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The Influence of Liquidity and Leverage on Profitability: An Evidence from Textile Industry of Pakistan

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ABSTRACT

The textile business in Pakistan has built exceptional development over the years witnessed by exports of US$21 billion for FY22. Pakistan is the 8th major exporter of textile goods in Asia. The study tried to determine the relationship between the financial leverage and liquidity ratio with the profitability of the textile industry. A sample of 75 listed textile companies was taken for the duration of 2016 to 2020. Panel data analysis was carried out through fixed and random effect models after selection through different methods. The Panel regression showed that there exists a positive significant relationship between liquidity and return on assets. This implies that working capital requirements and liquidity issues fittingly can get significant yields on applied resources and return on assets. Findings also suggest that the asset turnover ratio has a significant relationship with return on equity. Leverage also has a significant relationship with return on equity but the relationship is inverse. This implies that the companies with higher obligations and influence have greater exposure to risk and are not fit to generate good returns.

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1. Introduction

Pakistan is the 8th major exporter of textile goods in Asia (BOI, 2019). Pakistan textile sector exports reached a landmark of US$21 billion for FY22, primarily formulated on the idea that government regulations will continue to be helpful to the industry (Ejaz, 2021). The textile industry has capitalized around US$5 billion in 100 new units of another value-added sector, bracing to enhanced textile exports by another $5 billion (Ejaz, 2021). The nation presently positions as the fourth-biggest grower of cotton on the planet and has appropriately capitalized on this capacity by developing and advancing its textile sector. Textile and fabric companies are essential parts of the world economy, employing tens of millions of workers mostly women employees in nearly two hundred countries. The textile industry is known as the foundation of Pakistan's economy as it relishes around 60% share in total exports with 8.5% of GDP (Gross Domestic Product) and around 15 million employs (Haq, 2022).

In the opening five calendar months of 2020-21, the area reported product income of $6.05 billion against $5.76 billion to relate a very long time of earlier year. Numerous exporters and government authorities are considering it an enormous achievement; however, some say the figure might have been improved (Haq, 2022). Textile production, according to the economic survey of Pakistan 2020-21 has improved by 5.90 percent throughout July-March FY2021 in contradiction of a 2.58 percent decline in a similar period the previous year. All

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Pakistan Textile Mills Association (APTMA) is the regulatory authority that works with the government to control and improve the textile industry of Pakistan but the issue is that the government is not providing any financial and legal support to the textile industry and withdrawn all the subsidies related to electricity, federal excise duties and taxes. The financial figures showed that the trades shrunk by double-digits to US$1.9 billion and US$1.5 billion in July and August of 2021 due to the huge impact of COVID-19 pandemic on worldwide demand. Be that as it may, product exports have been recuperating from that point forward, with readings in November and December surpassing US$2 billion, comparable to pre-COVID demands. Sectoral examination of exports during H1 FY21 shows a constriction in textile commodities, driven by sharp decreases in shipments of raw cotton, cotton fabric, and cotton yarn.

The significant contribution of the textile industry towards countries GDP and sharp variation in the industry performance has captured the attention of several researchers. However, limited research may be found in the recent years. Existing studies have mostly used financial ratio analysis to determine significant factors contributing towards the performance and productivity in terms of profitability of the textile sector in Pakistan. Previous studies substantiated the relationship between liquidity and an organization's performance measured by return on assets and return on equity. When we aim at evaluating the performance of a company, we look, in fact, for ways of measuring the economic and financial consequences of the decisions of the company management (Dicu et al., 2019). Henceforth both are considered as significant factors in this study.

Therefore, the main purpose of the research is to analyze the effect of liquidity management on the performance of the organization. As the liquidity position of the textile industry plays a fundamental role in boosting the company's growth, performance and/or survival. This study determined the impact of liquidity and financial leverage towards the performance of the textile industry. We selected the 32 textile industries of Pakistan. The study flows to the review of the literature after this section. The methodology is discussed in section three and followed by section four that presents the results and discussions. Section five concluded the study and policy recommendations are presented.

2. Literature Review

The studies about organization management, specifically about its benefit, helps validate administrative choices concerning expected variations in the financial strategies that the organization will want to control later on (Burja, 2011). Ongoing literature breaks down the performance of organizations from different countries and financial areas through pointers like net operating profitability (Rehman et al., 2010). Performance at the microeconomic level has been contemplated relying likewise upon markers like current ratio, liquidity ratio, receivables turnover proportion, and working capital to add to the total asset (Singh & Pandey, 2008).

2.1 The relationship between liquidity and firm performance

The recent studies hint the idea that liquidity influences organization profitability. Jiang et al., (2019) analyzed the polarity that exists between liquidity and performance of firms listed in the Ghana Stock Exchange from six distinct areas from 2007-2015. The results demonstrated that liquidity estimated by current ratio has a significant positive impact on return on equity (ROE). This review infers that finance managers of these firms meet their short-term debt subsequently worked on the better performance while liquidity displays a negative but insignificant effect on return on asset.

Niresh (2012) conducted a study on 31 listed textile companies in Sri Lanka during the period of 2007-2011 to determine the association between liquidity and performance. The study results found no significant relation between liquidity and profitability. Nimer et al., (2015) analyzed the determinants of financial performance of fifteen Jordanian banks listed in Amman Stock Exchange on the data taken during 2005-2011. The study revealed that liquidity is a critical factor via quick ratio to determine the return on asset (ROA). Malik et al., (2016) analyzed to assess the influence of liquidity and financial leverage on profitability of private Pakistani banks. The data of 22 scheduled banks with the State bank of Pakistan from 2009 to 2013. Three regression models formed using the Ordinary Least Squares (OLS) method. The observational outcomes uncovered that there is a significant connection between bank liquidity management and return on assets. Notwithstanding, return on equity and return on

investment were utilized as alternate proxies of profitability, the impact turned out to be insignificant. Another study by Ismail (2016) that also examined the magnitude of the impact of liquidity on the financial performance of the 64 Pakistani non-financial firms listed in Karachi Stock Exchange (KSE) 100 Index from 2006 through 2011. The results substantiated the results of other studies that the liquidity and the cash conversion cycle have statistically significant influence on ROA.

H_1: There is a significant relationship between the liquidity ratio and the profitability of the organization.

2.2 The relationship between financial leverage and firm performance

The Financial leverage has been reported on the right-hand side of the financial statement. Financial leverage prompts the serious level of risk looked at by investors, so it improves the probability of its failure to support the obligation. Abubakar (2015) analyzed in his study eleven Nigerian banks from Tier 1, Tier 2, and Tier 3 selected through convenience sampling for the period 2005-2013. The results from regression uncovered that there is a critical connection between debt equity ratio and financial performance proxied by return on equity. In any case, the results also demonstrate that there is insignificant relationship between debt ratio and financial performance measured by ROE.

Kartikasari and Merianti (2016) study used different factors. Leverage was estimated by debt-to-equity ratio; however, the firm size was estimated by total assets and total sales, and productivity by ROE and ROA. The results drawn using Indonesian financial firms panel data and appropriate regression analysis was carried out to break down the influence of important factors on the dependent variable. The most appropriate panel data regression model in this study was fixed effect model. The study unleashed that the debt ratio had a significant critical positive influence on productivity while debt-to-equity ratio had a significant inverse relationship with productivity.

Devi and Devi (2014) study examined to distinguish the determinants of firm's profitability of Pakistani organizations. The factors examined were capital structure, financial leverage, firm size, and corporate profitability. Information was gathered from 50 organizations for 7 years from the site of the KSE (Karachi Stock exchange). The multiple linear regression was carried out to analyze and find associations between corporate profitability and drawn independent factors. Rudin et al., (2016) analyze the impact of liquidity and financial leverage at the same time and specifically on profitability at going real estate and listed public companies in the Indonesian stock exchange from the period 2005 till 2010. Study investigated the impact of leverage and liquidity at the same time on.

H_2: There is a significant relationship between the financial leverage ratio and the profitability of the organization.

Table 1: Literature matrix

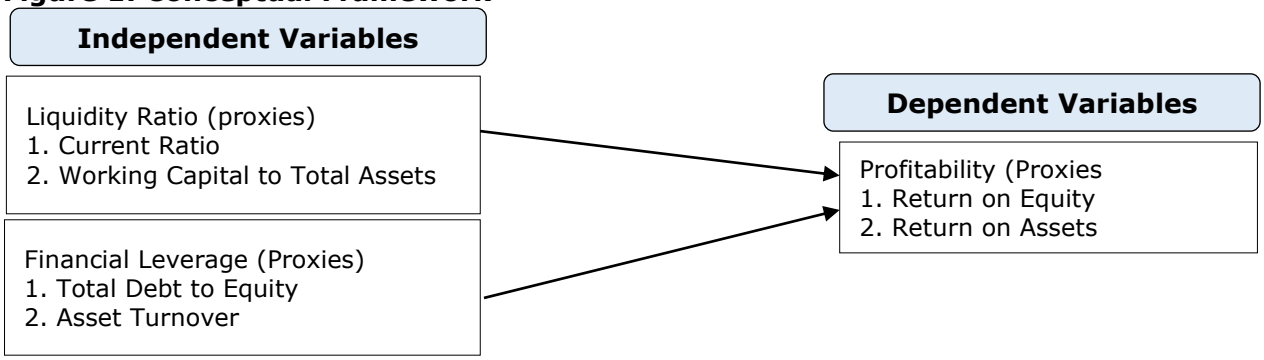
Author(s)	The Research	Variables	Findings
Sundas and Butt (2021)	This study helped to understand that asset liquidity rises debt level while in some countries' organizations having more liquidity were a smaller amount leveraged and were dependent on owners' finance.	current ratio acid ratio	significant positive
Sattar (2020)	The relationship of liquidity has been investigated on the profitability of the textile sector in Pakistan.	Cash ratio ROE	Positive and significant
Ramlan (2020)	The effect of leverage and liquidity on the firm's Performance To analyze the relationship between leverage & liquidity and the companies' performance in Malaysia	liquidity and leverage	significant positive impact
Jiang et al. (2019)	The theoretical and empirical research guided the concept that liquidity may have an impact on organization profitability	Liquidity and Financial Leverage	Positive and significant

Mansoor (2019)	This study tried to find out important internal factors of profitability in textile and concrete businesses of Pakistan.	Liquidity, leverage, growth, capital intensity	No significance
Atta et al., (2017)	This study tried to analyze the association between corporate stability and working capital in the textile sector of Pakistan.	Financial leverage	Significant Negative
Ismail (2016)	This study has observed the relationship of liquidity management on the performance of the 64 Pakistani non-financial organizations establishing the (KSE) 100 Index during 2006 and 2011	Liquidity variables: current ratio and the cash conversion cycle	significant positive
(Abubakar (2015)	The purpose of this research is to examine the profitability of the textile industry in Pakistan, focused mainly on the microeconomic indicators.	Liquidity, leverage	significant positive impact
Niresh (2012)	This study took a sample from manufacturing organizations in Sri Lanka and tried to determine the trade-off between liquidity and profitability.	Liquidity & profitability	No significance

3. Conceptual framework

Figure 1 below provide the conceptual framework for the study. Return on Asset and return on equity are the two dependent variables whereby performance of textile business is measured. The independent variables of the study are liquidity ratio and financial leverage. The proxies used to measure the liquidity ratio are current ratio and working capital to total assets. The financial leverage is measured using total debt to equity ratio and asset turnover ratio.

Figure 1: Conceptual Framework



4. Methodology

In this study, the research approach was the quantitative and E-Views 11 was used for analysis. The study data is secondary and panel least squares estimation method was used for regression. The data was collected from the 75 textile companies listed on the Pakistan stock exchange from 2016 to 2020 using convenience sampling. Panel regression analysis was used to evaluate the relationship between profitability variables, liquidity, and other chosen factors in the quantitative analysis. Samo and Murad (2019) used this regression technique in their study. Thus, the same regression analysis is selected for this study. Two econometric models were used for the analysis are as follows:

Model 1:

$$ROA_{it} = \beta_1 LEVERAGE_{it} + \beta_2 CR_{it} + \beta_3 WC\_TA_{it} + \beta_4 ATO_{it} + \varepsilon_{it}$$

Model 2:

$$ROE_{it} = \beta_1 LEVERAGE_{it} + \beta_2 CR_{it} + \beta_3 WC\_TA_{it} + \beta_4 ATO_{it} + \varepsilon_{it}$$

The dependent variable in model 1 is return on assets for bank 'i' at time 't'. Return on assets represents the income of the bank for both creditors and investors and calculated as the

net income divided by the total assets of the bank (Gul, 2017). Model 1 shows that ROA is the function of its determinants. While the dependent variable in model 2 is return on equity bank 'i' at time 't'. Return on equity represents the income if the bank earned for investors and found dividing earning by total equity. It has been calculated by the proxy that has been used in the studies (Saeed & Siddiqui, 2017; Xu et al., 2018).

For financial leverage, debt to equity ratio (Leverage) and asset turnover variables are used. The debt-to-equity ratio is calculated by dividing the total debt to total equity. It is proxy for financial leverage (Hussain, 2017). While asset turnover (ATO) based on operating assets usage and represents the benefit reaped by the management in using these assets. It is calculated dividing sales by total assets (Almazari, 2012). Similarly, for liquidity current ratio and working capital to total assets ratios are used. Current ratio measures the capacity of total current assets to meet its all-current obligations and is calculated by the dividing current assets by current liabilities (Saleem & Rehman, 2011). Whereas working capital requirement as a ratio of total assets is used as another proxy for liquidity and it is calculated as (cash and equivalents + marketable securities + inventories + accounts receivables) – (accounts payables + other payables) and divided by total assets (Sajid Nazir & Afza, 2009). The variables used in this study are defined as follows.

4.1 Performance

Performance is proxied by profitability and measured through ROA and ROE. These tell how efficiently an organization uses its asset & equity for generating profit.

4.2 Financial leverage

The financial leverage is proxied by the total debt to equity ratio and asset turnover ratio.

4.3 Liquidity

Liquidity is proxied by the current ratio and working capital to total assets ratio.

4.4 Firm Size

The firm size is taken as a control variable in the study and is proxied by the natural logarithm of total assets of the firm.

5. Results and Discussion

The data is primarily taken from the annual reports of the listed textile companies while some data is taken from state bank of Pakistan reports (various FSA for Non-Financial companies). A panel dataset of 75 companies for 5 years is formed to produce a balanced panel of 375 observations.

Table 2: Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
LEVERAGE	-0.00314	0.344583	42.50286	-31.7551	4.507007
CR	0.329446	0.329399	7.756232	-9.73281	0.793233
WC_TA	-0.21604	-0.00547	0.994716	-14.666	1.075352
ATO	0.863537	0.834229	3.611453	0.001426	0.58066
ROA	-0.01504	0.006261	1.66881	-1.61524	0.185893
ROE	0.10002	0.028239	9.65926	-3.31363	0.828752

Table 2 above shows the descriptive statistics. The ROE represents mean value of 0.10002 with a variation (standard deviation) of 0.828752 range from -3.313634 to 9.65926 respectively. While ROA shows an average of 0.015035 with 0.185893 of volatility (Std. Dev.) with a minimum value of -1.615243 to the maximum of 1.66881. Likewise, statistics of other variables of the study are shown. Table 2 shows correlation matrix which shows that independent variables are not highly correlated. It means there would be no issue in taking this combination of these variables in the models. The study examines the influence of liquidity and financial leverage on financial performance of the textile industry. It has been suggested that better liquidity and balanced leverage contribute towards the profitability of any organization.

Table 3: Correlation Matrix

Variable	LEVERAGE	CR	WC_TA	ATO
LEVERAGE	1			
CR	0.008	1		
WC_TA	0.066	0.101	1	
ATO	0.194	0.030	0.146	1

To test the influence of liquidity and leverage, two models were tested. The liquidity was measured through current ratio and working capital to total asset ratio while financial leverage was measured through debt equity ratio and asset turnover ratio. The financial performance is measured with return on assets and return on equity ratios while for each separate model was constructed. The fixed effects model was selected for model 1 while random effects model was selected for model 2 based on Hausman test. Regression analyses were run on both the models accordingly.

Table 4: Results of Fixed Effects Panel Regression Analysis with ROA as dependent variable

Variable	Coefficient	Std. Error	t-Statistic	P-Value
LEVERAGE	0.001543	0.002114	0.729684	0.4662
CR	0.024408**	0.01159	2.105868	0.0361
WC_TA	0.149396*	0.012423	12.02567	0
ATO	0.005823	0.037557	0.155054	0.8769
Constant	0.004176	0.033825	0.123469	0.9018
R^2	0.502829			

*p<0.1, **p<0.05, ***p<0.001

ROA = 0.001543*LEVERAGE + 0.02441*CR + 0.1494*WC_TA + 0.0058*ATO + 0.0042

The results of model 1 indicated that a well-managed liquidity would boost the profitability of textile companies. Both liquidity measures taken in the model showed a considerable positive impact ROA. The current ratio is statistically significant at 95% confidence interval while working capital is significant at 99% confidence interval. Whereas the impact of leverage ratios remained insignificant on return on assets. The result of working capital ratio is significant at 1% and one percent change in working capital ratio would bring about around 15% increase in ROA. It means the importance of working capital is of pivotal role in determining the profitability in textile industry of Pakistan. It is a contributing variable in checking the liquidity impact on profitability.

The other important and statistically important result is of current ratio which influences the ROA at 5% significance level. The result shows that one percent increase in current ratio would bring about around 2.5% increase in ROA. The results are in line with the studies like (Ismail, 2016; Sundas & Butt, 2021). Though both results are important in determining the profitability, more attention must be concentrated on the working capital requirements.

Table 5: Results of Random Effects Panel Regression Analysis with ROE as dependent Variable

Variable	Coefficient	Std. Error	t-Statistic	P-Value
LEVERAGE	-0.106464*	0.008013	-13.28712	0.0000
CR	-0.002731	0.044863	-0.060875	0.9515
WC_TA	0.010453	0.03346	0.312407	0.7549
ATO	0.107415***	0.062736	1.712169	0.0877
Constant	0.010087	0.067503	0.149437	0.8813
R^2	0.323417			

*p<0.1, **p<0.05, ***p<0.001

ROE = -0.1065*LEVERAGE - 0.0027*CR + 0.0105*WC_TA + 0.1074*ATO + 0.0101

The results of model 2 indicated that a controlled use of debt could boost the profitability of textile companies in terms of return on equity. The one leverage measure included in the econometric model showed a negative impact on ROE. The debt equity ratio is statistically significant at 1% while asset turnover is significant at 10%. While the impact of liquidity is insignificant in both of its ratios on the return on equity. The result of leverage to ROE showed that one percent decrease in debt equity ratio will bring 10.6% increase in ROE which is a reverse relation and is not a good sign for the textile companies. It implied that the use of obligation funding in the capital structure is counterproductive to the profitability of textile companies. It might be due to the cost of funding which might probably be greater than the returns of the textile industry and it might wipe out the part of the earnings from the performance of the companies. This result corroborated the study results of (Atta et al., 2017) and are opposite to the results of the study (Jiang et al., 2019).

The impact of asset turnover on ROE is positive but only significant at 10% and its contribution to the profitability is also nominal. According to the result one percent change in asset turnover will bring about one percent increase in ROE. This ratio is taken here as the short-term leverage in the form of suppliers' credit but the same ratio is also used as efficiency ratio on the use of current assets which is inventory. Its nominal contribution might also be due to the inefficient use of obligatory funding. This variable is also contributing variable to the existing studies undertaken on textile companies of Pakistan.

6. Conclusion & Recommendation

This empirical study pinpointed the significance of liquidity and its implications explicitly for textile industry in Pakistan and also showed the emphasis on the arrangements with respect to the obligation and influence on the firms. The supporting theories on leverage and liquidity were also acknowledged in this study. It was inferred that between a corporate's liquidity and profitability, there is a significant relationship. Thus, a firm's daily working capital and liquidity issues fittingly can get significant yields on resources and return on assets. In spite of this, the organizations with high obligation and influence are risk-inclined and unfit to produce high profitability, so, for this, the most important liquidity requirements should be met by not depending a lot on debt financing. Financial analysts of firms should bring the liquidity decisions to the board policies and it should imparts to accomplish manageable and stable financial position.

The findings implied that liquidity is vital for the textile business while the returns for the investors in the textile business is based on the use of debt in textile business capital structure. The textile industry is major contributor towards the GDP of Pakistan, thus, the findings revealed in this research that the proper attention should be given to the financial leverage and working capital management to increase the productivity. The outcomes may likewise assist the top management of textile companies in process of decision making, expressing simply how to perform well, upgrade the development of their organizations, and urge financial investors to put resources into organizations having good market stability. For each business, the cash balance is important to have financial dependability which subsequently proposes a negative connection between the short-term obligation to profitability and the equity ratio.

This research could help top management in decision-making by explaining clearly how to perform well in accordance with a firm's financial health, that can inspire investors both potential and existing investors to make investments with strong market positions. Money circulation is important for firms to achieve financial stability. The study has several limitations. The explanatory power of the model is very low which may further be increased by exploring more variables which significantly impact the profitability of textile firms in Pakistan. It is also suggested that a future study might be undertaken to uncover other contributing elements and reasons like efficiency factors and asset management etc. This study is focused on the textile industry, this is also suggested that this could also be applied to other industries individually or cross-sectionally for further generalization of results. The data reporting year for the study are limited to 2020 due to non-availability of data for recent years, which may further be expanded to latest years to get more details insight.

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