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**Impact of Capital Structure on Firm Financial Performance of
Food and Personal Care Product Sector in Pakistan**

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ABSTRACT

The capital structure remain a subjective and an important matter for a firms, it contains the different combination of funding used by a firm to run its operations. The researchers have focus to study the impact of capital structure on firm's financial performance of Food and personal care product in Pakistan. Thus, Research has covered the period of Ten years (2014-2023). The Sample of the research is the food and personal care sector of Pakistan, by taking top ten (10) listed companies with Pakistan Stock Exchange (PSX) that are covering the high market share in Pakistan respectively. To make substantially significant results study uses Pearson correlation technique, to find the relation of variables and the intensity of the relationship whereas multiple regression is used to check the cause-

and-effect relationships of the variables. Debt-to-Equity Ratio (DER), Long-term debt-to-total assets(LDTA), Interest Coverage ratio (ICR), Short-term debt-to-total assets(SDTA) used as proxy of capital structure however to determine Financial performance of a firm, Net Profit Margin (NPM), Earnings per Share (EPS), Return-On-Asset (ROA), Return-On-Equity (ROE) used as a dependent variable. Results have revealed that there is significant impact of capital structure (LDTA, SDTA, ICR and DER) on firm performance (ROA, ROE, NPM and EPS). In addition, correlation revealed the negative relationship of LDTA on (ROA and NPM) while ICR is positively correlate to all measures of profitability (ROA, ROE, NPM and EPS).

Introduction

Background

In today market place the firms have many challenges, however, one of the most significant challenge that firm come across is to maintain its competitiveness with respect to its competitor. Organizational researchers have identified different factors that contribute to firm competitiveness or strategic advantage. Among these firms cost of capital is the most significant factor, to achieve firm competitiveness(Xu, 2020). As we know that firms competitiveness is mostly driven by its available sources or in more specific words firm's assets(Åström & Landgren, 2024). Furthermore, it is also a well-known fact that firm assets are only financed by two major sources i.e. Debt and Equity. To finance the firm's assets firm have to rely on either debt, equity, or the combination of those two. However it is ongoing puzzle to unwind the perfect combination those two sources of finances. One the most frequently/commonly approach to attain a perfect balance between firm finances is the cost of capital of the firms.

The concept of the cost of capital is a cornerstone in finance, central to both corporate finance decisions and the evaluation of investment opportunities(Battisti et al., 2020). It reflects the opportunity cost of using capital in one investment over another, thus playing a critical role in determining whether a project or an investment will create or destroy value(Gormsen & Huber, 2024). The cost of capital is the combination of the cost which firm have to pay on its resources to finance its assets(Malinak & McLean, 2017). The cost of capital is the minimum rate of return that a company earns on its investments to satisfy its investors, and maintaining its market value(Nukala & Prasada Rao, 2021). The cost of capital is defined as the rate of return a company must earn on its investment projects to maintain its market value and attract funds. In other words, it is the compensation required by investors for the risk they undertake by investing in a firm(Lutfiani & Hidayah, 2022). The cost of capital serves as the benchmark for evaluating the desirability of investment

projects. It is used as a discount rate in calculating the Net Present Value (NPV) of projects. A project is only undertaken if its expected return exceeds the cost of capital, ensuring value creation for shareholders (Pfister et al., 2020). Moreover, the cost of capital influences firm behavior regarding financing decisions. Firms that can lower their cost of capital, either by optimizing their capital structure or by enhancing their risk profile, gain a competitive advantage through cheaper access to capital (Rjiba et al., 2021). The cost of capital is the expected return a firm needs to justify a project, basically it is associated with the information available in the market, that influence investor to invest in that specific project or not (Acheampong & Ibeji, 2024). The cost of capital include both the cost of debt capital and the cost of equity capital (Zhang et al., 2021). The cost of capital is essential for effective business planning, as it impacts capital structure decisions and investment feasibility (Rowland et al., 2020). The cost of capital is used for investment decisions, acting as the minimum return investors expect and a benchmark for project evaluation, more information always reduces the cost of capital (Johnstone, 2016). There are many factors that effects the cost of capital that factors may include or can be categorized into firm-specific elements, market conditions, geopolitical risks, and capital structure decisions (Carney et al., 2024; Sadiq et al., 2023).

In process of financial decision making, capital structure plays a vital role in a Firm to maximize the overall performance of a firm. It contains the different combination of funding used by a firm to run its operations. This mixture of securities is known as the corporate capital structure. (Naz et al., 2014). The capital structure is the mixture of various sources of securities which Firm's practices to finance its capital investment and mainly operations. The sources contain the combination of (Debt, preferred or common stocks). Firms do not use constant capital structure; each firm differently uses a capital structure in their financial decisions. Many theories have proposed the association of capital structure with firm performance; famous theories are Trade off theory (1977), Agency cost theory (1976), Modigliani and Miller Theory (1958) and Pecking order theory (1984). Managers can generate more profits, minimize cost, and risk using optimal capital structure. (Javed et al., 2014). Firms these days are using a mixture of equity and debt financing, but the key issue which firm are facing is to get the optimal propionate of equity and debt to lessen the cost and greater the benefits. As different methods of financing have a different rate of return, same different kinds of debt have a different percentage of return, investors are only interested to know the duration difference, as the risk is also dissimilar in both financing. The study is using the different methods of financing i.e. Debt and equity to check the effect on the company's financial performance by using the different determinants to measure the firm's performance of Pakistan stock exchange listed companies (Bokhari & Khan, 2013).

Firms can achieve a competitive advantage if they have a perfect capital structure. Many empirical studies and theories have conducted regardless to know the perfect structure, but no accurate mechanism found to calculate the ideal capital structure. Capital structure decision of a firm influenced by the country macro environment where it operates. A number of studies done by countries and worldwide, In Pakistan, this issue investigated by taking few sectors but the findings does not reveal any strong consensus among them. Some studies found the negative relationship whereas the further reveal the positive association (Riaz, 2015).

A mixture of hybrid securities or a mixture of debt financing and equity financing called a company's capital structure, by using various resources firm finances their assets. If the firm goes for debt financing, it should give a sum from its earned profits to settle the loan. While if the firm chooses equity, then net profit distributed between stockholder after subtracting tax or further certain amount used as a reserve to accomplish the upcoming requirements(Vernimmen et al., 2022). The firm can take debt on a high level if the company is not facing any distress but if financial distress exists in a firm then they should evade using high debt. Because the firm could face bankruptcy due to creditor demands when the said firm is incapable to pay off the interest (Khanam, Nasreen, et al., 2014)While structuring the capital structure decision the appropriate attention is necessary. Organizations have a number of choices but to pick which choice is best for a firm is the main interest of a firm. In the area of finance, certain scenario requires a deep insight. In capital structure, debt high ratio could be effective because it reduces the cost of the firm as compared to equity. The intensity of everything is bad so it has also some restrictions to take the high ratio of debt because when firm takes a high portion of debt it creates a high level of distress to the company's leverage. Thus, Balance of the capital structure should be maintained (Muraleetharan, 2016)Firm management determines the combination of capital structure and most secured and proper funding of a firm according to its business nature(Saputra et al., 2015)Capital structure has significant impact on firm's financial performance or profitability, many researches has conducted to check the relationship and influence of capital structure on firm financial performance but researcher has given contrast results.

Previous researches have illustrate positive while some have negative relationship of capital structure on firm financial performance. The food and personal care product sector have a significant contribution and role in Pakistan's economy. It is important to know the relation and impact of capital structure on food and personal care product sector's firm performance. Based on above-mentioned reasons the researcher conduct study to examine the relationship and influence of capital structure on the financial performance of food and personal care product sector listed companies in PSX. Previously mentioned food sector have essential impact on growth of country. The major reason of research underlying phenomena is to study the association of the capital structure on financial

performance of food and personal care product sector in Pakistan. Further, the researcher will check the influence of capital structure (LDTA, SDTA, TIE and ICR) on the firm financial performance (ROA, ROE, NPM and EPS) in the food and personal care product industries of “Pakistan stock exchange” registered companies. “What is the association between capital structure (CS) and financial performance (FP) of the firm?”.

“What is the Impact of CS on FP of Food and personal care product in Pakistan? Pakistan is an emerging nation and has a small marketplace of debt thus; Firms depend on the debt of commercial and noncommercial banks in Pakistan to finance its operations and investments. It is dangerous to obtain debt finance for the firm because of ambiguous profits and therefore these Firms are reducing their borrowing on the other way equity’s market are limited in our country and nowadays they are facing high fluctuation in trading (Kausar et al., 2014)It is necessary for the managers know the impact of capital structure on profitability. However, this study will be beneficial for managers to make good use of the capital structure mechanisms to increase firms’ performance.

Literature Review

Capital Structure’s Theoretical Background

The theory proposed by Modigliani and Miller that firm practices of financing is not the appropriate way to the significance of organizations(Brusov et al., 2022). In this model, some condition like, no asymmetry information, no taxes, no agency cost, and no bankruptcy were assumed. Environment complexity was not such high in the previous 54 years ago as compared to today era(Durana et al., 2021). Currently, it is crucial to define the connection of capital structure and firm financial performance due to complex conditions. Several Studies has done to find out the connection between company’s capital structure and its financial performance. Measuring the firm capital structure and financial performance, many variables have taken by researchers (Khanam, Nasreen, et al., 2014).

Modigliani and Miller introduced the capital structure theory named “Capital structure irrelevance” that has provided certain assumptions which includes no transaction cost, no taxes, perfect capital markets, homogenous expectations. The theory states the association between the irrelevant cost of capital and capital structure, which declare that the cost of capital does not effect by the increase of debt. Consequently, Cost of capital and firm significance value completely effect by expected future benefits of investors. (Nassar, 2016)Trade-off theory states that companies want to increase profit by taking advantage from tax shield of debt. It is necessary for the firms to motivate its financing in debt to gain benefits from the tax shield of debt. This theory tried to define the most beneficial capital structure in the context of balancing act between the debt benefits which is tax shield of debt as a large interest payment out-turn in lower taxable income subsequently lower taxes but the drawback of debts financing which results in bankruptcy expenses can be

augmented (J. Glover & Hambusch, 2014)Myers has developed the pecking order theory in 1984 and stated that the selection of financing is based on asymmetric information.(Frank & Goyal, 2003), described the conclusion derived from pecking order theory, Financing of the firm investment depend on the hierarchy, which firms preferred. It includes issuance of new shares when the firm allocates new shares it may create harm for the allocated shareholders through the transfer of the value of shares from old to new shareholders. Therefore, managers in such situations prefer internal sources to finance (i.e. retained earnings). If the internal sources are not available and insufficient to meet the desired outcomes, than managers pursue toward external sources and use debt financing. Therefore, pecking order theory stated that firms that generate high profit and maintained their reserves by generating high retained earnings generally use less debt financing in their capital structure, those companies are capable to allocate their asset opportunities with their reserved earnings (RE). On the other hand, firms that do not maintain their reserves and do not retain their earnings, these firms fail to avail the benefit from its reserves (Dichev et al., 2013).

Free cash flow theory also called the agency theory represented by Jensen (1986). The model includes the connection of the financiers the one who assign control and the managers (agents) the individual who have to accomplish the responsibilities delegated to them. In (1986) Jensen notices that separation of management and ownership leads to a conflict of interest within the shareholders and the managers. Further, leverage can also perform as a monitoring instrument. The higher leverage volume compels management to pay out the extra free cash flows in interest expenses and finance in gainful projects to facilitate the debt.(Kamau & Kariuki, 2014). The research to explore the influence of a firm's structure of its capital on the performance of manufacturing companies in Ethiopia from the perspective of irrelevance theory of Modigliani and Miller (1958)(Abdi & Bayu, 2021). The sample of study consists of 16 manufacturing firms with 81 observations out of whole population of 54 companies in this sector. "Return-on-asset (ROA) and return-on-Equity (ROE) taken as dependent variables (DV) while total debt ratio, long term debt ratio, short term debt ratio, debt equity ratio and size of a firm used as an independent variable (IV)". Descriptive statistics and regression analysis used to analyze the data. The study concludes that the financial performance of selected firms has a significantly positive connection with short term debts of companies while has a significantly negative affiliation with long term debts of manufacturing firms. (Cindiyasari et al., 2022).

The research investigate the influence of capital structure decision on the firm profitability of PSX registered organizations in food industries of Pakistan from the perspective of irrelevance theory of Modigliani and Miller (1958)(Khanam, Pirzada, et al., 2014). The sample of study includes all 49 companies listed at "Pakistan stocks exchange" from the period of 2007-12. NPM, ROA, EPS, ROE and

ROCE was taken as the dependent variables (DV) of study while debt to assets, total debt to assets, short term debt to assets and debt-to-equity ratio was taken as independent variables (IV) of study. They covered the period of 5 years i.e. 2007-12 in their study. Descriptive statistics, The Pearson's correlation matrix, and regression analysis applied to analyze the data. The study found the capital structure of companies has negative effects on the financial performance of the selected sample in Pakistan.

The study examined the effect of capital structure decision on the earning of organizations in the corporate sector of Pakistan (Tauseef & Lohano, 2017). They have taken a sample of 179 companies from the non financial corporate sector of Pakistan. Return on equity was taken as the independent variable (IV) while debt to asset ratio and debt ratio was manipulated as dependent variables (DV). The research has covered the period of fifteen (15) years from 2000-2015. Descriptive statistics and multiple regression were used to analyze the panel data. The study found that the least squares fixed effects estimator reveals that the debt ratio have a positive significant effect on return-on-equity up to an optimal debt level of 40 percent beyond which it has a significant negative effect.

The research was conducted to explore the connection between firm structure of capital and its financial performance, researcher took 652 companies that are listed in Pakistan Stock Exchange (PSX) having model of 63 non financial firms of Pakistan registered with Pakistan Stock Exchange (PSX) taking 5 years' financial data from 2007-2011 from the website State Bank of Pakistan. Results revealed that Firm's Capital structure indicated a positive influence on its financial performance determines by Return on Asset ROA as taking a dependent variable. whereas Return on equity (ROE) showed a positive impact on debt to over assets-ratio (DTA) using as a dependent variable but long term debts to assets ratio (LDA) and equity to assets ratio (EQA) shown the adverse result on the dependent variable. Return on Sale ROS used as the dependent variable (DV). DTA and EQA indicated a negative impact to ROS however; LDA indicated positive impact over ROS. The study demonstrated that corporate capital structure influences firm performance (Javed et al., 2014).

The research conducted to find further investigation based on two level of analysis. The first purpose of the study is to check weather financial crises influences the choice of capital structure of different firms (Hassan & Samour, 2015). Secondly, the study further explored that how the choice of capital structure decision in a firm influences its financial performance (Hassan & Samour, 2015). The study took the period before 2004-2007 and during 2008-2011 of the financial crises. The sample is based on 1572 firms of US. Researcher uses the two-panel data regression and short and long term debt as representative of capital structure (CS). The study revealed the statically supported association in consumer services, Technology, and health care industry, Moreover, the research has described that the relation of firm

performance and capital structure is firm-specific and financial crisis also matter in several of industries.

The decision to choose a capital structure for business remains a crucial factor, (Abor, 2005) investigated the listed firm's capital structure and its profitability relationship of the Ghana Stock Exchange. The research has revealed the positive significant connection between Short-term-debt to the total capital of the firm and return-on-equity. Ghanaian firms most important source of financing is based on short term debt that represents 85% of its debt financing, moreover, effects have suggested, the firms which are using short term-debt to funds their operations are more profitable. However, with respect to the connection of total-debt (TD) and the profitability of a firm, the research has indicated a negative connection of Long-term-debt to total-capital (LTDT) and return-on-equity. The significantly positive association of debt to totalcapital and return-on-equity has found by regression.

(Githire & Muturi, 2015)has researched listed firms from Nairobi Securities Exchange (NSE) to inspect the influence of capital structure decision on firm financial performance. Using the secondary data including published yearly reports articles, magazines and financial statement from 2008-2013. They have used multiple regression analysis techniques to test the hypothesis. The result has revealed the significant and positive impact of long term debt and equity on firms' financial performance, further, the outcome also showed the significant and negative effect of short term debt on firm's financial performance. Financing through equity has a positive impact due to shareholder interest, which have a direct control and they make sure that resources apportioned should properly be utilized.

The topic of capital structure remains subjective matter in the financial world, Firms always wants favorable outcomes that enhance the overall profitability of the organization, and optimal capital structure is always an important question for organizations. InunJariya1 (2015) Attempted the research to inspect the influence of the corporate capital structure of beverage and food sector on profitability in Sri Lanka during 2007-2012, Research conducted on companies of Food and Beverage Sectors registered in Colombo Stock Exchange (CSE). The investigation has revealed a significant negative effect on return-on-equity and return-capital-employed .which are representative of profitability by taking both proxies of capital structure, debt-to-equity and debt-to t-asset. However, the Food and Beverage Sectors companies' size found a positive effect on profitability. Employed size identified by the Natural logarithm of sales as a control variable.

(Agyeman et al., 2015)investigated the influence of a capital structure of a firm on its financial performance of Ghana's manufacturing industry by taking 8 years' data from 2005 to 2012. Thirteen (13) firms were chosen from the Ghana Stock Exchange. While the two (2) firms were selected from the private sector using some particular firms as the case study. Data gathered from audited financial statements extracted from the Ghana Stock Exchange website and from separate

companies' websites. The researcher used Return on equity (ROE) to denote the profitability, whereas equity, short-term-debt and long-term-debt as a proxy of capital structure. Data were analyzed by both effects Fixed and random by using Panel data regression. The result concluded that Short term debt (STD) found a significantly negative impact on profitability because increase 1 unit of short term debt decreases the profitability close by 0.010%. whereas Long term debt LTD was negatively associated with profitability and found insignificant effect because increase 1 unit of long term debt decreases the profitability by 0.001%. However, Equity EQ was positively correlated to profitability and has a significant impact on profitability because 0.019% profitability increases by the increase of 1 unit in equity. The study suggested that equity financing such as retained earnings should use to manufacturing firms in Ghana to grow their business despite debt financing.

(Pratheepkanth, 2011)discussed that capital structure is primarily an important element for an organization decisional process. The study formulated and recognized the association between corporate capital structure and firm profitability. The result specifies the negative connection between the firm capital structure and performance of the firm. Moreover, the study indicated that firms are heavily reliant on debt and abide the interest expenses as well. (Fosberg & Ghosh, 2006)conducted research on 1266 firms from two stock exchange, 1022 firms from 'New York Stock Exchange' and 244 firms from 'America Stock Exchange', examined that the association between financial performance of a firm and total debt is found negative. (Juul Andersen, 2009) studied by taking 1323 firms from different and revealed the significant association established between firm's financial performance and total-debt to total-asset.

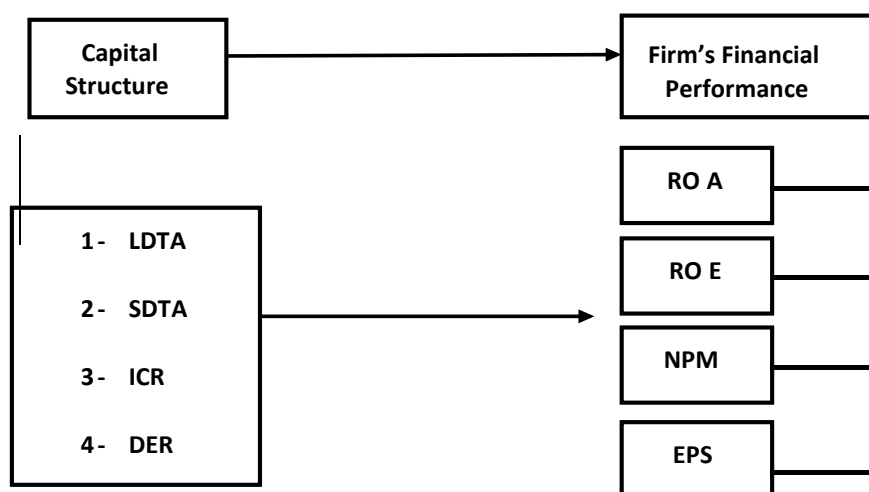
Several investigation and studies have done to check the connection between debt-to-asset and firm's financial performance.(Huang, 2006) Conducted research from 1994 to 2003 on 1200 Chinese firms and revealed that financial performance and leverage has a negative relationship. As stated by (El-Sayed Ebaid, 2009)influence of organization capital structure on the performance of firms is significantly negative, Research conducted during 1997-2005 on 64 Egyptian firms. The outcomes recommended that the total-debt to total-asset and financial performance have a significant negative relationship.

(Dahiru et al., 2016)investigated on Nigeria registered manufacturing firms to recognize the influence of organization's capital structure on firm financial performance. The research used generalized least square multiple regression method by using secondary data from the annual reports and generated four hypotheses. (31) Firm took during 2009-2014. Results concluded that debt-to-equity has not found a significant impact on the firm's financial performance. Further, it indicated that Nigerian listed firm's total-debt, long-term-debt and short-term-debt has revealed a significant effect on the firm performance.

(Kamau & Kariuki, 2014) investigated the factors that influence a capital structure in the private sector of Kenya. Descriptive survey study design adapted to conduct the research. The objective of the research was to examine the effect of size, profitability, asset tangibility, and growth opportunities of firms on the capital structure. Population of this research based on 121 Food and Beverage private manufacturing firms. By using a stratified random sampling technique, 36 firms nominated for the survey. Questionnaires used as a Primary data and filled up to the CFOs. Multiple regression analysis applied to explore the affiliation between the independent variables (IV) and the dependent variable (DV).

Findings concluded that firm size negatively impacts the capital structure, growth opportunities positively impact capital structure; Further study revealed the insignificant negative association between firm financial performance (profitability) and the capital structure, whereas, the insignificant positive relationship found between asset tangibility and the capital structure of private companies in Kenya. (Ahmad & Mohamad Ali, 2017) focused on the pecking order theory application of food and beverages sector of Malaysia and Thailand manufacturing industry. Firms generally refer to the pecking order while deciding their optimal capital structure. The study covers 38 companies of Thailand and 37 companies in Malaysia during the period from 2004 to 2013 of 10 years (10) listed in the Bursa Malaysia Stock Exchange and Thailand respectively. The study used the “random effect model” for Malaysian Firms and the “fixed effect model” for Thailand Firms. Growth opportunity, asset tangibility, Profitability, firm size, and liquidity level used as explanatory variables in determining firms leverage. In both countries Malaysia and Thailand findings indications of the pecking order theory application. Excluding for growth opportunity and asset tangibility, results for Malaysia and Thailand are comparatively similar.

Theoretical Framework:



Source: Theoretical framework (Khanam, Nasreen, et al., 2014)

Table 2.3.1 Variable Identification

Dependent Variable	Independent Variable
Financial Performance	Capital Structure
Net Profit Margin (NPM)	Debt-to-Equity Ratio (DER)
Earnings per Share (EPS)	Long-term debt-to-total assets (LDTA)
Return-On-Asset (ROA)	Interest Coverage Ratio (ICR)
Return-on-Equity (ROE)	Short-term debt-to-total assets (SDTA)

Source: Theoretical framework (Khanam, Nasreen, et al., 2014)

For computing financial performance four (4) variables are used which are, ROE, EPS, ROA, NPM. Whereas, LDTA, ICR, SDTA and DER uses to measure the capital structure.

Where,

ROA= Return-On-Asset

ROE= Return-on-Equity

EPS= Earnings per Share

NPM= Net Profit Margin

DER= Debt-to-Equity Ratio

LDTA= Long-term debt-to-total assets

ICR= Interest Coverage Ratio

SDTA= Short-term debt-to-total assets

Table 2.3.2 Assessment of Dependent and independent variables

Dependent variables	Measurements	Independent variables	Measurements
ROA	$\frac{\text{Net income}}{\text{Avg. total assets}} * 100$	D/E	$\frac{\text{Total liabilities}}{\text{Shareholder's equity}}$
ROE	$\frac{\text{Net income}}{\text{Avg. shareholder's equity}} * 100$	LDTA	$\frac{\text{Long term debt}}{\text{Total assets}} * 100$
NPM	$\frac{\text{Net income}}{\text{Net sales}} * 100$	ICR	$\frac{\text{EBIT}}{\text{Interest Expense}}$
EPS	$\frac{\text{Net income} - \text{preferred dividend}}{\text{Number of common shares}}$	SDTA	$\frac{\text{Short term debt}}{\text{Total assets}} * 100$

Source: Theoretical framework (Khanam, Nasreen, and Pirzada, 2014)

Hypothesis

H1- “There is significant relationship exist between capital structure and firm’s financial performances”.

H2- “Capital structure has a significant impact on Net-profit-margin (NPM) of a firm”.

H3- “Capital structure has a significant impact on Return-On-Equity (ROE) of a firm”.

H4- “Capital structure has a significant impact on Return-On-Assets (ROA) of a firm”.

H5- “Capital structure has a significant impact on Earning per Share (EPS) of a firm”.

Research Methodology

In research different methods and approaches used by the researcher for collection and analysis of data(Dawadi et al., 2021). The research methodology part is essential because this section of research methodology describes about the facts, that contains the data collection techniques, research method; sample size, ethical consideration and statistical tools to analyze the collected data. The main objective of the research is to investigate the relationship between capital structure and firm financial performance as well as the impact of capital structure on firm’s financial performance. For that, existing research uses secondary data during the period (2014-2023). Commonly two types of approach use worldwide for the purpose of research the quantitative and qualitative method of research. This research project will focus on quantitative data collection and utilize secondary data collection for the study.

The study is objective in nature that can apply to a large population. In research, different research design used by researchers depend upon the nature of studies’ basic problem or hypothesis. The researcher will use the explanatory research design as the researcher is focusing to find the cause and relationship of the underlying phenomena. Research purpose is to recognize the connection between capital structure and firm’s financial performance along with capital structure influence on the firm financial performance of food and personal care sector in Pakistan. There is two ways for data, primary sources such as survey and questionnaires while secondary sources mean the data, which is already available such as websites, annual reports. In this study, the researcher used the facts that exit in the form of secondary sources. The study is based on the secondary source of data collection and data will be collected from the annual reports, “State Bank of Pakistan website” and from “individual company website”. Out of 23 registered food and personal care product companies in Pakistan stock exchange before known as Karachi Stock Exchange (KSE) 10 companies selected according to its high market share in Pakistan.

The data will be collected for 10 years form 2014-2023. To compute the capital structure, data will be gathered from the Balance Sheets and to compute the financial performance data will be gathered form Income statement and Balance sheets both. Statistical techniques use to analyze the data and test the hypothesis of the research. Numerous statistical tools used by the researcher according to their

research problem to evaluate and test the hypothesis. In this study, the researcher will use two statistical techniques to analyze the data and test the hypothesis: Pearson Correlation Analysis and Multiple Regression. Pearson correlation technique uses to find the relation of variables and the intensity of the relationship whereas multiple regression uses to check the cause-and-effect relationships of the variables. Further, researcher uses the SPSS to reduce the chances of error, reliability and accuracy of estimated co-efficient by using regression diagnostic test; Multi-collinearity, Co-linearity, Normality and Homogeneity of variances. As mentioned above, the data is relied on a secondary source. The matter of ethical consideration can arise if there are more risks of data manipulation in the original data files without any approval of ethics for this purpose ethical support is required. However, the current research project is based on the financial data of food and personal care product sector listed in “Pakistan stock Exchange” (PSX). Which is easily available in annual reports, State bank websites and in the individual firm website of companies, thus there is no issue of conflicts of interest and data manipulation.

Findings and Results

Outcomes of descriptive statistics shown in table 4.1 Four Dependent variables uses to find the financial performance in food and personal care product sector that are (ROA, ROE, and NPM and EPS). Results indicates the mean value ROA is 16.9%. it indicate that by utilizing firm’s assets these firms in food and personal care product sector are making 16.9% return. The mean value of ROE is 46.3%, which depict that average firms are generating a good return in food and personal care product sector to its stockholders. EPS and NPM are also showing the sufficient results, EPS is Rs 69.16, which means on an average food sector is having Rs 69.16 earnings per share and 9.12 % is generating on net sales.

Table 4.1: Descriptive Statistics

Variables	ROA	ROE	NPM	EPS	DER	LDTA	SDTA	ICR
Minimum	-2.07	-5.93	-0.72	-7.76	0.14	0	8.9	0.0
Maximum	67.59	280.03	24.32	475.54	21.49	42.89	90.33	1607.81
Mean	16.92	46.34	9.12	69.16	1.86	11.84	40.97	77.54
Std. Dev	14.95	55.22	5.99	101.49	2.59	11.79	18.15	212.38
Observations	97	97	97	97	97	97	97	97

Four Independent variables taken to measure the capital structure in food and personal care product sector, which are DER, LDTA, and SDTA and ICR. Results indicates the mean value DER is 1.86, which depict that amount of debt is 1.86 while comparing equity and debt level vary between firms. The results represent that in food, personal care product sector firms are financial leveraged, and their major portion of financing is debt and firms. LDTA and SDTA is 11.84% and 40.97% it discloses that total assets are financed averagely 11.84% with long-term financing and 40.97 % from short-term financing. It shows that in food and personal care

product sector average 52.81% capital is finance through total debt. The mean of ICR is 77.543%, which specifies that firms are 77 times secured to pay their financial cost.

Correlation Analysis

To measure the association between various variables, correlation uses as a measurement instrument, which explore the relationship among different variable and check the strength of the variables. It depict, the relationship between variables are positive or negative and strong or weak. Over the period 2014-2023, the results of correlation for firms in food sector shown in table 4.2.

If the value of correlation is 0.1 - 0.3 it mean there is weak positive correlation between the variables while if the value of correlation is 0.3 – 0.5 it mean the intensity of relationship is medium positive amount the variables and if the value of correlation is 0.5 – 0.8 shows the strong positive association among the variables (Gogtay & Thatte, 2017).

Note: *, **, * indicate significant 1%, 5%, 10% respectively ((Ullah et al., 2017)**

Table 4.2. Pearson's correlation matrix

	ROA	ROE	NPM	EPS	DER	LDTA	SDTA	ICR
ROA	1							
ROE	.848**	1						
NPM	.712**	.472**	1					
EPS	.537**	.427**	.505**	1				
DER	0.133	.441**	-0.046	.207*	1			
LDTA	-.234*	-0.004	-.310**	-0.073	.283**	1		
SDTA	.226*	.526**	-.266**	-0.028	.575**	-0.035	1	
ICR	.278**	0.172	.591**	.210*	-0.068	-.211*	-.212*	1

****.**Correlation is significant at the 0.01 level (2-tailed).

*****.Correlation is significant at the 0.05 level (2-tailed).

A significant correlation exists between (SDTA, LDTA, ICR, and DER)/Capital structure and (ROA, ROE, and EPS and NPM)/ financial performance.

While taking ROA as a proxy of financial performance of a firm and (SDTA, LDTA, ICR and DER) as a representative of capital structure: it shown that a negative but significant relationship exist between LDTA and ROA (-.234*) while the intensity of the association among these two variable is weak. An insignificant but positive relationship exist between DER and ROA (0.133). A positive and significant relationship disclose between SDTA and ROA (.226*) while the intensity of the association among these two variable is weak. A positive and significant connection disclose between ICR and ROA (.278**) whereas the intensity of the association among these two variable is weak.

While taking ROE as a proxy of financial performance of a firm and (SDTA, LDTA, ICR and DER) as a representative of capital structure: the results demonstrate

the significant, positive and strong relationship between SDTA and ROE (.526**). Insignificant and negative relationship found between LDTA and ROE (-0.004). DER and ROE establish the significant, negative and moderate relationship with each other (.441**). A positive and significant affiliation exist between ICR and ROE (0.172) however the intensity of the association among these two variable is weak.

While taking EPS as a proxy of financial performance of a firm and (SDTA, LDTA, ICR and DER) as a representative of capital structure: association between LDTA, SDTA and EPS is (-0.073), (-0.028) which illustrate insignificant and negative relationship. Significant, positive and Weak relationship establish between DER and EPS (.207*). A positive and significant bond exist between ICR and EPS (.210*) while the intensity of the association among these two variable is weak.

While taking NPM as a proxy of financial performance of a firm and (SDTA, LDTA, ICR and DER) as a representative of capital structure: the outcomes denote that a significant, negative and moderate association (-.499) exist between DER and NPM, a significant but negative relationship found between SDTA and LDTA and NPM (.266**) and (-.310**). The NPM has strong positive and significant relationship (.591**) with ICR.

The outcomes of correlation analysis illustrate that on an average relationship between Capital structure and financial performance in food sector over years 2014-2023 found significant.

Regression Analysis

Regression outcome used to check the impact of independent variable (DR) and dependent variables (Nassar, 2016). For accomplishing main purpose “Impact of Capital Structure on Financial performance of firms of food sector” registered at KSE duration of 2014-2023.

Table	No.	4.3	Model Summary ^b		
Model.	R.	R Square.	Adjusted Square.	R Std. Error of the Estimate.	
ROA	.434a	0.188	0.153	13.76175	
ROE	.619a	0.384	0.357	44.2865	
NPM	.669a	0.447	0.423	4.55481	
EPS	.363a	0.132	0.094	96.61023	

a. Predictors: (Constant), ICR, DER, LDTA, SDTA

The results in above table shows the regression model. Illustrating R that shows the relationship of each dependent variable on independent variables. The value of R=0.434 shows that, independent variables (ICR, DER, LTDA and STDA) has statistically significant positive relationship with ROA. The value of R=0.619 show that, independent variables (ICR, DER, LTDA and STDA) has statistically significant

and strong positive relationship with ROE. Further, the value of $R=0.669$ show that, the independent variables (ICR, DER, LTDA and STDA) has statistically significant and strong positive relationship with NPM. Furthermore, the value of $R=0.363$ shows that, the independent variables (ICR, DER, LTDA and STDA) has statistically significant positive relationship with EPS.

The results of R square shows the impact of IV on the DV of the model. The R square did not exclude the impact of linearity and multi co-linearity of the model. The value of R square = 0.188 shows that, the independent variables (ICR, DER, LTDA and STDA) has 18.8% impact on dependent variable ROA. . The value of R square = 0.384 shows that, 38.4% variation in dependent variable (ROE) due to the independent variable of the model. Further, The value of R square = 0.447 shows that, the independent variables (ICR, DER, LTDA and STDA) has impact of 44.7% on determinant of profitability i.e NPM. Furthermore, the value of R square = 0.132 shows that, 13.2% variation in dependent variable (EPS) due to the independent variable of the model.

The results of Adjusted R square shows the influence of IV on the DV of the model. The Adjusted R square exclude the impact of linearity and multi co-linearity of the model. The value of R square = 0.153 shows that, the independent variables (ICR, DER, LTDA and STDA) has 15.3% impact on dependent variable ROA. . The value of R square = 0.357 shows that, 35.7% variation in dependent variable (ROE) due to the independent variable of the model. Further, The value of R square = 0.423 shows that, the independent variables (ICR, DER, LTDA and STDA) or capital structure has impact of 42.3% on determinant of profitability i.e NPM it means remaining 57.7% variability occur in NPM due to other factors . Furthermore, the value of R square = 0.094 shows that, 9.4% variation in dependent variable (EPS) due to the independent variable of the model.

The standard error of the estimate denotes the average distance that the observed values fall from the regression line. In short, it expresses, by using, the units of the response on an average how wrong the regression model. Observations are nearer to the fitted line when Smaller values taken. The value of standard error of estimate (13.76, 44.28, 4.55 and 96.61) shows that, on an average distance from the fitted line of the data points is about 13.76%, 44.28%, 4.55% and 96.61% of the profitability of firms. Adjusted R Square is very near to R square of all above variable, this means no sample error exist.

Table No. 4.4: ANOVA^a

	Model.	Sum of Squares.	df.	Mean Square.	F.	Sig.
ROA	Regression	4041.652	4	1010.413	5.335	.001 ^b
	Residual	17423.5	92	189.386		
	Total	21465.15	96			

ROE	Regression	112343.5	4	28085.88	14.32	.000 ^b
	Residual	180439.1	92	1961.294		
	Total	292782.6	96			
NPM	Regression	1544.711	4	386.178	18.614	.000 ^b
	Residual	1908.658	92	20.746		
	Total	3453.369	96			
EPS	Regression	130199.9	4	32549.98	3.487	.011 ^b
	Residual	858685.3	92	9333.536		
	Total	988885.2	96			

a. Predictors: (Constant), ICR, DER, LDTA, SDTA

In regression, the ANVOA check the overall validity and significance of model and tell us the fitness of the overall regression model to predict the dependent variable through independent variable. A sig values are required to less than .05 i-e. $p > 0.05$. ((Sow, 2014).

In above table sig values (0.001, 0.000, 0.000 and 0.01) of shows the level of significance of the model. NPM Sig value is 0.001 it means capital structure has a significant effect on NPM.

The coefficient table represent the slope of the function and it sign shows the direction of the relationship and scale shows the strength of the relationship. Ahmad and Mohsin (2016). Unstandardized coefficients show the amount by which dependent variable change due to change in independent variables while standardized coefficient represent the measure the units of standard deviation. The ratio between the coefficient and its standard measures by the (t-value). The (p-value) is a probability that processes the proof in contradiction of the null hypothesis. (Marasini et al., 2016).

Table No. 4.5: Coefficients^a

Model.	Unstandardized Coefficients.		Standardized Coefficients.	t.	Sig.	Collinearity Statistics.	
	B	Std. Error				Tolerance	VIF
(Constant)	9.062	4.551		1.991	0.049		
DER	0.365	0.723	0.063	0.505	0.615	0.562	1.78
LDTA	-0.229	0.133	-0.181	-1.722	0.089	0.799	1.251

	SDTA	0.202	0.102	0.246	1.99	0.05	0.579	1.726
	ICR	0.021	0.007	0.296	2.958	0.004	0.882	1.133
	(Constant)	-28.832	14.646		-1.969	0.052		
ROE	DER	3.683	2.326	0.173	1.584	0.117	0.562	1.78
	LDTA	0.12	0.429	0.026	0.28	0.78	0.799	1.251
	SDTA	1.488	0.327	0.489	4.551	0	0.579	1.726
	ICR	0.076	0.023	0.292	3.356	0.001	0.882	1.133
	(Constant)	13.09	1.506		8.69	0		
NP M	DER	0.587	0.239	0.254	2.454	0.016	0.562	1.78
	LDTA	-0.149	0.044	-0.292	-3.371	0.001	0.799	1.251
	SDTA	-0.106	0.034	-0.321	-3.155	0.002	0.579	1.726
	ICR	0.014	0.002	0.479	5.8	0	0.882	1.133
	(Constant)	102.69	31.951		3.214	0.002		
EPS	DER	15.345	5.074	0.392	3.024	0.003	0.562	1.78
	LDTA	-1.371	0.935	-0.159	-1.465	0.146	0.799	1.251
	SDTA	-1.263	0.713	-0.226	-1.77	0.08	0.579	1.726
	ICR	0.074	0.049	0.156	1.505	0.136	0.882	1.133

In above table B coefficient in Regression define the positive or negative impact and P value shows the significant and insignificant impact of capital structure measures on the Dependent variables. SDTA, LDTA, ICR, and DER beta coefficient is -0.106, 0.12, 0.021, and 3.683, while p values are 0.05, 0.089, 0.004 and 0.615, which shows that capital structure (SDTA and ICR) has significant positive impact on ROA the proxy of profitability, capital structure (LDTA) has negative and insignificant effect on ROA. Whereas, capital structure (DER) has positive and insignificant influence on ROA of firms in food and personal care product sector.

SDTA, LDTA, ICR, and DER beta coefficient is 0.202, -0.229, 0.021, and 0.365, and p values are 0, 0.78, 0.00, 0.117 which shows that DER and LDTA has insignificant positive impact while SDTA and ICR has significant positive impact on the ROE of firms in food sector.

SDTA, LDTA, ICR, and DER is beta coefficient -0.106, -0.149, 0.014, and 0.587 and p value is 0.002, 0.001, 0, 0.016 which indicate that SDTA and LDTA has negative and significant impact further ICR and DER has significant positive influence on the Net profit margin of firms in food sector.

SDTA, LDTA, ICR, and DER is beta coefficient -1.263, -1.371, 0.074, and 15.345 and p value is 0.08, 0.146, 0.136 and 0.003 that shows SDTA and LDTA has insignificant negative, ICR has insignificant positive impact and DER has significant positive effect on the EPS of firms in food and personal care product sector.

Testing of Hypothesis

H1: “There is significant relationship exist between capital structure and firm’s financial performances”.

Taking dependent variable ROA the value R= .226*, -.234*, .278**, 0.133 of capital structure (SDTA, LDTA, ICR, DER) which depict that SDTA, LDTA and ICR has significant impact on ROA and DER has insignificant. Taking dependent variable ROE The value R= .526**, -0.004, 0.172, .441** of capital structure (SDTA, LDTA, ICR, DER) which depict that SDTA, ICR and DER has significant impact on ROE and LDTA has insignificant. Taking dependent variable NPM the value R= -.266**, .310**, .591**, -0.046 of capital structure (SDTA, LDTA, ICR, DER) which depict that all independent variables have significant impact on NPM and LDTA has insignificant. Taking dependent variable EPS the value R= -0.028, -0.073, .210*, .207* of capital structure (SDTA, LDTA, ICR, DER) which depict that two dependent variables (SDTA and LDTA) have insignificant impact and two dependent variables (ICR and DER) have insignificant on NPM Based on the value of R the hypothesis is overall accepted.

Table 4.6: Summary of Hypothesis Testing

S.No.	Hypothesis Research	DV	IV	R	Empirical Conclusion
ROA					
		SDTA		.226*	significant Accepted
		LDTA		-.234*	significant Accepted
		ICR		.278**	significant Accepted
		DER		0.133	insignificant Reject
ROE					
H1	“There is significant relationship exist between capital structure and firms financial performance”.	SDTA		.526**	significant Accepted
		LDTA		-0.004	insignificant Reject
		ICR		0.172	significant Accepted
		DER		.441**	significant Accepted
NPM					

SDTA	-.266**	significant	Accepted
LDTA	-.310**	significant	Accepted
ICR	.591**	significant	Accepted
DER	-0.046	significant	Accepted
EPS			
SDTA	-0.028	insignificant	Reject
LDTA	-0.073	insignificant	Reject
ICR	.210*	significant	Accepted
DER	.207*	significant	Accepted

Table 4.7: Summary of Hypothesis Testing

S.N o.	Hypothesis of Research	P Value	Empirical Conclusion
H2	“Capital structure has a significant impact on Netprofit-margin (NPM) of a firm”.	0.000<0.05	Accepted
H3	“Capital structure has a significant impact on ReturnOn-Equity (ROE) of a firm”.	0.001<0.05	Accepted
H4	“Capital structure has a significant impact on ReturnOn-Assets (ROA) of a firm”.	0.000<0.05	Accepted

	“Capital structure has a significant impact on Earning per Share (EPS) of a firm”.	0.000<0.05	Accepted
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H2: “Capital structure has a significant impact on Return-On-Assets (ROA) of a firm”. Value of R=0.434 show that, independent variables (ICR, DER, LTDA and STDA) has statistically significant positive relationship with ROA. The value of adjusted R square = 0.188 shows that, the independent variables (ICR, DER, LTDA and STDA) has 18.8% impact on dependent variable ROA. Value of $p=0.000$ ($p>0.05$) which is less than the 0.05. Based on these values, the hypothesis accepted.

H3-“Capital structure has a significant impact on Return-On-Equity (ROE) of a firm”. Value of R=0.619 show that, independent variables (ICR, DER, LTDA and STDA) has statistically significant and strong positive relationship with ROE. The value of R square = 0.384 shows that, 38.4% variation in dependent variable (ROE) due to the independent variable of the model. Value of $p=0.001$ ($p>0.05$) which is less than the 0.05. Based on these values, the hypothesis accepted.

H4- “Capital structure has a significant impact on Net-profit-margin (NPM) of a firm”.

The value of R=0.669 show that, the independent variables (ICR, DER, LTDA and STDA) has statistically significant and strong positive relationship with NPM. The value of R square = 0.447 shows that, the independent variables (ICR, DER, LTDA and STDA) has impact of 44.7% on determinant of profitability i.e NPM. Value of $p=0.000$ ($p>0.05$) which is less than the 0.05. Based on these values, the hypothesis accepted.

H5- “Capital structure has a significant impact on Earning per Share (EPS) of a firm”.

The value of R=0.363 shows that, the independent variables (ICR, DER, LTDA and STDA) has statistically significant positive relationship with EPS. The value of Adjusted R square = 0.132 shows that, 13.2% variation in dependent variable (EPS) due to the independent variable of the model. The $p=0.000$ ($p>0.05$) which is less than the 0.05. Because of these values, the hypothesis accepted.

Discussion, Conclusion, Future Research and Limitation, Policy Implications and Recommendation

Discussion

The investigation reveals the relationship and impact of capital structure (SDTA, LDTA, ICR and DER) on measure of firm performance (ROA, ROE, NPM and EPS), the overall result has found the significant impact whereas correlation has found significant and insignificant both .The results support the arguments of (Basit & Hassan, 2017)that, capital structure (DER) is significantly correlated with ROE and EPS they have taken the period from 2010-2014. Research has conducted by (Nassar,

2016) which concluded that significant association exist between (SDTA, LDTA) and (ROA and ROE) it further elaborated that LDTA and ROA are negatively correlated to each other. Which indicates, if firms highly rely on debt it will impact the measure of profitability (ROA and ROE). According to (Riaz, 2015) Correlation between DER and ROA is insignificant and SDTA and ROA is significantly correlated. However ICR has significant, strong and positive correlation with ROA.

Miller has presented the trade-off theory, according to miller theory, if firms make optimal level of their leverage they can earn maximum profits. While constructing choice among debt financing or equity financing, it remains hard to select optimum leverage level because there is chance of error. The results support the arguments of (Khan & Ali, 2017) that DER has significant positive impact on ROE. According to (Oyedokun et al., 2018) LDTA has insignificant effect on measure of profitability (ROA) and also the study found the negative impact of LTDA on ROA. As stated by (Riaz, 2015) ICR has significant and positive impact on ROA, SDTA has significant influence, while DER has positive but insignificant effect on ROA. According to (Khanam, Pirzada, et al., 2014) capital structure (SDTA, LDTA and DER) has significant influence on (ROA, ROE, and NPM).

Conclusion

The research attempt to discover the relationship and impact of capital structure (SDTA, LDTA, ICR and DER) on firm's financial performance (ROA, ROE, NPM and EPS) of food and personal care product, for this purpose 10 years data has taken from annual reports and state bank website (2014-2023). Data is based on 10 companies listed in PSX according to their market share. The overall results indicate that Capital structure (SDTA, LDTA and ICR) has significant relationship with ROA whereas DER has insignificant. While taking second variable ROE, the relationship between capital structures (SDTA, ICR and DER) has significant impact however, ICR has insignificant. The significant relationship found between NPM and capital structure (SDTA, LDTA, and ICR and DER). Capital structure (SDTA and LDTA) are insignificant and (ICR and DER) is insignificantly correlated. Whereas, the influence of capital structure (SDTA, LDTA, ICR and DER) on (ROA, ROE, NPM and EPS) is significant.

Future research and Limitations

The study is based on 97 observation, as Engro Foods limited found in 2011 and data has gathered from 2014-2023. Due to high market share of Engro Foods limited, it was necessary to add COVID and post covid effect on the performance of the corporation. Secondly the study has covered the period of 10 years (2014-2023) it is possible to increase the number of years will result differently. Further Addition of more independent variables i.e. Size, Growth, Asset Turn Over, Dividend pay-out could reveal the different results.

Policy Implication and Recommendations

According to investigation it has proved the Capital structure (SDTA, LDTA, ICR and DER) has significant impact on measure of firm performance (ROA, ROE, NPM and

EPS). The study suggested that in Pakistan food and personal care product sector firm uses debt financing, as high debt may cause. Because using high level of debt negatively influence the profitability of the firm in food and personal care product sector. The impact of LDTA is strong and negatively correlated to ROA and NPM. Further SDTA also have negative impact on NPM, it indicates using high level of debt will affect the ROA and NPM. Moreover the study also supports the pecking order theory which indicates, firm should use less external financing to get more profit. The firm should concern about their LDTA as it has negative impact on profitability.

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