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The Effect Of Capital Structure On Firm Performance: Evidence From Pharmaceutical Industry Of Pakistan

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Abstract

The basic aim of the study is to find out the impact of capital structure measured by total debt ratio and long-term debt ratio on firm performance, which is represented by Return on Assets (ROA), with reference to the pharmaceutical sector of Pakistan. Every organization's basic and ultimate goal is to maximize its profitability; therefore capital structure and its management are considered to be among the main factors that play a vital role in achieving the desired objective. Data were collected from 128 panel observations from eight companies by pooling 16 years of data from companies which were registered on the Pakistan Stock Exchange (PSX) and their audited financial reports were used for the study. In addition, descriptive statistics, including mean, median, minimum maximum values, standard deviation and variance, were analyzed. Multiple regression models were used to conduct the analysis. The results revealed that LTD has a significant positive effect on ROA, while TDR has an insignificant negative effect on ROA. To improve performance and maintain profitability, management is advised to maintain an appropriate level of long-term debt to enhance profitability.

Keywords: capital structure, firm performance, return on assets, long term debt, firm size, total debt ratio and pharmaceutical.

Introduction

All business firms are trying to get the maximum result of the firm performance and maximum wealth of the shareholders (as measured by the market price of the firm and/or returns to the shareholders). Firm Performance is a measure of how well a firm achieves the expected financial and operational goals. Firm performance is important because it is the measure of success in key survival and competitiveness aspects like profitability, growth and efficiency. Every business has an aim to make the most profits, satisfy the needs of the customers and generate value for shareholder and all other stakeholders. This on-going process of performance enhancement affects decision making, strategic planning and resource management. If they are not aware of improving the performance of the firm, companies may risk losing market share, investors' trust, and their long-term sustainability. Consequently, any business that aims to be a leader in today's competitive business world, must improve the performance of the business. This focus also provides a basis for assessing the impact of various business practices on overall success, such as firm performance.

One of the most significant financial ratios that is used to assess the performance of the firm is return on assets (ROA). It reflects the efficiency of a company in utilizing its assets to make a profit. ROA is basically the ratio of the net income to total assets and is always presented in a percentage. The higher the ROA, the more efficient the firm is using its assets to generate profit and the more interested the investors will be in the firm. It also helps companies to benchmark their performance against the other companies in their industry. But ROA must not be considered as a standalone metric, as high debt or other financial activities can affect it. Despite its limitations, ROA is an indicator widely used because it shows how effectively the management has done with the owner's investment to generate profits. Comprehending ROA can assist businesses and investors gauge the financial consequences of corporate governance practices. The management of a firm takes a number of decisions in order to achieve this desired goal, such as the optimal level of capital, which can reduce the financing cost and improve the value of the firm, and ultimately the value of shareholders' wealth (Frank & Goyal, 2009; Le & Phan, 2017). To this end, firm management's ability in addressing the issue of the optimal level of capital structure is imperative.

The study of capital structure and the performance of the firm can be undertaken in many different ways. Modigliani and Miller (1958) say there is no value in the writings of the two. But in 1963, M&M saw that there could be a positive relationship between the success of the company and capital structure. Modigliani and Miller (1958) formulated the capital structure hypothesis – which says that value of a company is determined by its activities and not by its capital structure. As debt financing increases in the capital structure, it is expected that the cost of capital is decreasing and vice versa. The firm capital structure can be explained as the mix of equity and liability which are used to make the operations of the company functional, to acquire productive assets and to improve its future growth. It helps in determining and shaping the total costs of capital and subsidized the overall risk level of the company. Numerous possibilities of debt equity ratios can have significant effects on the company value, and in the end, the shareholders' wealth (Baker and Martin, 2011). Therefore, the choice of the capital structure is one of the most important for the company finance, and has been a topic of concern and interest to students, researchers and practitioners for many years.

Capital structure is the method of financing a company's operations and growth with a mixture of debt and equity. It is determining the proportionate amounts of money that are to be raised from the shareholders (equity) and the borrowing (debt). Well-balanced capital structure helps the firm to keep the cost of capital as low as possible and still be financially flexible. Debt has potential to add to risk if the firm is facing financial problems, but may give tax advantages and leverage returns. The down side is that the use of equity might cause some dilution of ownership and less profits per share, but less financial risk. The capital structure directly impacts on the firm's performance, as it affects its cost of funds, financial stability, and investment in new opportunities. Moreover, proper corporate governance can contribute to the proper management of capital structure which can balance risk and benefit based on long-term goals of the company.

In this relation the study was conducted with reference to the pharmaceuticals industry in Pakistan, as pharma is one of the fastest growing industry with an average growth rate of 8-10% per year, worth USD 3 billion. Healthcare issues are a big challenge in Pakistan and a robust pharmaceutical industry can play a key role in achieving the healthy economy and healthy life in Pakistan. It contributes about 1.2 per cent of the country's GDP, and provides direct jobs for over 50,000 people. Learning about this sector can uncover problems like regulatory issues, supply chain inefficiencies and innovation gaps. Studies on this topic can unveil the effect of the capital structure on the return on equity and enable companies to run effectively, ethically, and sustainably. The key findings of health informatics are significant for policymakers, investors, and industry stakeholders to understand for improved healthcare outcomes and boost economic growth in Pakistan. The Government has been promoting growth with its policies and investments in research and development. Moreover, the pharma industry has high potential and an important role in job creation, investments and export, particularly towards neighboring countries, which contributes to the country's economy. It emphasizes the importance of analyzing capital structure in this sector to achieve the higher return on equity, transparency and to make industry more competitive.

This study has been carried out so far to get further analysis on how capital structure affects ROA. The study has been performed recently but no research has been performed taking into consideration the pharmaceutical sector of Pakistan.

RESEARCH OBJECTIVE

The research is helpful in finding out and overcoming the issue of capital structure and its ratio requirement. The basic objective of the research mainly consists of finding the relationship between the capital structure and firm performance.

RESEARCH QUESTION

Q-1. Is there any significant relationship between capital structure and firm performance?

Literature Review

Soon after Modigliani and Miller (1958) made their "irrelevance propositions", the debate around the relevance of capital structure for firms' value emerged, both from the theoretical and the empirical standpoint. While different studies cited the M&M model as irrelevant (Eckbo, 1986; Smith & Warner, 1979), probably due to the fact that their thesis were incorporated with unrealistic assumption, many argued that in the corporate finance, the MM's pioneering propositions are just like a novel and the catalyst for succeeding debate, argument, and research. This is because of the marvelous development of the so-called 'modern' theory of capital structure and firm performance after the M&M (Myers, 2001). It mentioned the propositions of M&M that are frequently mentioned in the capital structure literature.

Following this, M&M released another revised paper that confirmed one of the assumptions that was listed in their initial paper, the lack of the corporate tax. On the conclusion, the result was a new thinking in corporate finance theory which described that debt has a lead over equity due to the advantage of tax shield (Modigliani & Miller, 1963). However, their discovery was similar to that of Modigliani and Miller (1958) in an economy without frictions. Miller (1977) replicated the test of the firm value effect of debt financing versus equity financing in an independent study, and incorporated the income tax effect of capital gains into the US corporate firm model, while studying the behavior of firm value and the corporate tax rate. Later, the above assumptions made by M&M were relaxed and a lot of research has been done which either validated or challenged the original research of M&M.

The different theories related to the capital structure and firm performance are tax and capital structure theory, bankruptcy cost approach theory, the agency cost theory, the pecking order theory, the information signaling theory and so on. Many different theories of capital structure, some of which relaxed the assumption of the original M&M paper: agency cost, personal and corporate taxes, interaction between product and factor markets, asymmetric information and corporate control considerations. The literatures that are reviewed in the following study are studies that relate to the alternative theories of capital structure.

Emperical Evidence

In several studies, the pharmaceutical industry in various countries have been analyzed with regard to financial structure and performance of the firms. Rasheed et al. (2022) study the Pakistan Stock Exchange-listed pharmaceutical companies and find that the leverage negatively affected the profitability whereas the liquidity affected positively the firms' performance in Pakistan. In a similar fashion, Rehan et al. (2020) examined the impact of capital structure and financial performance in the pharmaceutical industry in Pakistan and found that the capital structure and financial performance have an inverse relationship between each other. A worldwide study on the relationship between profitability and capital structure by Hafitriyanti et al. (2025) revealed that profitability and capital structure significantly affects the firm value of the pharmaceutical sector in Indonesia. Similarly, Issa and Issa (2025) discussed the problem of over leveraging in large pharmaceutical companies across the globe and how it affects the financial risk and performance of companies. Tsolas (2021) analyzed firm efficiency, size and risk of drug companies in Europe to determine what would affect their capital structure. All these studies suggest that financial variables have firm-specific and country-specific effects on the performance of pharmaceutical firms.

To financing the assets, one of the most critical financial decisions faced by firm in the corporate level is to determine the relative levels of equity and debt which is referred to as the capital structure of the firm. A number of both theoretical and empirical research studies have been undertaken to understand how the capital structure affects firms' profitability. Since the famous Modigliani and Miller (1958) article, there has been a growing interest in this topic. This theoretical model was created to show that debt does not have an impact on the firm's profitability (when the capital market is a perfect one).

However, when firms have to pay taxes and face bankruptcy, this is not always the case, and Scott (1976) proposed that financing decisions also affect firm performance and that there is an "optimal" capital structure. There have been numerous studies conducted throughout the world on this correlation (Myers, 2001). Ahmad et al. (2012) conducted a study investigating the pharmaceutical industry in Pakistan and they found that leverage would negatively affect performance as financial risk and interest burden would rise. Likewise, Raheman et al. (2007) with data from Pakistani firms concluded that inefficient financial management in the company and too much debt decreases profitability of the company. However, based on the U.S. data, Gill et al. (2011) concluded that moderate debt has a positive impact on firm performance via tax benefits. Moreover, according to Zeitun and Tian (2007), for Jordan, the effect of leverage is firm-specific and is related to the managerial efficiency. Overall, these mixed results suggest that the finance-decision firm performance linkage is both context specific and depends on firm- and country-specific factors.

Lower leveraged firms do not suffer as much losses during a slowdown in the industry because their losses are limited to direct costs (interest and principal), whereas, higher leveraged firms suffer from indirect costs (R&D) during the slowdown of the industry, according to Opler & Titman (1994). The data for listed firms in Taiwan was used by Cheng (2009) & came to a conclusion that the debt has a significant negative affect on the operating performance of all firms other than those firm having high cash flows. By using Swedish data Yazdanfar & Ohman (2015) also described that there is a negative effect of a higher debt ratio on firm performance.

By using the data from 1987 to 2008 for non-financial companies (Qureshi and Yousaf, 2014) studied the factors of financial performance of firms in Pakistan and reached on the result that the debt ratio to be adversely affecting the return on assets. Habib et al. (2016) also got the same findings in another study in Pakistan.

Studies also support the notion that debt financing has a positive effect on firm's performance. If there is a large amount of financial leverage, then it seems that according to Baker (1973) it is likely to increase the profitability. Jensen (1986) found out that use of debt reduces the agency costs by disciplining the managers of the firm in the management of cash flows as the firms are committed to make a fixed payment on debt financing. Heinkel (1982) suggested that if capital suppliers do not have perfect information or if the information that capital suppliers have is not as complete as the information that the insiders have, then a positive relationship would exist between debt

financing and the value of the firm. Ross (1977) stated that higher leverage firm means profitable future prospects. Graham (1996) supported that debt has a significant tax benefit to those firms having relatively higher marginal tax rate.

Tauseef et al., (2013) offer an alternate view by stating that there is a non-linear relationship between the debt to asset ratio and return on equity (ROE). Using industry specific firm level data for the Pakistani textile industry for the period 2003-2008, they discover that ROE first increases with leverage up to an optimal level and then decreases with further increases of leverage. The theory outlined by Scott (1976) was supported by this evidence because he further developed the Modigliani and Miller (1958) theory by relaxing the assumption of perfect capital markets and proposed that there would exist an optimal capital structure. Secondly, the trade-off theory balances advantages of the debt financing against disadvantages of the debt financing, such as the tax shield and financial distress and bankruptcy risk (Baxter, 1967; Myers, 2001). In this article, we have analyzed that how and to what extent the debt ratio is affecting the profitability of the firms to get an outline of optimum debt ratio for the firms in pharmaceutical industry in Pakistan. Determining the debt optimum level will help managers and policy makers in deciding debt level and designing appropriate policy for stable and sustainable growth of the companies. This is particularly important for Pakistan, where the contribution of the industrial sector is 18-18.5 per cent of the GDP, and the contribution of the pharma industry to the GDP in only is more than 1 per cent, and in terms of tax revenues, it is a significant contributor as well (Government of Pakistan, 2024-25).

In this study, we estimate multiple linear regression models by using panel data for the pharmaceutical companies of Pakistan over a 16 years period from 2009 to 2024. We extend the work of Tauseef et al (2013) in three major ways. Firstly, the latest firm level data specifically from pharma industry was included. The latest data is particularly important after the financial crisis of 2008. Secondly, we used three additional control variables particularly leverage ratio, assets turnover and firm size in addition to conducting analysis of pharmaceutical firms in the corporate sector and strengthening over result. The pharmaceutical industry is a major and important subsector with the export reaching $457 million in 2025 with the growth of 34%. it contributes around one percent in GDP and caters 90 percent of country overall medicine demand.

In addition, there is extensive cross-sectional variation in capital structure and profitability of firms attributed to firm specific and industry industry specific factors as is known in the literature (Talberg et al., 2008).

Hypothesis:

On the basis of above reviewed literature, the following hypothesis were developed……..

H_0: *There is not a significant relationship between ROA and long term debt.*

H1: *There is a significant relationship between ROA and long term debt.*

H_0: *There is not a significant relationship between ROA and total debt ratio.*

H1: *There is a significant relationship between ROA and total debt ratio.*

Research Methodology

The hypothesis were tested by using the data obtained from the financial statements of the companies and the data was analyzed by using the software EViews. Variables in the conceptual framework has discussed in respect of their importance related to the topic.

Independent Variables:

Though debt to equity ratio seems to be a common proxy to be used for capital structure, instead of this, the study used total debt and long-term debt ratio to indicate the capital structure which are the primary independent variables. These are particularly important to explain the capital structure of different companies not only in Pakistan but other countries in the world. The relative shares of debt or leverage used by the firms are highlighted by these variables. To measure it, the variables are mentioned here:

1. Total Debt Ratio (TOD) is calculated as the ratio between total liability and total assets, which represent the value of assets in percentage managed from creditors.
2. Long Term Debt Ratio (LTD) is calculated as ratio between long-term debt and total assets, which describe the percentage of total assets funded by long term creditors. Such a measure is taken because short-term debt can be easily manipulated because of the outcomes of trading or operations of the company.

Dependent Variable:

Firm performance is the dependent variable in the study, and is usually measured by profitability. Profitability measures derived from the existing literature are the firm values reported directly from the stock markets websites, financial ratios from the firms' income statement and balance sheet and Tobin's q which is a combination of book value and market value. As it is difficult to obtain market values so, many researches takes financial ratios on their book value as indicator of profitability such as return on equity (ROE), return on assets (ROA), net interest margin (NIM) and earning per share (EPS). In this study, we used the return on assets, as this indicator along with return on equity as used by many researchers such as Saona, 2016 and Zeitun, 2012.

The use of the different indicators of firms' performance is not very common; most of the study focus is given to the impact of capital structure on the profitability of the firms measured by return on equity (ROE) and return on asset (ROA) which are mostly recognized accounting-based measures and are widely accepted. One of the best and

widely used indicator of firm performance is ROA due to the relatively low equity of firms in the developing economies (Flamini et al., 2009; Saona, 2016). According to Mehzabin et al. (2022) income earned from total assets or the management ability to generate profits irrespective of the source of financing is called ROA.

control Variables:

The study investigates the relationship between Total debt, Long Term Debt and financial performance (ROA). The model need to incorporates some firm specific controllable variables to lessen omitted variable bias and to ensure smooth analysis, as also studied by Ayalew (2021), Meyad & Kefiyalew (2021), to prevent & mitigate the biasness.

Therefore, the following control variables were used in the models.

1. Liquidity: Efficient working of working capital, is the ratio of current assets to current liability (CR).
2. Fixed Asset Turnover: assess the management's effectiveness in utilizing the firm's assets to make profit. It is equal to the sales divided by the total value of fixed assets (FATR).
3. Firm Size: to depict the size of firms. In this, total sales is used as an indicator of the size of the firm. We calculated it as natural logarithm of total sales. It is considered to be a positive determinant of firm's profitability.

Data Collection

The study used descriptive research design which was adopted under a quantitative approach to describe the capital structure & other related variables. Later, explanatory research design was applied & correlation approach was used to find correlation between the variables. The chosen designs were believed to be suitable to solve the purpose of the study. The frameworks chosen were deemed to be the most suitable approaches to fulfilling the aims of the research.

Secondary data was collected and accessed from the listed private pharmaceutical companies operating in Pakistan from pharmaceutical sector. The study has been carried out with a survey of all the pharmaceutical companies which are working in Pakistan. Thus, the data were taken from eight pharmaceutical firms registered in PSX, the regulatory body of financial and non-financial firms of the country. The companies included in the survey are **Abbott, Ferozson, GSK Pakistan, Highnoon, Hoescht, Otsuka, Searls** and **IBL** and all have a time horizon of 1 year spanning 2009-2024.

Rather than market values, the book values of the financial variables have been taken from the audited financial statements of the firms published in the annual reports of respective company as well as published by the SBP on its non-financials firm's performance report. So it is not surprising that the annualized figures come out that they use them to select the company and the time-period for their study. As a result, we have taken 16 years of data (2009-2024) for each and every listed pharma company which data is available in given years, operated in Pakistan.

Statistical Analysis

In order to investigate our study, multiple regression models were employed to analyze the effect of capital structure on the firm performance. We employed inferential statistics, such as coefficient test and regression test to check the hypothesis.

Model formula of regression: (in general, it can be a model of panel data analysis):

$$Yit = \beta_o + \beta BCit + \mu it \ldots\ldots (1)$$

By adding variables in above equation, we have a modified formula used by Zemzem, & Ftouhi as:

$$ROAit = \beta_0 + \beta_1 LTDit + \beta_2 CRit + \beta_3 FATRit + \beta_4 FSit + \mu it$$

$$ROAit = \beta_0 + \beta_1 TODit + \beta_2 CRit + \beta_3 FATRit + \beta_4 FSit + \mu it$$

Here,

- β_0= Constant
- β_1= coefficient of variables
- β_2= coefficient of variables
- β_3= coefficient of variables
- β_4= coefficient of variables
- μit = error term
- ROA = Return on Assets
- LTD = Long Term Debt Ratio
- TOD = Total Debt Ratio
- CR = Current Ratio

- FATR = Fixed Asset Turnover
- FS = Firm Size

Multiple regression has been used in order to find the impact of capital structure on firm performance. In our model, multiple regression is used to study the relationship between variables of the model, either the capital structure has significant effect on the firm performance or not. The methods are still applicable in a firm to study the impact of capital structure on firm's performance.

Result And Findings

Correlation Coefficient

	ROA	TDR	LTD	CR	FATO	FZ
ROA	1.000000	-0.678735	-0.376267	0.540416	0.766101	-0.682317
TDR	-0.678735	1.000000	0.667483	-0.772960	-0.682953	0.544563
LTD	-0.376267	0.667483	1.000000	-0.526196	-0.622399	0.618887
CR	0.540416	-0.772960	-0.526196	1.000000	0.622072	-0.345324
FATO	0.766101	-0.682953	-0.622399	0.622072	1.000000	-0.691758
FZ	-0.682317	0.544563	0.618887	-0.345324	-0.691758	1.000000

Correlation shows the relation in terms of measurement and parameters. It is linear and its value is within the range of +1 to -1. We used it to examine the relationship between profitability (ROA) and the explanatory variables included in the study. The results indicate that ROA has a strong correlation with Total Debt Ratio (TDR) (r = -0.679) and Firm Size (FZ) (r = -0.682). In contrast, ROA shows a moderate relationship with Long-Term Debt (r = -0.376). Furthermore, ROA exhibits a moderate positive correlation with Current Ratio (CR) (r = 0.540) and a strong positive correlation with Fixed Asset Turnover (FATO) (r = 0.766). This indicates that firms with better liquidity positions and more efficient utilization of fixed assets tend to achieve higher profitability. Among all explanatory variables, FATO demonstrates the strongest positive association with ROA, highlighting the importance of asset utilization efficiency in enhancing firm performance.

The correlation among the independent variables also reveals some noteworthy relationships. TDR is positively correlated with LTD (r = 0.667) and Firm Size (r = 0.545), while it is negatively correlated with CR (r = -0.773) and FATO (r = -0.683). Similarly, LTD has negative correlations with CR (r = -0.526) and FATO (r = -0.622). Although some correlations are relatively high, none exceed the commonly accepted threshold of 0.80, suggesting that severe multi-collinearity is unlikely to be a concern in the model. Overall, the correlation analysis indicates that debt-related variables are associated with profitability, whereas liquidity and asset efficiency contribute positively to firm performance.

Regression Analysis

Dependent Variable: ROA
Method: Least Squares
Date: 06/03/26 Time: 10:22
Sample: 2009 2024
Included observations: 16

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.883811	0.660907	1.337270	0.2108
TDR	-1.058446	0.492705	-2.148235	0.0572
LTDR	1.920810	0.785728	2.444623	0.0346
CR	-0.063051	0.045597	-1.382787	0.1968
FATO	0.079636	0.032956	2.416433	0.0363
FS	-0.084993	0.088371	-0.961776	0.3588

R-squared	0.801788	Mean dependent var	0.196325
Adjusted R-squared	0.702681	S.D. dependent var	0.095129
S.E. of regression	0.051871	Akaike info criterion	-2.800119
Sum squared resid	0.026906	Schwarz criterion	-2.510398
Log likelihood	28.40095	Hannan-Quinn criter.	-2.785283
F-statistic	8.090186	Durbin-Watson stat	1.539247

Prob(F-statistic) 0.002739

In the regression analysis, we test the effect of independent variable on dependent variable. Multiple regression has been run to find out the effect of capital structure on firm performance. The regression results indicate that there is a negative relationship between the Total Debt Ratio (TDR) and Return on Assets (ROA) with a negative coefficient of −1.058, which means that as the TDR increases, the ROA decreases, indicating that firms with higher debt levels are less profitable. But it is not so significant statistically (p = 0.057), as being above the standard value of 0.5.

The coefficient of Long-Term Debt (LTD) is positive (+1.92) that indicates the positive relationship between LTD and ROA, LTD is significant at 5% level (p = 0.0346) and has a modest effect on ROA and statistically significant. In the same way, Fixed Asset Turnover (FATO) has a positive coefficient (0.079) and it is significant at the level of (p=0.036). The Current Ratio (CR) also has a very low negative coefficient (−0.06) with the significance of the coefficient being highly insignificant (p = 0.196), which means that the ratio does not have any meaningful effect on ROA. The coefficient value of the Firm Size (FZ), where the p value is high (0.35), shows that it has a negative effect and is not significant.

The strength of the model is 0.801, R2 value indicating that 80.1% of the model is explanatory, however the adjusted R2 value is 0.702 and this is considered to be moderate. The goodness of fit of our equation is indicated by the adjusted R-Squared and the result indicated that the goodness of our model is 70% and we can say that our independent variable is 70% to dependent variable.

There is some possibility of positive autocorrelation in the residuals as indicated by a Durbin-Watson statistic of 1.53. A coefficient with a positive value generally signifies a positive relationship, a negative value signifies a negative relationship and a p-value of less than 0.05 or 0.10 is generally considered statistically significant.

DESCRIPTIVE ANALYSIS

	ROA	TDR	LTD	CR	FATO	FZ
Mean	0.196325	0.322350	0.033744	2.568750	4.762500	7.393750
Median	0.206750	0.335850	0.021750	2.250000	4.850000	7.395000
Maximum	0.330100	0.503000	0.100000	4.600000	5.700000	7.830000
Minimum	0.007100	0.173000	0.011500	1.400000	3.600000	6.930000
Std. Dev.	0.095129	0.096530	0.025731	0.933609	0.694622	0.257886
Skewness	-0.265883	0.318790	1.310489	0.785634	-0.199877	-0.052188
Kurtosis	2.346092	2.415442	3.676339	2.520748	1.663724	2.142701
Jarque-Bera	0.473580	0.498812	4.884642	1.799044	1.296958	0.497238
Probability	0.789157	0.779264	0.086959	0.406764	0.522840	0.779877
Sum	3.141200	5.157600	0.539900	41.10000	76.20000	118.3000
Sum Sq. Dev.	0.135743	0.139771	0.009931	13.07438	7.237500	0.997575
Observations	16	16	16	16	16	16

Skweness highlights the normality of distribution, and as in our research the skewness of ROA = (-0.26), FATO (-0.19), and FS (-0.05) which are negatively skewed, while TDR = (0.31), LTD (1.31) and CR (0.78) are positively skewed, indicating a right-tailed distribution.

Kurtosis, in a way, is the tendency to have data "clustered" around the mean. The kurtosis value for the most of the variables such as ROA (2.3), TDR (2.4), CR (2,5), FATO (1.6) and FZ (2.14) are all below 3 indicating the curve is relatively flattered than the normal distribution and the distribution is call platykurtic. The LTD (3.6) is greater than 3 which suggests a normal distribution, and leptokurtic.

Conclusion

The main objective of this study to find out the impact of capital structure on firm performance taking in view the pharmaceutical companies of Pakistan. The main concern of any organization and management is the performance which is mostly in terms of profitability. The part from the capital structure choice is not only a huge tactic but additionally a necessary component of the overall performance and effectiveness of the company. Thus, the study has helped to explore and analyzed the impact of capital structure on the firm performance. To achieve the aim the data were collected from Pakistan stock exchange in an objective manner. 16 years of yearly data ranging from 2009 to 2024 has been collected from the pharmaceutical sector of Pakistan.

Implication Of Study

After we got the results, we could make some conclusions on the consequences of this research. As it seems that all the companies in the stock exchange particularly the pharmaceutical ones don't pay attention towards management of capital structure which highlight the need for the betterment which can be occurred through proper training and management. It should be observed and critically analyzed the fair need and management of capital structure without any influence and hurdles in order to perform better and achieved outmost advantages for the sake of company and its stakeholders.

Limitation Of Study

The study was conducted with respect to pharmaceutical sector of Pakistan but can be taken as a study in entire corporate sector of Pakistan and other sectors in foreign countries with different economies and with different financial factors the impacts of the study may vary. Other than that, the variables that were selected were limited as we used ROA as a measure of firm performance; total debt ratio and long term debt ratio as measures of capital structure as our independent variable and control variables were used as current ratio, fixed assets turnover ratio and firm size. All the other related variable were overlooked to avoid complexity and keeping the model simple.

Recommendation

At the time of the study we feel it is one of the great and interesting topics that should be studied, and we believe there is still need for further research in the future, not only on this topic of the relationship between capital structure and firm performance but also on the other variables like firm size, liquidity and asset turnover. It is also recommended to find out the severity and how much performance is effected by capital structure taking in view the different sectors of the economy.

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