Evaluating the Impact of Liquidity and Solvency on Profitability: An Empirical Study

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ABSTRACT

The study aims to assess how solvency and liquidity affect profitability. Five conventional PCBs were used as a sample in the investigation using the judgmental sampling technique. This study is considered a five-year study period spanning from 2015 to 2019. Annual reports of sample banks and other pertinent sources have been consulted in collecting and utilizing secondary data. The study used multiple regression analysis to examine how various liquidity and solvency indicators affect profitability characteristics. The findings indicate that cash ratio, CAR, DER, and DAR do not significantly affect ROA, whereas CR and WCR do. Conversely, although CR, CAR, and DER significantly impact EPS, cash ratio, WCR, and DAR have no considerable effect on EPS.

Key Words: Liquidity, Solvency, Profitability, DSE, Conventional PCBs

INTRODUCTION

The business world is becoming more and more competitive. Because of the fiercer competition, companies must maximize their resources to achieve their objectives. The company's main goal is to make as much money as possible. Companies that are able to demonstrate their best advantages and capture a sizable portion of the market might benefit the organization, particularly in the financial sector (Anumandla et al., 2020). The profits generated have a favorable effect on the company's financial success (Effendie et al., 2022). The business world is experiencing extremely rapid development, which is growing to suit community wants and resulting in an increase in company competition. To seize every chance that presents itself and convert opportunities into profits in these circumstances, any company must constantly monitor market conditions and prospects (Koehler et al., 2018). Every company constantly aspires to be able to grow and function sustainably. This is achievable if the company consistently turns a profit during operations. The company's financial success and gain are not only an indicator of its ability to meet investment commitments, but they also play a role in the building of company value, which indicates the company's possibilities going forward (Dewi and Abundanti, 2022). Financial management, which guarantees that managers make choices that enhance shareholders' value, is one of the management's responsibilities. In order to achieve profitability, a company's capacity to operate effectively and efficiently is critical to its survival. The only way to maximize shareholder wealth is if the company generates enough revenue to pay out dividends. A company cannot be in operation for very long if it is not profitable. Thus, careful preparation is needed to reduce any risks that could harm earnings or stand in the way of achieving this objective (Yenni et al., 2021). Financial reports serve as a tool for assessing the company's financial situation (Mullangi et al., 2018). When making decisions, people with interests must examine the value included in financial statements. Understanding the company's performance is an important tool for judging whether or not it is growing. Company strength is indicated by financial performance, which is represented by numbers derived from information in the company's financial reports (Meliani et al., 2021). The globalization period presents both optimism and challenges for businesses. It has increased opportunities for international trade, but it has also brought with it more complex and dynamic problems, such as the financial crisis. The incident involving the financial sector was an unexpected occurrence that caused fear among the business community (Yarlagadda et al., 2020). As a result, in order to enhance the public's and business performers' impressions of banking, the banking sector must regain their trust. In the case of a global crisis, the banking industry must survive and continue to be strong in terms of capital, asset quality, income, and liquidity (Hariatih and Aziz, 2022).

The financial sector of Bangladesh plays a significant role in economic development. In Bangladesh, the healthy banking sector is one of the most essential parts of financial systems that contribute to the overall development process. The banking business involves receiving public savings and investing them to generate profit. Liquidity and solvency are both the most important components of banking business, and they have a significant role in increasing profitability, indicating good performance. Liquidity refers to the ability of a company to satisfy its maturing short-term obligations. Solvency demonstrates a company's capacity to make long-term bill payments. Profitability shows a company's earning capacity. In order to assess the profitability trend, interested parties are primarily concerned with the liquidity and solvency status of any organization. Superior managerial performance is ultimately correlated with the profitability of businesses (Vennapusa et al., 2018). In order to optimize profit and shareholder value, the banking industry must practice adequate liquidity and solvency management. To that end, this research has undertaken the task of examining the effects of solvency and liquidity management on the profitability of the banking industry in Bangladesh. This study aims to assess how various liquidity and solvency variables affect profitability characteristics.

Literature Review and Hypothesis Formulation

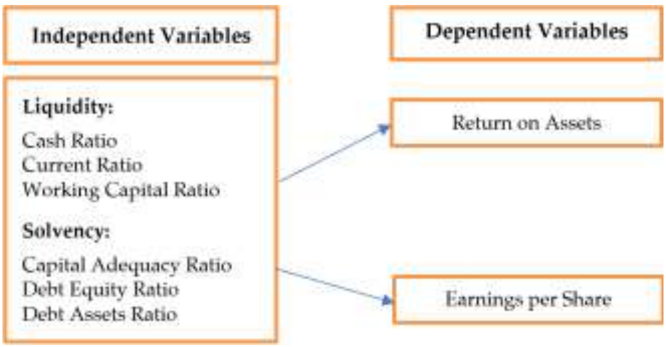
Dahiyat (2016) looked at how liquidity and solvency affected profitability; the findings indicated that while solvency had no effect on profitability, liquidity had a considerable negative influence. Dewi and Abundanti (2022) investigated how liquidity, solvency, and activity affect profitability. The results demonstrate that partially liquidity has an insignificant influence on profitability, but solvency has a significant negative impact on this matter. Effendie et al. (2022) studied liquidity, solvability, and factors impacting a company's financial success. According to the data, CR, DER, and inventory turnover all have a separate impact on ROE, although total assets turnover has a partial impact. Again, CR, DER, IT, and TAT all contribute positively to ROE. Hariatih and Aziz (2022) explored how liquidity and solvency affect profitability. According to the findings, LDR has a favorable and substantial impact on ROE, whereas DER has an insignificant influence. LDR and DER have once again demonstrated a substantial favorable influence on ROE. Hamid (2023) did a study to determine how liquidity and solvency affect profitability. According to the data, CR, DER, and DAR all have a favorable influence on ROE, but a negative effect is visible in the acid-test ratio. In addition, ATR and DER have a positive impact on ROA, but CR and DAR have a negative influence. Yenni et al. (2021) investigated whether liquidity positively or negatively affects profitability. According to the data, increasing banks' liquidity ratios leads to a better ROA. Islam et al. (2022) investigated whether liquidity has a positive or negative impact on profitability. The analysis shows that an increase in the banks' liquidity ratio would raise the ROA. Khan and Niazi (2021) investigated how liquidity, efficiency, and solvency affect profitability. According to the research, liquidity and DER have a detrimental impact on profitability. Taking into account the aforementioned evidence, this study formulated the following hypothesis:

H_o The liquidity and solvency indicators have no significant effect on the sample banks'profitability characteristics.

Liquidity, Solvency, and Profitability Indicators

The following factors have been taken into consideration in this study to investigate the effect of liquidity and solvency indicators on profitability attributes:

Conceptual Framework



Source: Authors' Design

Liquidity

The marketability of an asset to satisfy short-term financial obligations or the speed at which it can be turned into cash are both considered indicators of liquidity. Because it is considerably simpler for investors to withdraw their money from an investment, liquid assets offer a far higher level of safety for them (Das et al., 2015). The cash ratio, CR, and WCR are all indicators of liquidity in this study.

Solvency

Solvency refers to the capacity to fulfill long-term financial obligations. In general, financial activity is linked to solvency. Corporations take out loans to fuel their activities. Solvency ratios are used to assess how well a company can settle its long-term debt. Solvency ratios are also used to assess a company's potential to keep consolidating its debt obligations (Dahiyat, 2016). The three measures of solvency used in this study are the CAR, DER, and DAR.

Profitability

Profitability is a key factor that companies consider when assessing their current financial situation, future growth prospects, and overall performance. A business may only be considered profitable if its revenue from operations is greater than its costs (Yenni et al., 2021). In this study, ROA and EPS are the different indicators of profitability.

Research Methodology

For the purpose of this study, five banks, including Pubali Bank PLC, National Bank Limited, IFIC Bank PLC, Mercantile Bank PLC, and Dutch-Bangla Bank PLC, from among the conventional private commercial banks of the Bangladeshi banking sector listed on the Dhaka Stock Exchange, have been chosen using the judgmental sampling technique throughout a five-year period, from 2015 to 2019. The annual reports of the sample bank and other relevant sources provided the necessary data for this study, which used secondary data. The various measures of liquidity, such as cash ratio, CR, and WCR, and solvency, such as CAR, DER, and DAR, have been employed as independent variables. As dependent variables, various profitability characteristics such as ROA and EPS have been employed. Dahiyat (2016), Dewi and Abundanti (2022), Effendie et al. (2022), Hariatih and Aziz (2022), Hamid (2023), Islam et al. (2022), and Khan and Niazi (2021) are only a few of the researchers that have contributed to the selection of these. Multiple regression analysis and correlation matrix have been employed to meet the study's objective.

Regression Model

In order to ascertain whether the various measures of liquidity and solvency have any significant effects on profitability characteristics, the following regression models were developed for this study:

$$ROA = \alpha + \beta_1 CashR + \beta_2 CR + \beta_3 WCR + \beta_4 CAR + \beta_5 DER + \beta_6 DAR + \varepsilon$$
$$EPS = \alpha + \beta_1 CashR + \beta_2 CR + \beta_3 WCR + \beta_4 CAR + \beta_5 DER + \beta_6 DAR + \varepsilon$$

Here,

ROA = Return on Assets
EPS = Earnings per Share
CashR = Cash Ratio
CR = Current Ratio
WCR = Working Capital Ratio
CAR = Capital Adequacy Ratio
DER = Debt Equity Ratio
DAR = Debt Assets Ratio
α = the constant, and
ε = the error term

Results and Discussion

Table 1: Results of Multicollinearity

	Collinearity Statistics	
	Tolerance	VIF
CashR	0.399	2.509
CR	0.460	2.174
WCR	0.380	2.630
CAR	0.588	1.699
DER	0.294	3.405
DAR	0.318	3.149

These data rule out multicollinearity because all of the variable tolerance levels are less than one. Multicollinearity is not an issue when utilizing the data in a multiple regression model, according to the consequences of this study's analysis of the VIF values to test for it. All of the values are less than ten.

Table 2: Results of Coefficient Correlation

	DAR	CashR	CAR	CR	WCR	DER
DAR	1.000					
CashR	0.301	1.000				
CAR	0.019	0.136	1.000			
CR	-0.091	-0.596	-0.133	1.000		
WCR	0.675	0.229	0.150	-0.386	1.000	
DER	-0.543	-0.621	-0.495	0.368	-0.416	1.000

When correlation is higher than 0.9, multicollinearity is present (Anumandla, 2018; Yu et al., 2015, cited in Moulick et al., 2021). The coefficient of correlation values was considered in this investigation to confirm the multicollinearity problem. There doesn't seem to be a problem with multicollinearity between the several independent variables, as shown by the lower than 0.9 values of all the independent variables.

Table 3: Results of Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.559	0.664		0.843	0.411
	CashR	-0.202	0.688	-0.071	-0.294	0.772
	CR	-0.302	0.104	-0.654	-2.904	0.009
	WCR	0.846	0.353	0.593	2.396	0.028
	CAR	0.055	0.051	0.215	1.079	0.295
	DER	0.001	0.009	0.018	0.063	0.950
	DAR	-0.115	0.084	-0.369	-1.363	0.190
a. Predictors: (Constant), DAR, CashR, CAR, CR, WCR, DER						
b. Dependent Variable: ROA						
Note: R = 0.762, R^2 = 0.580, F-value = 4.146, SL = 0.009						

Since each of these factors has a significant value larger than 0.05, the data above suggests that CashR, CAR, DER, and DAR do not significantly affect ROA. However, at the 0.05 significance level, CR and WCR have lower significant levels, suggesting that they have a substantial impact on ROA. The consequences also showed that the value of R, which is 0.762, indicates the degree of simple correlation. Once more, the R^2 is 0.580, the F-value is 4.146, and the SL is 0.009, suggesting that each independent variable may account for a sizable amount of the variation in the ROA.

It can be inferred from the preceding data that CashR, WCR, and DAR have no significant effect on EPS because each of these parameters has a significant value greater than 0.05. Still, CR, CAR, and DER have smaller significant levels at the 0.05 threshold of significance, indicating a significant influence on EPS. In the Table 4, the outcomes additionally revealed that the R value of 0.893 signifies the degree of simple correlation. Again, the R^2 is 0.797, the F-value is 11.791, and the SL is 0.000, indicating that each independent variable can explain a significant percentage of the variation in EPS.

Table 4: Results of Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	-13.876	6.294		-2.205	0.041
	CashR	7.564	6.527	0.195	1.159	0.262
	CR	-2.938	0.986	-0.466	-2.979	0.008
	WCR	3.114	3.350	0.160	0.929	0.365
	CAR	1.409	0.487	0.400	2.893	0.010
	DER	0.215	0.085	0.497	2.536	0.021
	DAR	-0.668	0.797	-0.158	-0.837	0.413
a. Predictors: (Constant), DAR, CashR, CAR, CR, WCR, DER						
b. Dependent Variable: EPS						
Note: R = 0.893, R^2 = 0.797, F-value = 11.791, SL = 0.000						

Table 5: Results of Correlation Matix

	CashR	CR	WCR	ROA	EPS	CAR	DER	DAR
CashR	1.000							
CR	0.538**	1.000						
WCR	0.251	0.524**	1.000					
ROA	-0.178	-0.240	0.445*	1.000				
EPS	0.324	-0.269	-0.040	0.283	1.000			
CAR	0.209	-0.068	-0.187	0.002	0.688**	1.000		
DER	0.480*	-0.062	-0.078	-0.064	0.779**	0.615**	1.000	
DAR	-0.115	-0.426*	-0.686**	-0.398*	0.298	0.387	0.471*	1.000
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

The correlations between DER and CashR, ROA and WCR, and DAR and DER are all clearly positive. However, based on the previously given data, a negative correlation is visible between DAR and both CR and ROA at the 5% significance level. DAR and WCR have a negative correlation at the 1% level of significance; CR and CashR, WCR and CR, CAR and EPS, DER and EPS, and DER and CAR show positive correlations.

Conclusions and Recommendations

Every business needs profit to run successfully for a long time and survive by demonstrating better corporate performance to interested stakeholders, and in this case, liquidity and solvency are both important components to increasing the level of profitability, which confirms the good managerial performance of any business. Multiple regression analysis has been used to assess the impact of the various liquidity and solvency indicators on the profitability characteristics of the sample banks, which is the main goal of the study. According to the study's findings, CR and WCR have a significant impact on ROA, but cash ratio, CAR, DER, and DAR do not. In contrast, cash ratio, WCR, and DAR have no significant impact on EPS, although CR, CAR, and DER do.

Bangladesh's banking sector has made significant contributions to enriching long-term economic development, and it is surviving by improving its performance and efficiencies. Being profitable is the company's main objective, and any company cannot long-term survive in the market without profitability. Several factors combine to create revenue, which determines a company's profitability. Since an efficient operation is justified by increased earning capacity, banking sector management should prioritize good liquidity and solvency management to enhance profitability trends. Essentially, every company focuses on profitability in order to maintain financial health and stability. To do this, banking sector management must plan carefully to maintain effective liquidity and solvency management while improving profitability.

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