Liabilities/Total Assets
Control Variables:		
SIZE	Company Size	Natural Logarithm of Total Assets
EM	Equity Multiplier	Average Total Assets/Average Total Equity

Table-i: Variables used in this study

Return on Equity

The profitability of an investment made by shareholders is evaluated by return on equity (Heikal *et al.*, 2014). Return on equity is an indicator of how well management is maximizing profits for stockholders. This ratio should be higher since it delivers a higher level of return to stockholders (Jufri Sani Akbar, 2021).

Return on Assets

The ratio "return on asset" is used to quantify a company's capacity to make profits by utilizing its total assets. ROA influences the value of the company (Rosikah *et al.*, 2018).

Current Ratio

To assess whether a business organization can cover its current debt with its current assets, the current ratio could be used (Agusta and Hati, 2018).

Acid-test Ratio

Using the most liquid assets as a benchmark, the acid-test ratio assesses how sustainable a company is considering its current liabilities. Acid-test ratio shows how readily a business organization can satisfy its short-term debt using just its current assets, excluding the value of its inventory (Agusta and Hati, 2018).

Debt to Equity

The debt-to-equity ratio measures how well a business organization can repay debt using its own resources. A company's financial sustainability also be evaluated by using this ratio (Kurniawan, 2021).

Debt to Assets

The ratio "debt-to-assets" identifies how much of a company's assets come from short-term and long-term debt (Sudirman *et al.*, 2020).

Control Variables

Size and equity multiplier are used as control variables.

3.2 Methodology

The resulting values of the current ratio, acid-test ratio, debt-to-equity ratio, debt-to-assets ratio and ROE, ROA and control variables- size and equity multiplier were used in a regression analysis to establish the relationship between liquidity and profitability, as well as solvency and profitability. The regression model are given below:

$$ROE = \beta_0 + \beta_1 \text{Current Ratio} + \beta_2 \text{Acid-test Ratio} + \beta_3 \text{Size} + \beta_4 \text{Equity Multiplier} + \epsilon \quad (1)$$

$$ROA = \beta_0 + \beta_1 \text{Current Ratio} + \beta_2 \text{Acid-test Ratio} + \beta_3 \text{Size} + \beta_4 \text{Equity Multiplier} + \epsilon \quad (2)$$

$$ROE = \beta_0 + \beta_1 \text{Debt to Equity Ratio} + \beta_2 \text{Debt to Assets Ratio} + \beta_3 \text{Size} + \beta_4 \text{Equity Multiplier} + \epsilon \quad (3)$$

$$ROA = \beta_0 + \beta_1 \text{Debt to Equity Ratio} + \beta_2 \text{Debt to Assets Ratio} + \beta_3 \text{Size} + \beta_4 \text{Equity Multiplier} + \epsilon \quad (4)$$

Here,

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Regression coefficient

ϵ = Error

3.3 Hypothesis

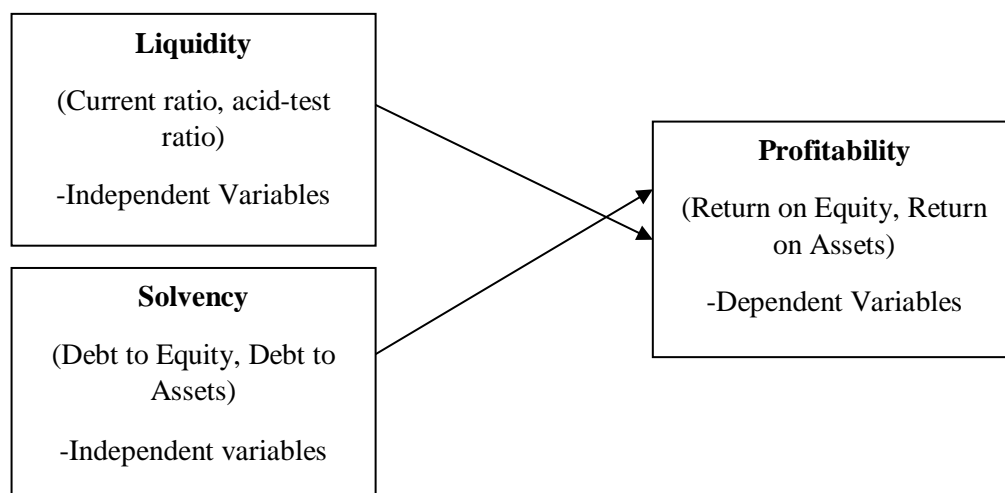
H1: There is a significant impact of liquidity on profitability.

H2: There is a significant impact of solvency on profitability.

3.4 Research Model

The research model is represented by the shape in Figure-1:

Figure-1



4. Empirical Results and Discussion

4.1 Descriptive Statistics

Table-ii

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Return on Equity	145	-1.45	2.06	.1704	.37002
Return on Assets	145	-.58	.58	.0774	.12229
Current Ratio	145	.42	28.31	3.2217	4.47890
Acid-test Ratio	145	.18	15.34	2.2218	2.98876
Debt-to-Equity	145	-11.68	8.40	.9276	1.81479
Debt-to-Assets	145	.02	2.16	.4120	.28216
Valid N (listwise)	145				

Table-ii: Descriptive Statistics

Based on data gathered from 2017 to 2021, Table-ii provides descriptive statistics for Bangladesh's pharmaceutical and chemical industries. The ROE has a range of -1.45 to 2.06, with a mean value of .1704 and a standard deviation of .37002. The ROA has a range of -.58 to .58, with a mean value of .0774 and a standard deviation of .12229. The current ratio has a range of 0.42 to 28.31, with a mean value of 3.2217 and a standard deviation of 4.47890. The acid-test ratio has a range from .18 to 15.34, with an average of 2.2218 and a standard deviation of 2.98876. The range of the debt-to-equity ratio is between -11.68 and 8.40, with a mean of .9276 and a standard deviation of 1.81479. The range of the debt-to-assets ratio is between .02 and 2.16, with a mean of .4120 and a standard deviation of .28216.

4.2 Regression Analysis

4.2.1 The Impact of Liquidity on Profitability

A simple regression test was conducted to investigate the impact of liquidity (current ratio and acid-test ratio) on profitability (ROE, ROA). The outcome of the statistical analysis is displayed in Table-iii to Table-vi

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.387	2	.193	1.421	.245 ^a
	Residual	19.329	142	.136		
	Total	19.716	144			
2	Regression	.482	4	.120	.877	.480 ^b
	Residual	19.234	140	.137		
	Total	19.716	144			

a. Predictors: (Constant), Equity Multiplier, Size

b. Predictors: (Constant), Equity Multiplier, Size, Current Ratio, Acid-test Ratio

c. Dependent Variable: Return on Equity

Table-iii: The Test Result of Statistical Analysis (Liquidity and Profitability-ROE)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.174	.523		-.333	.739
	Size	.012	.023	.046	.536	.593
	Equity Multiplier	.035	.021	.144	1.679	.095
2	(Constant)	-.239	.544		-.440	.660
	Size	.016	.024	.061	.681	.497
	Equity Multiplier	.032	.022	.129	1.462	.146
	Current Ratio	.011	.029	.136	.381	.704
	Acid-test Ratio	-.024	.045	-.197	-.548	.585

a. Dependent Variable: Return on Equity

Table-iv: Coefficients (Liquidity and Profitability-ROE)

Here, observe that the sig value is greater than 5%. So in Bangladeshi pharmaceuticals and chemicals industries, the relationship between liquidity (current ratio and acid-test ratio) and profitability (ROE) is statistically not significant. Current ratio have positive and acid-test ratio have negative impact on ROE.

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.042	2	.021	1.403	.249 ^a
	Residual	2.112	142	.015		
	Total	2.154	144			
2	Regression	.054	4	.013	.893	.470 ^b
	Residual	2.100	140	.015		
	Total	2.154	144			

a. Predictors: (Constant), Equity Multiplier, Size

b. Predictors: (Constant), Equity Multiplier, Size, Current Ratio, Acid-test Ratio

c. Dependent Variable: Return on Assets

Table-v: The Test Result of Statistical Analysis (Liquidity and Profitability-ROA)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.156	.173		-.899	.370
	Size	.010	.008	.108	1.266	.207
	Equity Multiplier	.010	.007	.116	1.362	.175
2	(Constant)	-.148	.180		-.823	.412
	Size	.009	.008	.099	1.112	.268
	Equity Multiplier	.011	.007	.134	1.521	.130
	Current Ratio	.000	.010	-.021	-.059	.953
	Acid-test Ratio	.004	.015	.098	.271	.787

a. Dependent Variable: Return on Assets

Table-vi: Coefficients (Liquidity and Profitability-ROA)

Here, observe that the sig value is greater than 5%. So in Bangladeshi pharmaceuticals and chemicals industries, the relationship between liquidity (current ratio and acid-test ratio) and profitability (ROA) is statistically not significant. Current ratio have negative and acid-test ratio have positive impact on ROA.

4.2.2 The Impact of Solvency on Profitability

A simple regression test was conducted to investigate the effect of solvency (debt-to-equity and debt-to-assets) on profitability (ROE, ROA). The outcomes of the statistical analysis are shown in Table-vii to Table-x:

ANOVA^c

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.387	2	.193	1.421	.245 ^a
	Residual	19.329	142	.136		
	Total	19.716	144			
2	Regression	3.471	4	.868	7.478	.000 ^b
	Residual	16.245	140	.116		
	Total	19.716	144			

a. Predictors: (Constant), Equity Multiplier, Size

b. Predictors: (Constant), Equity Multiplier, Size, Debt-to-Assets, Debt-to-Equity

c. Dependent Variable: Return on Equity

Table-vii: The Test Result of Statistical Analysis (Solvency and Profitability-ROE)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.174	.523		-.333	.739
	Size	.012	.023	.046	.536	.593
	Equity Multiplier	.035	.021	.144	1.679	.095
2	(Constant)	-.148	.488		-.303	.763
	Size	.013	.021	.048	.602	.548
	Equity Multiplier	-.073	.029	-.296	-2.546	.012
	Debt-to-Equity	.106	.022	.519	4.715	.000
	Debt-to-Assets	.200	.113	.152	1.767	.079

a. Dependent Variable: Return on Equity

Table-viii: Coefficients (Solvency and Profitability-ROE)

Here observe that the sig value is below 5% in this case. There is a statistically significant relationship between solvency (debt-to-equity and debt-to-assets) and profitability (ROE). Debt-to-equity and debt-to-assets have positive impact on ROE.

ANOVA^c

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.042	2	.021	1.403	.249 ^a
	Residual	2.112	142	.015		
	Total	2.154	144			
2	Regression	.231	4	.058	4.202	.003 ^b
	Residual	1.923	140	.014		
	Total	2.154	144			

a. Predictors: (Constant), Equity Multiplier, Size

b. Predictors: (Constant), Equity Multiplier, Size, Debt-to-Assets, Debt-to-Equity

c. Dependent Variable: Return on Assets

Table-ix: The Test Result of Statistical Analysis (Solvency and Profitability-ROA)

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	-.156	.173		-.899	.370
	Size	.010	.008	.108	1.266	.207
	Equity Multiplier	.010	.007	.116	1.362	.175
2	(Constant)	-.099	.168		-.591	.556
	Size	.009	.007	.097	1.174	.243
	Equity Multiplier	-.011	.010	-.138	-1.142	.255
	Debt-to-Equity	.028	.008	.414	3.610	.000
	Debt-to-Assets	-.043	.039	-.098	-1.095	.275

a. Dependent Variable: Return on Assets

Table-x: Coefficients (Solvency and Profitability-ROA)

Here observe that the sig value is below 5% in this case. There is a statistically significant relationship between solvency (debt-to-equity and debt-to-assets) and profitability (ROA). Debt-to-assets have positive, and debt-to-equity have negative impact on ROA.

Conclusion

The effects of liquidity and solvency on profitability of Dhaka Stock Exchange (DSE)-listed pharmaceutical and chemical companies were the subject of this study's empirical examination. The study indicates, based on its findings, that there is no significant relationship between liquidity and profitability and the relationship between solvency and profitability is statistically significant in Bangladesh's pharmaceutical and chemical industries. In this situation, the management of these organizations focuses on expanding their profitability without excessively worrying about liquidity. If we can see the review of the relevant literature, we can simply determine that the research findings are inconsistent. The company's management should prioritize debt control. The company should maintain a sufficient quantity of liquid assets and debt to operate efficiently and effectively.

References

- [1] A, Aziz, A. and Abdul, R. (2017) 'The Relationship between Solvency Ratios and Profitability Ratios: Analytical Study in Food Industrial Companies listed in Amman Bursa', *International Journal of Economics and Financial Issues*, 7(2), pp. 86–93.
- [2] Abdelrahim DAHIYAT, A., Raji WESHAN, S. and Aldahiyat, M. (2021) 'Liquidity and Solvency Management and its Impact on Financial Performance: Empirical Evidence from Jordan', *Journal of Asian Finance*, 8(5), pp. 135–0141. doi: 10.13106/jafeb.2021.vol8.no5.0135.
- [3] Agusta, R. F. and Hati, S. W. (2018) 'Calculation of Liquidity, Solvency and Profitability Ratio in Manufacturing Company', *Journal of Applied Accounting and Taxation*, 3(2), pp. 110–116. doi:

10.30871/jaat.v3i2.765.

- [4] Akter, A. and Mahmud, K. (2014) 'Liquidity-Profitability Relationship in Bangladesh Banking Industry', *International Journal of Empirical Finance*, 2(4), pp. 143–151.
- [5] Asikin, B. *et al.* (2021) 'The Effect of Liquidity, Solvency, And Profitability on Stock Return (Empirical Study on Property, Real Estate, And Building Construction Companies Listed on The Indonesia Stock Exchange for the 2014-2017 Period)', *Review of International Geographical Education Online*, 11(5), pp. 872–885. doi: 10.48047/rigeo.11.05.83.
- [6] Batrancea, L. (2021) 'The influence of liquidity and solvency on performance within the healthcare industry: Evidence from publicly listed companies', *Mathematics*, 9(18). doi: 10.3390/math9182231.
- [7] Ben-Caleb, B. (2013) 'Liquidity Management and Profitability of Manufacturing Companies in Nigeria', *IOSR Journal of Business and Management*, 9(1), pp. 13–21. doi: 10.9790/487x-0911321.
- [8] DAHIYAT, A. (2016) 'Does Liquidity and Solvency Affect Banks Profitability? Evidence from Listed Banks in Jordan', *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(1). doi: 10.6007/ijarafms/v6-i1/1954.
- [9] Eljelly, A. M. A. (2004) 'Liquidity – profitability tradeoff: An empirical investigation in an emerging market', *International Journal of Commerce and Management*, 14(2), pp. 48–61. doi: 10.1108/10569210480000179.
- [10] Gatsi, J. G., Gadzo, S. G. and Akoto, R. K. (2013) 'Degree of financial and operating leverage and profitability of insurance firms in Ghana', *International Business and Management*, 7(2), pp. 57–65. doi: 10.3968/j.ibm.1923842820130702.1060.
- [11] Heikal, M., Khaddafi, M. and Ummah, A. (2014) 'Influence Analysis of Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), Debt To Equity Ratio (DER), and current ratio (CR), Against Corporate Profit Growth In Automotive In Indonesia Stock Exchange', *International Journal of Academic Research in Business and Social Sciences*, 4(12), pp. 101–114. doi: 10.6007/ijarbss/v4-i12/1331.
- [12] J Zygmunt (2013) 'Does liquidity impact on profitability', *Conference of informatics and management sciences*, (March 2013), pp. 38–49.
- [13] Jeris, S. S. (2021) 'Factors influencing bank profitability in a developing economy: Panel evidence from Bangladesh', *International Journal of Asian Business and Information Management*, 12(3), pp. 333–346. doi: 10.4018/IJABIM.20210701.0a20.
- [14] Jufri Sani Akbar (2021) 'the Effect of Return on Assets and Return on Equity on Price To Book Value on Banking Companies Listed on the Indonesia Stock Exchange', *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 5(2), pp. 1–23.
- [15] Khasharmeh, H. (2018) 'Does liquidity influence profitability in Islamic banks of Bahrain: An empirical study?', *International Journal of Financial Research*, 9(2), pp. 236–248. doi: 10.5430/ijfr.v9n2p236.
- [16] Kurniawan, A. (2021) 'Analysis of the Effect of Return on Asset, Debt To Equity Ratio, and Total Asset Turnover on Share Return', *Journal of Industrial Engineering & Management Research*, 2(1), pp.

2722–8878.

- [17] M, A. (2015) 'An Empirical Analysis of Liquidity, Profitability and Solvency of Bangladeshi Banks', *Journal of Business & Financial Affairs*, 04(03). doi: 10.4172/2167-0234.1000157.
- [18] Madushanka, K. H. I. and Jathurika, M. (2018) 'The Impact of Liquidity Ratios on Profitability (With special reference to Listed Manufacturing Companies in Sri Lanka)', *International Research Journal of Advanced Engineering and Science*, 3(4), pp. 157–161.
- [19] Marjohan, M. (2020) 'The Effect Analysis of Liquidity, Solvency on Profitability and Its Impact to the Company Value at PT KS, Tbk', *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 3(4), pp. 3845–3860. doi: 10.33258/birci.v3i4.1451.
- [20] Mwizarubi, M. (2015) 'Liquidity-Profitability Trade-off in Commercial Banks : Evidence from Tanzania', *Research Journal of Finance and Accounting*, 6(7), pp. 93–101.
- [21] Niresh, J. A. (2012) 'TRADE-OFF BETWEEN LIQUIDITY & PROFITABILITY: A STUDY OF SELECTED MANUFACTURING FIRMS IN SRI LANKA', *Journal of Arts, Science & Commerce*, 3(4(2)), pp. 34–40.
- [22] Omari, R. Al (2020) 'The Impact of Liquidity, Solvency on Profitability: An Analysis of Jordanian Pharmaceutical Industries Sector', *Systematic Reviews in Pharmacy*, 11(11), pp. 767–770.
- [23] Periyathampy, E. and Karthika, T. (2016) 'An Analysis of Liquidity, Profitability and Risk-A Study of Selected Listed Food, Beverage and Tobacco Companies in Sri Lanka', *SSRN Electronic Journal*, (July), pp. 6–7. doi: 10.2139/ssrn.2878916.
- [24] Refni Sukmadewi, Dewi Sartika, Mulyani Rodi Muin, D. S. (2021) 'The Effect of Liquidity Ratio and Solvency Ratio on the Profitability of Plantation Subsector Companies Listed on the Indonesian Stock Exchange', *Husnayain Business Review*, 1(1). doi: <https://doi.org/10.54099/hbr.v1i1.23> financial.
- [25] Rehman, M. U. and Khidmat, W. Bin (2016) 'Impact of Liquidity & Solvency on Profitability Chemical Sector Impact of Pakistan', *Economic Management Innovation*, 6(January 2013), pp. 1805–353.
- [26] Rosikah et al (2018) 'Effects of Return on Asset , Return On Equity , Earning Per Share on Corporate Value', *The International Journal of Engineering and Science (IJES)*, 7(3), pp. 6–14. doi: 10.9790/1813-0703010614.
- [27] S, S., Abdullah, M. W. and Obie, M. (2020) 'The Effect of Current Ratio and Debt to Asset Ratio on Net Profit Margin and Stock Prices: A Study of Basic Industry and Chemicals Companies', *International Journal of Scientific Research in Science and Technology*, pp. 282–294. doi: 10.32628/ijrst207561.
- [28] Saleem, Q. and Rehman, R. U. (2011) 'Impacts of liquidity ratios on profitability', *Interdisciplinary Journal of Research in Business*, 1(7), pp. 95–98.
- [29] Samo, A. H. and Murad, H. (2019) 'Impact of liquidity and financial leverage on firm's profitability – an empirical analysis of the textile industry of Pakistan', *Research Journal of Textile and Apparel*, 23(4), pp. 291–305. doi: 10.1108/RJTA-09-2018-0055.
- [30] Satryo, A. G., Rokhmania, N. A. and Diptyana, P. (2017) 'The influence of profitability ratio, market

ratio, and solvency ratio on the share prices of companies listed on LQ 45 Index', *The Indonesian Accounting Review*, 6(1), p. 55. doi: 10.14414/tiar.v6i1.853.

[31] Sulieman Alshatti, A. (2014) 'The Effect of the Liquidity Management on Profitability in the Jordanian Commercial Banks', *International Journal of Business and Management*, 10(1), pp. 62–72. doi: 10.5539/ijbm.v10n1p62.

[32] Syarifah (2021) 'Effect of Earnings Management, Liquidity Ratio, Solvency Ratio and Ratio Profitability of Bond Ratings in Manufacturing : (Case Study Sub-Sector Property and Real Estate Sector Companies listed on the IDX Indonesian)', *International Journal of Business, Economics and Social Development*, 2(2), pp. 1–9.

[33] Winarko, H. and Faris, I. (2018) 'Using Profitability Ratio and Economic Value Added for Financial Performance Analysis in an Integrated Media Company', *Journal of Business and Entrepreneurship*, 6(2), pp. 22–45. doi: 10.46273/job.

[34] Yameen, M., Farhan, N. H. S. and Tabash, M. I. (2019) 'The impact of liquidity on firms' performance: Empirical investigation from Indian pharmaceutical companies', *Academic Journal of Interdisciplinary Studies*, 8(3), pp. 212–220. doi: 10.36941/ajis-2019-0019.

[35] Zaitoun, M. and Alqudah, H. (2020) 'The Impact of Liquidity and Financial Leverage on Profitability: The Case of Listed Jordanian Industrial Firm's', *International Journal of Business and Digital Economy*, 1(November), pp. 29–35.



© 2023 by ICRRD, Kuala Lumpur, Malaysia. All rights reserved. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).