International Journal of Business and Management Sciences **E ISSN**: 2708 – 4337 **P ISSN:** 2708 – 4329
Available online at http://www.ijbms.org
International Journal of Business and Management Sciences
Volume 05 (04), 2024
Received, 26 September, 2024, Accepted, 26 December, 2024, Online, 31 December, 2024,

The Impact of Financial Structure on Firms' Profitability: A Study of the Non-Financial Sector in Pakistan

[1]*Muhammad Zulqarnain Safdar*, [2]*Sher Zaman Khan*

Keywords:
Financial Structure, Firms' Profitability, Non-Financial Sector of Pakistan, Pakistan Stock Exchange (PSX).

ABSTRACT

This research investigates the impact of financial structure on the profitability of non-financial firms listed on the Pakistan Stock Exchange (PSX). The objectives include examining the effects of micro-level, sector-level, and macro-level financial structures on profitability. To achieve these goals, the study utilized a comprehensive methodology, analyzing secondary data from 2008 to 2023. Data sources included annual reports, the PSX database, and other reliable financial databases. The sample comprised 120 non-financial firms from six major sectors: automobile, cement, chemical, energy, sugar, and textile. Various statistical techniques were employed, including descriptive statistics to summarize data and panel data regression models (pooled OLS) to assess the impact of financial structure on profitability. Key findings revealed that short-term debt (STD) negatively impacts profitability, while retained earnings (RE) positively influence it. Shareholder equity (SE) showed a negative relationship with profitability, suggesting potential inefficiencies or higher costs associated with equity financing. The Herfindahl-Hirschman Index (HHI), measuring market concentration, did not significantly affect profitability. However, munificence (MUNIF), indicating resource availability, negatively impacted profitability, possibly due to inefficiencies in resource-rich environments. Interest rates (IR) were linked to reduced profitability due to increased borrowing costs, while inflation (INF) had a positive impact, suggesting firms could pass on increased costs to consumers.

INTRODUCTION

There has been a surge in economic crises since last decade, which has significantly affected the global markets. The impact of this financial crisis has not only has imposed increased pressure on firms domestically but also internationally. Furthermore, risk intensified as financial institutions and bank have curtailed lending to firms. This decrease in credit supply

[1] *PhD Scholar, Department of Business Administration, IBA, Gomal University, Dera Ismail Khan, KP, Pakistan zulqarnain.safdar@gmail.com (Corresponding Author)*
[2] *Assistant Professor, Department of Commerce, IBA, Gomal University, Dera Ismail Khan, KP, Pakistan shkhan_21@yahoo.com*

for investments of firms have introduced a surge in the cost of capital. These recent changes have coined a debate among researchers about the connection between a firm's performance and its capital structure. The studies of Modigliani & Miller (1958) are followed by many types of research that have argued the linkage between the financial performance of a firm and financial structure. The most important point raised in M&M's theory was debt irrelevance, which has initiated an endless debate among scholars.

Modigliani and Miller's (MM) theory undertakes an impeccable capital market, having no taxes, transaction costs, or information disproportionateness. This concept has been influential in shaping other theories/philosophies of capital structure. Many readings have explored the connection that exists concerning capital structure & firm's performance, considering various theoretical perspectives. Understanding this relationship remains a significant topic of interest in financial research worldwide.

Financing assessments consequence in financial structure whilst wretched financing assessments leads to corporate letdown (Chisti, Ali & Sangmi, 2013). The identification of optimal financial structure with the aim to maximize stakeholders' wealth has remained as important area to investigate for investors, business managers and other concerned stakeholders. Measuring the quality of any financing decision, simultaneously, is to assess how these decisions affect the performance of firms, in general, as well as on the financial performance, in particular (Gill et al., 2011).

Financial structure significantly influences firm profitability, particularly in Pakistan where financial sustainability plays a crucial mediating role. Research suggests that a well-structured financial framework can enhance performance by promoting sustainable practices and efficient resource allocation. Optimal debt-to-equity ratios can positively impact profitability by minimizing debt-related costs (Rasheed et al., 2022). Strategic investment decisions, especially in working capital management, directly affect earnings per share, emphasizing the importance of effective financial planning (Abbas et al., 2022). Financial sustainability serves as a mediator, strengthening the relationship between financial structure and profitability. Sustainable firms can gain competitive advantages, leading to improved financial performance (Mehboob & Zaidi, 2024). An ecological footprint analysis indicates that a sustainable financial structure can reduce environmental degradation, further supporting long-term profitability (Ullah et al., 2023). However, the existing literature describes the influence of firm financial structure on its performance in financial sector and only with old facets of financial structure and firm performance in their frameworks to measure the concept without inculcating new variables or facets of the same variables that's why still financial structure of firms did not

bring any fruitful influence on firm performance. Hence current study used the nascent facets along with the old ones to measure the concept under study.

LITERATURE REVIEW AND HYPOTHESIS

The micro-level financial structure of a firm significantly influences its profitability, as evidenced by various empirical studies across different sectors. The connection between structure of capital and profitability is intricate, often revealing negative correlations, particularly with high debt ratios. Studies indicate that higher debt ratios, short-term and long-term debt both adversely affect profitability measures such as assets' return (ROA) and equity' return (ROE) respectively (Widigdya et al., 2024; Prasad et al., 2024; Mistri & Chakrabarti, 2022). In the pharmaceutical sector, a significant negative relationship was found between total debt ratios and profitability indicators (Prasad et al., 2024). Similarly, in Vietnam's construction sector, increased debt ratios were linked to reduced profitability (Nguyen & Nguyen, 2020). The efficiency of asset utilization diminishes with higher Debt to Equity Ratios (DER), impacting overall firm performance (Widigdya et al., 2024). While high debt may reduce profitability, it can also lead to increased investor optimism regarding future earnings, as seen in the coal sector (Widigdya et al., 2024). Despite the prevailing evidence of a negative relationship between capital structure and profitability, some studies suggest that a balanced financial structure can enhance firm value and operational efficiency, indicating that the impact may vary based on industry context and specific financial strategies employed.

The micro-level financial structure of a firm significantly influences its profitability, as evidenced by various studies examining capital structure and financial performance. The relationship between different financing sources and firm profitability reveals that high debt levels can lead to lower returns, while equity financing tends to enhance performance. Firms with high debt-to-equity ratios often experience reduced profitability and productivity due to increased financial risks (Mallick & Yang, 2011). In emerging markets, lower leverage levels correlate with better performance, as firms face less financial risk (Mallick & Yang, 2011). Retained earnings and equity financing are associated with improved firm performance, contrasting with the negative effects of bank loans (Mallick & Yang, 2011). The positive relationship between capital structure and performance is also supported by findings from German firms, where debt financing benefits from tax shields (Abdullah & Tursoy, 2021). Financial market imperfections significantly affect the profitability of small and medium-sized enterprises (SMEs), indicating that access to capital can influence performance outcomes (Apergis, 2020). While the prevailing view emphasizes the detrimental effects of high debt on profitability, some studies suggest that strategic debt management can yield benefits,

particularly in specific contexts or industries. This complexity highlights the need for firms to carefully consider their financial structures to optimize performance.

The micro-level financial structure of firms in Pakistan significantly influences their profitability, primarily through capital structure and liquidity conditions. Research indicates that the composition of debt and equity can either enhance or hinder profitability, depending on how well firms manage their financial resources. A high Debt to Equity Ratio (DER) is often associated with lower profitability, as excessive debt can lead to increased financial risk and costs (Rasheed et al., 2022; Shah et al., 2019). Studies show that while DER negatively impacts Return on Equity (ROE), the relationship is complex and varies across sectors (Nasimi, 2018; Raza et al., 2023). Firms are encouraged to maintain an optimal mix of debt and equity to maximize profitability and minimize risks associated with financial distress (Shah et al., 2019; Nasimi, 2018). Strong liquidity positions, indicated by a favorable Current Ratio (CR), positively correlate with profitability, allowing firms to meet short-term obligations and invest in growth opportunities (Rasheed et al., 2022). Similarly, a robust Acid Test Ratio (ATR) supports profitability by ensuring that firms can cover immediate liabilities without relying on inventory sales (Rasheed et al., 2022). In contrast, some studies suggest that a focus solely on capital structure may overlook other critical factors influencing profitability, such as market conditions and operational efficiency. This highlights the need for a holistic approach to financial management in firms. The micro-level financial structure, particularly the balance between debt and equity, significantly influences a firm's profitability. High debt ratios are generally associated with lower profitability due to increased financial risk and costs, while a balanced financial structure that optimizes the mix of debt and equity can enhance firm value and operational efficiency. Following the discussion, the hypothesis presented below has been formulated:

H_1: *The firm micro-level financial structure has an impact on firm profitability.*

The relationship between a firm's capital structure and its financial performance is a topic of ongoing interest in the field of corporate finance. (Diamond & He, 2014) One particular aspect of this relationship that has received attention is the influence of debt (short-term) on firm profitability. Short-term debt, which includes loans and other financing instruments with a maturity of less than one year, can have both advantages and disadvantages for firms. (Harford et al., 2014; Shikumo et al., 2023) On one hand, the flexibility of short-term debt can help firms to respond more quickly to changing market conditions and investment opportunities (Diamond & He, 2014). However, the frequent need to refinance short-term debt can also expose firms to higher transaction costs and the risk of financial distress, particularly during times of economic

downturn. (Dangl & Zechner, 2021; Diamond & He, 2014; Kim, 2015). Prior research has examined the influence of debt (short-term) on firm investment and profitability. Some studies have found that short-term debt can lead to higher levels of debt overhang, which can reduce the incentive for firms to undertake profitable investment projects. (Diamond & He, 2014) Other research has suggested that short-term debt can be beneficial for firms by helping to resolve underinvestment problems caused by long-term debt. (Kim, 2015)

The current study aims to provide a more comprehensive analysis of the relationship between short-term debt and firm profitability. By examining the impact of both long-term and short-term debt on firm performance, the study seeks to shed light on the relative importance of these two debt structures and their implications for firm value.

Consistent with prior research, the study finds that short-term debt can have both positive and negative effects on firm profitability (Diamond & He, 2014). On the one hand, short-term debt can provide firms with greater flexibility and the ability to respond more quickly to changing market conditions, which can enhance profitability (Diamond & He, 2014; Kim, 2015). We hypothesized:

H_{1a}: *Short-Term Debt has an impact on firm profitability.*

Long-term debt significantly influences firm profitability, often presenting both opportunities and challenges. While it can provide necessary capital for growth, overreliance on long-term debt can result in higher interest expenses and cash flow constraints, ultimately hindering profitability. The following sections elaborate on these impacts. Long-term debt incurs regular interest payments, which can reduce net income and overall profitability (Hoffmann et al., 2023). Obligations to service debt limit available funds for reinvestment, affecting operational capabilities and growth opportunities (Naomi, 2023). Studies indicate a significant negative relationship between the metrics related to long term debt and financial performance indictors like ROA (assets' return) and ROE – equity' return (Priyanka & Singh, 2024; Rohilla & Sharma, 2023). High levels of long-term debt restrict a firm's ability to secure additional financing or adapt to market changes, increasing financial risk. Long-term debt can exacerbate agency issues, where management may prioritize debt repayment over profitable investments (Naomi, 2023).

Conversely, some studies suggest that moderate levels of long-term debt can enhance profitability by leveraging capital for growth, indicating that the relationship is not strictly negative and may depend on the firm's overall capital structure and market conditions (Naomi, 2023; Aziz, 2023).

Long-term debt significantly influences firm profitability through various mechanisms, particularly in the context of investment, productivity, and employment. The empirical evidence suggests that access to long-term finance enhances firm performance by facilitating investments in fixed assets and innovation, which are crucial for growth and profitability. Long-term finance is associated with increased investments in labor and fixed assets, leading to improved job quality and higher wages (Sommer, 2024). Firms in developing countries that utilize long-term debt tend to experience higher productivity and growth rates compared to those relying on short-term financing (Caprio & Demirgug-Kunt, 2012). Contrary to traditional views, studies indicate that firms with higher profitability tend to have greater access to long-term debt, indicating a positive relationship between leverage and profitability (Zhu, 2013). External debt has a positive effect on the growth of small and medium-sized enterprises (SMEs), particularly when internal funds are insufficient (Serrasqueiro et al., 2023). Long-term debt can create financial constraints that adversely affect employment growth, especially in smaller firms during economic downturns (Demirhan & Aldan, 2021). While long-term debt generally supports firm profitability through enhanced investment and productivity, it can also impose challenges, particularly for smaller firms facing financial constraints. This duality highlights the complexity of the relationship between long-term debt and firm performance.

Long-term debt significantly influences firm profitability in Pakistan, with various studies highlighting its complex relationship with financial performance. While long-term debt can provide necessary capital for growth, its impact on profitability is nuanced and varies across different sectors and firm conditions. Some studies indicate that long-term debt can enhance profitability by providing firms with the capital needed for expansion and operational stability (Raza, Mustafa, & Zoltan, 2023; Bukhari, Chaudhary, & Hussain, 2023). Conversely, other research suggests that high levels of long-term debt may lead to increased financial risk and agency issues, ultimately harming profitability (Nazir et al., 2021; Akhtar et al., 2022). For instance, a study found that the profitability is negatively affected by both short-term and long-term debt in certain sectors (Nazir et al., 2021).

Research focusing on non-financial firms listed on the Pakistan Stock Exchange indicates that long-term debt is crucial for financial performance, but excessive reliance can lead to diminished returns (Raza, Mustafa, & Zoltan, 2023; Bukhari, Chaudhary, & Hussain, 2023). The effects of long-term debt can differ significantly across industries, with some sectors experiencing more pronounced negative impacts due to higher default risks associated with debt financing Bukhari, Chaudhary, & Hussain, 2023; Nazir et al., 2021). In contrast, while long-term debt can be a double-edged sword, some firms may benefit from strategic debt

management, balancing between equity and debt financing to optimize profitability. This highlights the importance of tailored financial strategies based on specific firm and industry contexts. Thus, we hypothesized.

H_{1b}: *Long-Term Debt has an impact on firm profitability.*

The impact of shareholders' equity on firm profitability and wealth has been examined in several studies. Tomczak (2017) found a significant influence of equity size on profitability ratios in manufacturing companies, although the impact was often statistically irrelevant. Muthusamy (2020) observed a disconnect between profitability and long-term return on equity, suggesting that short-term stock trading may be more influential on returns. Venugopal & Reddy (2016) reported a positive but statistically insignificant relationship between capital structure and firm profitability, market value, and shareholder wealth in Indian cement companies. Perera & Priyashantha (2018) investigated working capital management's impact on profitability and shareholder wealth in Sri Lankan firms, finding a significant negative relationship between the cash conversion cycle and both gross operating profit and Tobin's Q ratio. They also noted that firm size positively affected profitability but negatively impacted shareholder wealth.

Shareholders' equity significantly influences firm profitability, as evidenced by various studies. A higher equity ratio often correlates with improved financial performance, although the relationship can vary based on ownership structure and market conditions. Research indicates that a high share of equity in total assets positively affects profitability measures/ratios, such as equity' return (ROE) and assets' return (ROA) in manufacturing firms (Tomczak, 2017). In Nepalese banks, equity capital has been shown to have a positive relationship with shareholders' profitability, emphasizing the importance of maintaining adequate equity levels (Lamichhane, 2022). The type of equity ownership can influence financial performance, with concentrated ownership structures affecting accounting measures like ROA and ROE, but not market performance metrics (Srivastava, 2011). Firms with significant expansion options tend to exhibit better financial performance, suggesting that equity value and strategic options are interconnected (Sohn, 2012). While a strong equity base generally supports profitability, external factors such as market conditions and ownership dynamics can complicate this relationship. Thus, firms must consider these variables when strategizing for financial success. Shareholders' equity significantly influences firm profitability through various mechanisms, including capital structure, sustainability practices, and effective working capital management. The relationship between equity and profitability is multifaceted, as evidenced by several studies that highlight how equity financing can enhance firm growth and value creation. Equity

issuance is linked to increased real assets, with a dollar of equity associated with an additional 0.93 in assets, compared to only 0.14 for debt (Frank & Sanati, 2021). This suggests that firms prioritize equity to fund growth, which can lead to improved profitability over time. Firms that adopt sustainable practices demonstrate higher profitability metrics, such as return on equity and earnings per share (Bodhanwala & Bodhanwala, 2018). Sustainable strategies not only enhance firm performance but also contribute to long-term shareholder value. Effective management of working capital is crucial, as investments in net operating working capital can significantly impact shareholders' wealth (Kieschnick et al., 2013). The study indicates that the value derived from extending credit to customers is more beneficial than inventory investments, emphasizing the importance of liquidity management.

Conversely, while equity can enhance profitability, excessive reliance on equity financing may dilute shareholder returns and lead to inefficiencies. Balancing equity with other financing sources is essential for optimal firm performance. The relationship between shareholders' equity and firm profitability in Pakistan is multifaceted, influenced by capital structure, ownership concentration, and corporate governance. Research indicates that higher levels of debt relative to equity can negatively impact profitability, as excessive leverage may lead to agency problems and conservative investment policies (Javeed et al., 2015; Rasheed et al., 2022). Additionally, ownership concentration plays a crucial role; firms with multiple large shareholders tend to exhibit better performance due to enhanced governance mechanisms, while diffuse ownership can lead to poor decision-making and lower profitability (Nazir & Asad, 2023). High debt-to-equity ratios are associated with reduced profitability due to increased financial risk and costs (Rasheed et al., 2022). Conversely, optimal capital structure can enhance profitability by balancing risk and return (Jahangir & Shabbir, 2023). Firms with concentrated ownership often align managerial interests with those of shareholders, leading to improved performance (Nazir & Asad, 2023). Diffuse ownership can result in agency conflicts, negatively affecting firm profitability (Nazir & Asad, 2023). Effective corporate governance measures, such as board size and ownership concentration, are positively correlated with profitability (Javeed et al., 2015). While the prevailing view emphasizes the negative impact of high leverage on profitability, some argue that strategic debt usage can enhance growth opportunities if managed effectively. This perspective suggests that the relationship between equity and profitability is not strictly negative but context-dependent. Based on discussion we hypothesized;

H_{1c}: *Shareholders' Equity has an impact on firm profitability.*

Retained earnings significantly influence firm profitability, as evidenced by various studies. The relationship is primarily positive, indicating that effective utilization of retained earnings can enhance financial performance. This is particularly relevant for firms that leverage these earnings for reinvestment in profitable projects, thereby increasing shareholder value over time. Research shows that retained earnings positively affect profitability in manufacturing firms listed at the Nairobi Securities Exchange, suggesting that increased utilization of these earnings leads to better financial outcomes (Mulekano & Miroga, 2023). A study on non-financial firms also indicates a significant positive relationship between retained earnings and financial performance, emphasizing the importance of internal funding sources in minimizing information asymmetry (Agembe et al., 2024). Retained earnings must be invested in projects with positive net present value to enhance shareholder value. Ineffective use can lead to a decline in perceived financial performance (Thirumalaisamy, 2020). The stock market tends to reward firms that retain earnings for productive investments, while penalizing those that do not utilize these funds effectively (Thirumalaisamy, 2020). Conversely, while retained earnings can enhance profitability, excessive reliance on them without strategic investment may lead to shareholder dissatisfaction, as seen in cases where retained earnings do not translate into tangible benefits for investors (Thirumalaisamy, 2020).

Retained earnings play a significant role in influencing firm profitability, as they represent a source of internal financing that can be utilized for growth and operational efficiency. The relationship between retained earnings and profitability is complex, with various factors affecting their impact on a firm's financial performance. Retained earnings provide firms with a cost-effective means of financing, reducing reliance on external debt, which can be more expensive and risky (Whittington, 1972). High levels of retained earnings can enhance a firm's capacity to invest in growth opportunities, particularly in environments with high external financing costs (Koussis et al., 2017). Studies indicate that firms utilizing retained earnings and equity financing tend to exhibit improved performance compared to those heavily reliant on debt financing (Mallick & Yang, 2011). However, excessive accumulation of retained earnings may lead to management-shareholder conflicts, where managers prioritize cash retention over optimal investment strategies (Koussis et al., 2017). While retained earnings can enhance debt capacity, they may negatively impact equity value due to potential cash losses in default scenarios (Koussis et al., 2017). Conversely, some research suggests that firms with high levels of retained earnings may not always translate these into profitability, particularly if management fails to deploy these funds effectively or if external market conditions are unfavorable (Whittington, 1972; Mallick & Yang, 2011).

Retained earnings significantly influence firm profitability in Pakistan, particularly through their impact on financial management practices and capital structure. The relationship between retained earnings and profitability is multifaceted, involving aspects such as earnings management, working capital management, and dividend policies. Real earnings management (REM) practices in Pakistani firms often lead to negative impacts on future corporate returns, indicating that managers may prioritize short-term financial reporting over long-term profitability (Ali et al., 2022). The use of debt influences earnings management, as higher leverage can restrict managers from engaging in aggressive earnings manipulation, potentially stabilizing profitability (Naz & Sheikh, 2023). Effective management of working capital components, such as inventory turnover and accounts payable, has been shown to positively correlate with profitability in the textile sector of Pakistan (Tahir & Anuar, 2016). Conversely, poor management of current assets can detrimentally affect return on assets, highlighting the importance of strategic financial decisions regarding retained earnings and working capital. The taxation of retained earnings versus dividends can influence corporate dividend policies, with lower tax rates on retained earnings encouraging firms to retain profits for reinvestment rather than distributing them as dividends (Feldstein, 1972). While retained earnings can enhance firm profitability through reinvestment and strategic financial management, they may also lead to challenges such as earnings manipulation and suboptimal working capital management. This duality underscores the complexity of financial decision-making in the context of Pakistani firms. Thus, researcher hypothesized:

H_{1d}: *Retained Earnings has an impact on firm profitability.*

Research on firm profitability, including metrics such as asset's return (ROA), equity' return (ROE), and earning per share (EPS), in both advanced and emerging economies has traditionally focused on firm-specific and country-specific factors (Alifiah, 2014; Filipe, Grammatikos, & Michala, 2016; Frank & Goyal, 2009; Karbhari & Muhamad Sori, 2004; Kayo & Kimura, 2011; Rashid & Abbas, 2011b). However, recent studies have underlined the significance of determinants at sector-level on a firm's financial performance. These sector-related factors include price rivalry, distinctiveness, and research and development (R&D) activities (MacKay & Phillips, 2005; Frank & Goyal, 2009).

Kayo and Kimura (2011) signified that earlier studies often overlooked the impact of sector-level variables. Although some research used dummy variables to represent sector characteristics, they did not clearly demonstrate the effects at sector basis on a capital structure of a firm. In emerging/developing economies, investigators have faced challenges connected to data limitations and variable dimensions. To better understand the impact of sector behavior

on profitability, this study incorporates variables such as munificence, dynamism, sector concentration (HH Index), and uniqueness. Munificence and dynamism are derived from the multi-dimensional model by Dess and Beard (1984), which emphasizes the external environmental factors affecting firms within a sector. The direct impact of sector concentration (HH Index) on firm leverage was first explored by Kayo and Kimura (2011).

Sector-level variables play a crucial role in influencing firm profitability, ROA, ROE, and EPS. For example, high sector concentration (HH Index) can enhance market power and profitability for firms within that sector (Kayo & Kimura, 2011). Munificence, which refers to the abundance of resources available in a sector, positively impacts firm performance by providing more opportunities for growth and investment (Dess & Beard, 1984). Dynamism, or the rate of change within a sector, can affect a firm's ability to adapt and innovate, thereby influencing its financial metrics (Dess & Beard, 1984).

Research has shown that sector-specific factors such as R&D intensity and price competition are also critical. High R&D intensity in a sector can lead to innovation and improved financial performance, as evidenced by higher ROA and ROE (MacKay & Phillips, 2005). Conversely, intense price competition can erode profit margins, negatively impacting profitability and EPS (Frank & Goyal, 2009). Sector-level variables are essential determinants of firm profitability, ROA, ROE, and EPS. By considering factors such as sector concentration, munificence, dynamism, and R&D intensity, firms can better understand and navigate the external environment to enhance their financial performance.

H_2: *The firm sector-level financial structure has an impact on firm profitability.*

Munificence refers to the abundance of resources available within a sector. It is a measure of the capacity of the environment to support sustained growth and profitability for firms operating within it. High munificence indicates that a sector is rich in resources, which can include financial capital, raw materials, skilled labor, and technological advancements. This abundance allows firms to invest in growth opportunities, innovate, and expand their operations without facing significant resource constraints.

The impact of munificence on profitability is generally positive. Firms in munificent environments are better positioned to achieve higher Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS) due to the several reasons. First abundant resources enable firms to invest in new projects and technologies, leading to improved operational efficiencies and higher profitability (Handoyo et al., 2023). Second With ample resources, firms can better manage risks and uncertainties, ensuring more stable financial performance (Zhang & Xu, 2023). Finally, firms in resource-rich sectors can leverage their

access to resources to gain a competitive edge over rivals, enhancing their market position and profitability.

The Herfindahl-Hirschman Index (HHI) is a measure of market concentration within a sector. It is calculated by summing the squares of the market shares of all firms within the sector. A higher HHI indicates a more concentrated market, where a few firms hold significant market power (Herwald, Voigt, & Uhde, 2024). Conversely, a lower HHI suggests a more competitive market with many firms holding smaller market shares (Young, Hsu, Gao, & Yang, 2023).

The impact of sector concentration on profitability can be significant, high sector concentration often leads to increased market power for dominant firms. These firms can influence prices, control supply, and deter new entrants, leading to higher profitability (Feeney, 2023). Firms in concentrated sectors can achieve economies of scale, reducing costs per unit and increasing profit margins. Concentrated markets tend to be more stable, with less price volatility and competitive pressure, allowing firms to maintain consistent profitability (Collins, & Preston, 2023). However, the relationship between sector concentration and profitability is not always straightforward. While high concentration can lead to higher profitability for dominant firms, it can also result in reduced innovation and efficiency over time due to lack of competition. Additionally, regulatory scrutiny in highly concentrated sectors can impose constraints on firm operations and profitability.

Both munificence and high sector concentration can positively impact ROA by enabling firms to utilize their assets more efficiently and generate higher returns. Firms in munificent and concentrated sectors can achieve higher ROE through better resource allocation, market power, and economies of scale. The positive effects of munificence and sector concentration on profitability can lead to higher EPS, reflecting the firm's ability to generate earnings for its shareholders. Understanding the roles of munificence and sector concentration is crucial for firms aiming to enhance their profitability. By leveraging the advantages of resource-rich environments and concentrated markets, firms can achieve improved financial performance and generate long-term value for their owners/shareholders. Thus researcher hypothesized.

H_{2a}: *H-H Index has an impact on firm profitability.*

H_{2b}: *Munificence has an impact on firm profitability*

Firms do not function in isolation; their operations are heavily impacted by external factors like industry and country specific variables. The economic and political climate of a country plays a vital role in shaping business activities. As a result, the overall economic condition is a key determinant of business sector failure. During financial crises, for instance, profitability tends to increase due to stringent financial policies imposed by governments. Recession periods are

particularly challenging, with higher chances of business failures (Altman, 1973; Mensah, 1984).

Several studies have highlighted that firm-specific variables alone are insufficient to predict financial health accurately. Therefore, incorporating country-level (macro) variables is essential (Altman, 1968; Johnson, 1970; Mensah, 1984). Scholars have developed models to predict profitability by including inflation and interest rates which represents macroeconomic variables (Goudie & Meeks, 1991; Smith & Liou, 2007; Taffler, 1984). Thus we can conclude.

H_3: *The firm macro-level financial structure has an impact on firm profitability.*

Inflation is a critical indicator used to measure a country's economic condition and is significant in both economic and finance-related research. Inflation affects the financial market by reducing the real rate of return for investors (Bevan & Danbolt, 2000). Its impact varies across sectors due to its unpredictable nature. Economically, inflation leads to higher interest rates as lenders adjust to maintain their returns, thereby increasing borrowing costs (Gujarati & Porter, 2003).

Volatility in inflation raises the likelihood that firms may face financial distress due to increased borrowing costs and fluctuating cash flows (Mirzaei et al., 2016). When both real cash flow volatility and high financial costs combine, the probability of financial distress increases. Some literature suggests that inflation is positively correlated with short-term borrowing and negatively related to long-term debts (Acosta-González et al., 2019; Bokpin, 2009; Frank & Goyal, 2009; Khoja et al., 2019; Taggart Jr, 1985).

In developing economies, inflation is a significant factor affecting economic conditions (Namazi & Salehi, 2010). For example, studies in Pakistan have shown a positive but insignificant relationship between inflation and profitability in non-financial firms (Mirzaei et al., 2016). Similarly, research in Malaysia found that inflation is statistically insignificant in relation to profitability (Alifiah, 2014). Conversely, studies on Iranian firms indicated that inflation does not impact profitability (Mirzaei et al., 2016).

Interest rates are another crucial macroeconomic variable influencing firm profitability. High interest rates increase the cost of borrowing, which can reduce a firm's profitability by increasing its financial expenses. This is particularly impactful for firms with significant debt, as higher interest payments can erode net income and reduce returns on assets (ROA) and equity (ROE).

Research has shown that interest rates have a significant negative effect on ROE, as higher borrowing costs reduce the overall profitability of firms (Egbunike & Okerekeoti 2018). Firms

in high-interest environments may struggle to finance new investments or expand operations, leading to lower earnings per share (EPS) and overall financial performance.

In summary, country-level variables such as inflation and interest rates play a vital role in determining firm profitability. By understanding and managing these external factors, firms can better navigate economic challenges and enhance their financial performance. Based on discussion following hypotheses were generated.

H_{3a}: *Interest rate has an impact on firm profitability.*

H_{3b}: *Inflation rate has an impact on firm profitability.*

METHODOLOGY

Population and Sample

The study population is firms listed on the Pakistan Stock Exchange (PSX). There are over 522 companies registered on the Pakistan Stock Exchange (PSX) and approximately 369 companies (non-financial) registered on the Pakistan Stock Exchange (PSX, 2024) and financial firms were excluded due to their distinct characteristics and the potential for different effects of leverage. Figure 1 illustrates the sampling strategy.

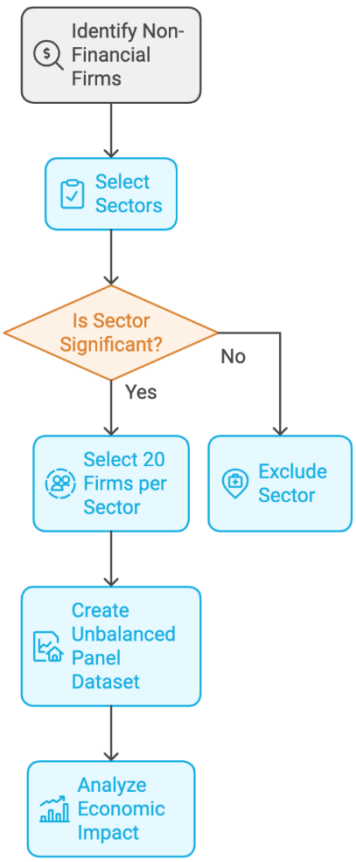

Figure 1: Sampling Strategy

The sampling frame of this study focuses on non-financial Pakistani companies listed/registered on the Pakistan Stock Exchange (PSX) before January 2024. However, for the current study we purposively selected six major sectors: automobile, cement, chemical, energy, sugar, and textile. These sectors represent a significant portion of Pakistan's economy and have a sufficient number of companies for analysis. Furthermore 20 firms were selected from each sector and a total of 120 non-financial firms across six sectors were analyzed in this study. Selecting 20 companies per sector ensures a robust sample size for statistical analysis while maintaining manageability. This number strikes a balance between having enough data points for reliable results and avoiding the complexities of handling excessively large datasets. Additionally, these top 20 companies account for a significant portion of economic activity within their respective sectors, often representing more than 80% of the sector's economic output (Pakistan Economic Survey, 2023-24). The data was collected for last 15 years (2008 to 2023), thus, an unbalanced panel dataset was adopted to account for potential issues like mergers, acquisitions, defaults, or delisting that may have occurred during the study period as illustrated in Figure 2. This approach allows for the inclusion of firms that were not consistently active throughout the entire time series, which is common in financial and econometric studies.

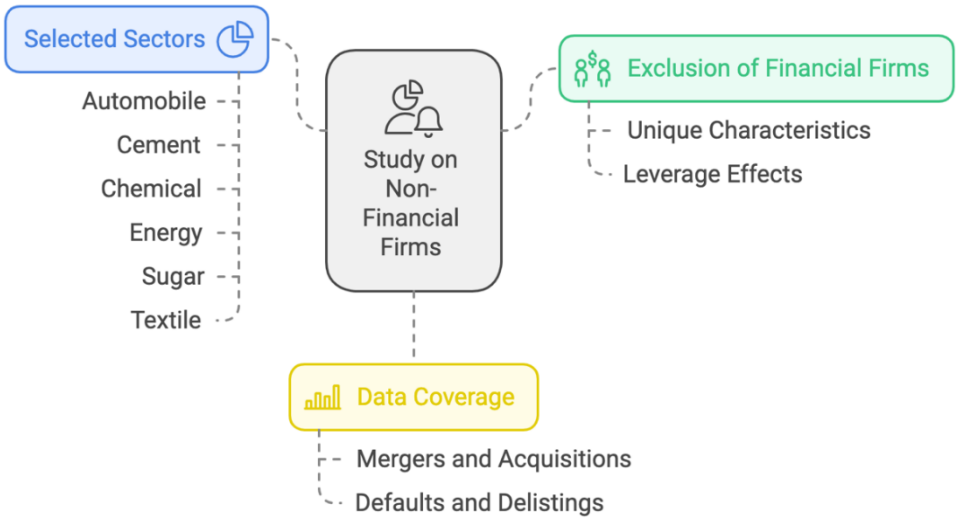

Figure 2: Sample Description

Methods and Sources of Data Collection

Secondary data was used for the last 15 years (2008-2023) from the annual reports and financial data of State Bank's Publication, Companies Financial Statements Analysis (non-financial) registered at Karachi Stock Exchange (KSE). Data related to financial statements was collected through Thomson Reuter Data Stream. Data related to the sector level & macro-level variables

was collected through the data stream, World Bank, and economic survey of Pakistan. Summary of data collection and its sources is mentioned in Table 1.

Table 1 Data and Sources

S. No.	Data Type	Sources
1	Profitability, ROA, ROE, EPS	• Thomson Reuter data stream. • PSX database
2	Firm size, Assets.	• Annual reports of firms. • SECP library
3	Higgins SGR and Actual Growth Rate (AGR)	• Thomson Reuter data stream.
4	Munificence, and HH Index	• Thomas Reuter data stream. • PSX database
5	Interest, Inflation	• World Bank website. • Economic Survey of Pakistan. • Pakistan Statistical Bureau.

The table 1 provides an overview of the data types used in the study along with their respective sources. It highlights the financial performance metrics such as profitability, including Return on Assets (ROA), Return on Equity (ROE), and Earnings per Share (EPS), which were sourced from the Thomson Reuters Data Stream and the Pakistan Stock Exchange (PSX) database. Firm size, measured through total assets, was obtained from firms' annual reports and the Securities and Exchange Commission of Pakistan (SECP) library. The growth metrics, including Higgins Sustainable Growth Rate (SGR) and Actual Growth Rate (AGR), were also retrieved from the Thomson Reuters Data Stream, offering insights into firms' sustainable and actual growth potential. Additionally, environmental and competitive indicators like Munificence and the Herfindahl-Hirschman Index (HHI) were derived from the Thomson Reuters Data Stream and the PSX database, enabling the study to assess resource abundance and market concentration. Macroeconomic variables such as interest rates and inflation were gathered from reliable sources, including the World Bank website, the Economic Survey of Pakistan, and the Pakistan Statistical Bureau, ensuring a comprehensive understanding of external economic factors affecting firms. By integrating data from firm-level, industry-level, and macroeconomic sources, the study ensures the use of robust and credible datasets, which facilitate an in-depth analysis of the variables under investigation.

ANALYSIS AND RESULTS

The descriptive statistics Table 2 provide key insights into the distribution and central tendency of the dependent variable, Profitability. With 1,768 observations, the dataset has a robust sample size, allowing for meaningful statistical analysis. The minimum value of -10.869

indicates significant losses for some entities, while the maximum value of 2011.535 reflects exceptionally high profits for others. The mean profitability is 9.974, suggesting that the average profitability across all entities is positive. However, the wide gap between the minimum and maximum values hints at substantial variability and the potential presence of extreme outliers.

Table 2 Descriptive Statistics of Dependent Variable

Variable	N	Min	Max	Mean	Median	SD
Profitability (P)	1768	-10.869	2011.535	9.974	0.096	130.44

The median profitability is 0.096, which is considerably lower than the mean, pointing to a right-skewed distribution where a small number of entities with very high profitability elevate the average. The standard deviation of 130.44 further supports the observation of high variability, indicating that profitability values are widely dispersed around the mean. The combination of a high mean, a low median, and significant standard deviation suggests a dataset characterized by a large number of entities with low or negative profitability and a few entities achieving exceptionally high profits.

Table 3 provides the descriptive statistics of independent variables (determinants) of profitability (P) derived from data. The summary consists of number of observations (N), minimum value, maximum value, mean value, median value and standard deviation of each independent variable.

Based on Table 3, the Panel A illustrates the descriptive statistics of the micro-level variables, which exhibit varying levels of dispersion and central tendencies. Short-term debt (STD) and long-term debt (LTD) have relatively low mean values (0.007 and 0.005, respectively) and standard deviations (0.02 and 0.03), indicating that firms generally do not rely heavily on debt financing in either the short or long term. The median values are close to the means, suggesting a symmetric distribution of these debt-related variables within the dataset. Shareholder equity (SE), on the other hand, demonstrates a significantly broader range, from -0.992 to 65.609, with a mean of 0.098 and a standard deviation of 2.108. This indicates substantial variability in equity levels among firms, potentially due to differences in capitalization. Retained earnings (RE) similarly show wide dispersion, ranging from -1.146 to 57.185, with a mean of 0.069 and a standard deviation of 1.62. Negative minimum values for SE and RE suggest that some firms report accumulated losses or liabilities exceeding their assets.

Likewise, based on Table 3, the Panel B conveys the descriptive summary of the sector-level variables. The sector-level variables capture the competitive and resource dynamics within

industries. The Herfindahl-Hirschman Index (HHI), with values ranging from 1,429.412 to 1,897.919, has a mean of 1,673.745 and a standard deviation of 1429.412. These results suggest a moderate level of industry concentration, indicating neither highly fragmented nor monopolistic sectors. The small range and low standard deviation of Munificence (MUNIF) — from 1.003 to 1.01 with a mean of 1.007 — reflect a consistent and stable resource environment across the sectors studied.

Table 3 Descriptive Statistics of Independent Variables

Panel A: Micro-level variables						
Variable	**N**	**Min**	**Max**	**Mean**	**Median**	**SD**
Short term debt (STD)	1630	0	0.516	0.007	0.004	0.02
Long term debt (LTD)	1422	0	0.83	0.005	0.003	0.03
Shareholder equity (SE)	1822	-.992	65.609	0.098	0.009	2.108
Retained earnings (RE)	1644	-1.146	57.185	0.069	0.004	1.62
Panel B: Sector-level variables						
Variable	**N**	**Min**	**Max**	**Mean**	**Median**	**SD**
Herfindahl-Hirschman index (HHI)	2048	1429.412	1897.919	1673.745	1685	1429.412
Munificence (MUNIF)	2048	1.003	1.01	1.007	1.007	0.012
Panel C: Macro-level variables						
Variable	**N**	**Min**	**Max**	**Mean**	**Median**	**SD**
Interest rate (IR)	1792	8.21	14.537	11.463	11.86	2.216
Inflation (INF)	2048	2.529	30.768	11.204	9.711	2.216

In the same way, the Panel C in the Table 3 portrays the expressive overview of the macro-level variables. The macro-level variables depict broader economic conditions impacting firms. Interest rates (IR) vary between 8.21 and 14.537, with a mean of 11.463 and a standard deviation of 2.216, suggesting moderate variability and generally stable lending conditions. Inflation (INF) demonstrates a wider range, from 2.529 to 30.768, with a mean of 11.204 and a standard deviation of 2.216. The higher range and variability in inflation values indicate periods of economic instability that could influence firm performance and decision-making.

The correlation between variables of profitability at the micro-level and those at the macro-level along with control variables, utilizing a comprehensive sample encompassing various enterprises. The variable under consideration is the profitability (P), while the predictor variables comprise of short-term debt (STD), long term debt (LTD), shareholder equity (SE), retained earnings (RE), interest rate (IR) and inflation (INF), firm size (FSiz) and growth (G). β_0 is the constant term of the equation, β_i represents the slope (Beta Coefficient) attributed to

the independent variable, and ε_{it} denotes the error (disturbance) term, which is presumed to be serially uncorrelated with a mean of zero.

$$P_{it} = \beta_0 + \beta_1 STD_{it} + \beta_2 LTD_{it} + \beta_3 SE_{it} + \beta_4 RE_{it} + \beta_5 IR_{it} + \beta_6 INF_{it} + \beta_7 FSiz_{it} + \beta_8 G_{it} + \varepsilon_{it} \quad (1)$$

The empirical findings derived from the regression analysis of equation 1, utilizing a sample spanning from 2008 to 2023, are delineated in Table 4. The coefficients corresponding to each variable are meticulously documented in the table, illustrating the magnitude of the coefficients accompanied by p-values in parentheses, as well as their respective significance levels of 1%, 5%, and 10%. The p-values have been calculated utilizing heteroscedasticity-consistent standard errors. The model's F-statistic is recorded at 4.255, which achieves a high level of significance at 1%, thereby suggesting that all predictor variables at the micro-level and the macro-level have the potential to exert an influence on the profitability of firms.

The pooled OLS regression examines the impact of micro-level and macro-level factors on profitability. Table 4 starts with micro-level variables, short-term debt (STD) has a negative and significant coefficient (-0.023, $p<0.05$). This indicates that an increase in short-term debt reduces profitability, which could reflect the higher costs or risks associated with short-term financing. On the other hand, long-term debt (LTD) shows a positive but insignificant coefficient (3.666, $p>0.1$), suggesting that its influence on profitability is not statistically supported in this dataset. Shareholder equity (SE) and retained earnings (RE) demonstrate contrasting effects. SE has a highly significant negative relationship with profitability (-3.925, $p<0.01$), indicating that higher equity levels might correspond to lower profitability. This could arise if firms with higher equity rely less on efficient debt financing or face higher equity costs. Conversely, RE has a strong positive and significant impact on profitability (7.731, $p<0.01$), underscoring the importance of retained earnings as a resource for funding profitable investments or operations.

Table Error! No text of specified style in document. **Micro-level and Macro-level factors of profitability based on sample**

Variables (Var.)	Coefficient	P-values
Short term debt (STD)	-0.023	(0.024) **
Long term debt (LTD)	3.666	0.542
Shareholder equity (SE)	-3.925	(0.001) ***
Retained earnings (RE)	7.731	(0.000)***
Interest rate (IR)	-0.008	0.288
Inflation (INF)	0.005	0.243
Firm size (FSiz)	0.006	0.653

Growth (G)	0.032	(0.031)**
Constant (Const.)	-0.002	0.994
F-statistics	4.255	
P-value (F)	(0.000)***	
R-squared (R-sq.)	0.026	
Observations (Obs.)	983	

**** denotes significant at the 1% level, ** indicates significant at the 5% level, and * represent significant at the 10% level.*

Among the macro-level variables, neither interest rate (IR) nor inflation (INF) shows a statistically significant impact on profitability, with coefficients of -0.008 (p>0.1) and 0.005 (p>0.1), respectively. These results suggest that macroeconomic factors like IR and INF may not have a direct or substantial influence on profitability in this sample, possibly due to the firms' ability to mitigate macroeconomic fluctuations or other unobserved mediating factors. Regarding the control variables, firm size (FSiz) has a small and insignificant positive effect (0.006, p>0.1), suggesting that profitability does not significantly differ by firm size within this dataset. However, growth (G) positively and significantly influences profitability (0.032, p<0.05). This highlights that growth-oriented firms tend to achieve higher profitability, possibly due to economies of scale or enhanced market opportunities.

The following Model 2 provides the relationship between micro-level, sector-level, macro-level along with control variables of profitability based on sample across firms. The dependent variable is profitability (P) and independent variables are short-term debt (STD), long term debt (LTD), shareholder equity (SE), retained earnings (RE), Herfindahl-Hirschman index (HHI), munificence (MUNIF), interest rate (IR) and inflation (INF), firm size (FSiz) and growth (G). β_0 is the constant term of the equation, β_i represents the slope (Beta Coefficient) attributed to the independent variable, and ε_{it} denotes the error (disturbance) term, which is presumed to be serially uncorrelated with a mean of zero.

$$P_{it} = \beta_0 + \beta_1 STD_{it} + \beta_2 LTD_{it} + \beta_3 SE_{it} + \beta_4 RE_{it} + \beta_5 HHI_{it} + \beta_6 MUNIF_{it} + \beta_7 IR_{it} + \beta_8 INF_{it} + \beta_9 FSiz_{it} + \beta_{10} G_{it} + \varepsilon_{it} \quad (2)$$

The regression findings of equation 2 based on sample are mentioned in Table 5 by employing dataset from 2008 to 2023. The coefficients corresponding to each variable are meticulously documented in the table, illustrating the magnitude of the coefficients accompanied by p-values in parentheses, as well as their respective significance levels of 1%, 5%, and 10%. The p-values have been calculated utilizing heteroscedasticity-consistent standard errors. The model's F-

statistic is recorded at 3.941, which achieves a high level of significance at 1%, thereby suggesting that all predictor variables at the micro-level, sector-level and the macro-level have the potential to exert an influence on the profitability of firms.

Table 5 Micro-level, sector-level and Macro-level variables of profitability based on sample

Variables (Var.)	Coefficient	P-values
Short term debt (STD)	-0.022	(0.023)**
Long term debt (LTD)	4.009	0.488
Shareholder equity (SE)	-3.793	(0.002)***
Retained earnings (RE)	7.518	(0.000)***
Herfindahl-Hirschman index (HHI)	0.000	0.698
Munificence (MUNIF)	-24.513	(0.022)**
Interest rate (IR)	-0.019	(0.065)*
Inflation (INF)	0.018	(0.001)***
Firm size (FSiz)	0.005	0.695
Growth (G)	0.033	(0.028)**
Constant (Const.)	24.613	(0.020)**
F-statistics	3.941	
P-value (F)	(0.000)***	
R-squared (R-sq.)	0.029	
Observations (Obs.)	983	

**** denotes at the 1% level of significance, ** indicates at the 5% level of significance, and * represent at the 10% level of significant.*

The regression results analyze the factors influencing profitability by incorporating micro-level, sector-level, and macro-level variables. Table 5 begins with micro-level variables, short-term debt (STD) shows a negative and significant coefficient (-0.022, $p<0.05$), indicating that higher reliance on short-term debt adversely affects profitability. This outcome aligns with the higher cost or risk associated with short-term financing. Long-term debt (LTD), on the other hand, has a positive but statistically insignificant coefficient (4.009, $p>0.1$), suggesting that its influence on profitability is not conclusive in this dataset.

Shareholder equity (SE) and retained earnings (RE) display contrasting impacts on profitability. SE has a significant negative effect (-3.793, $p<0.01$), implying that higher equity levels may lead to lower profitability, potentially due to inefficiencies or higher costs associated with equity financing. In contrast, RE has a strong positive and highly significant coefficient (7.518, $p<0.01$), highlighting its critical role in supporting profitability through reinvested earnings or internal financing.

At the sector level, the Herfindahl-Hirschman Index (HHI), which measures market concentration, has an insignificant coefficient (0.000, $p>0.1$), suggesting that market concentration does not have a discernible impact on profitability in this sample. Conversely, munificence (MUNIF) shows a significant negative relationship with profitability (-24.513, $p<0.05$), indicating that higher levels of environmental richness might paradoxically reduce profitability. This could arise if firms in munificent environments face reduced pressure to optimize operations, leading to inefficiencies.

Among the macro-level variables, interest rate (IR) has a marginally significant negative effect (-0.019, $p<0.1$), suggesting that higher interest rates could slightly reduce profitability by increasing borrowing costs. Inflation (INF), however, has a positive and highly significant impact on profitability (0.018, $p<0.01$). This may indicate that firms successfully adjust their pricing strategies to benefit from inflationary conditions, enhancing their profitability.

DISCUSSION AND CONCLUSION

The analysis of the micro-level financial structure's impact on profitability in non-financial firms listed on the Pakistan Stock Exchange (PSX) reveals several significant insights. Short-term debt (STD) has a significant negative impact on profitability, aligning with the pecking order theory, which suggests firms prefer internal financing over external debt due to higher costs and risks (Myers & Majluf, 1984). The negative relationship between STD and profitability can be attributed to higher interest rates and repayment pressures, which strain a firm's cash flow (Shubita & Alsawalhah, 2012). Contrary to the trade-off theory, which balances the tax advantage of debt with financial distress costs (Modigliani & Miller, 1963), long-term debt (LTD) does not significantly impact profitability. This suggests that the benefits of long-term debt, such as lower interest rates and tax shields, may be offset by potential risks of financial distress and agency costs (Jensen & Meckling, 1976).

The study also reveals a significant negative relationship between shareholder equity (SE) and profitability, consistent with agency theory, which suggests higher equity levels can lead to agency problems where managers may not act in shareholders' best interests (Jensen & Meckling, 1976). The negative impact of SE on profitability may be due to ownership dilution and potential managerial inefficiencies (Gedajlovic & Shapiro, 2002). Retained earnings (RE) show a strong positive impact on profitability, highlighting the importance of internal financing. This supports the pecking order theory, indicating that firms reinvesting their earnings into profitable projects can enhance financial performance (Papanastasopoulos et al., 2010).

These findings align with existing studies, such as Abor (2005) and Ghosh (2008), which found that short-term debt negatively impacts profitability, while retained earnings positively influence firm performance. However, the study's findings on long-term debt differ from some previous studies, such as Salteh et al. (2009), which found a positive relationship between long-term debt and profitability. This discrepancy may be due to differences in economic environments, industry characteristics, and firm-specific factors in Pakistan compared to other regions.

The analysis of sector-level financial structure's impact on profitability provides valuable insights into how industry-specific factors influence firm performance. The Herfindahl-Hirschman Index (HHI), measuring market concentration, does not significantly impact profitability. This suggests that market concentration does not necessarily translate into higher profitability, aligning with Kayo and Kimura (2011). The lack of significant impact could be due to competitive dynamics within the sectors studied.

Munificence, reflecting resource abundance within a sector, has a significant negative impact on profitability. This counterintuitive finding suggests that higher levels of environmental richness might reduce profitability, possibly due to reduced pressure to optimize operations, leading to inefficiencies. This finding is consistent with the resource-based view, which posits that effective resource utilization drives firm performance (Barney, 1991).

The analysis of macro-level financial structure's impact on profitability provides critical insights into how broader economic factors influence firm performance. Interest rates have a marginally significant negative effect on profitability, suggesting that higher interest rates increase borrowing costs, reducing net income and overall profitability (Egbunike & Okerekeoti, 2018). Inflation has a positive and highly significant impact on profitability, suggesting that firms in Pakistan may pass on increased costs to consumers, maintaining or enhancing profitability during inflationary periods (Fama & French, 2005).

These findings contribute to the ongoing debate about the role of macroeconomic factors in determining firm profitability. By understanding these dynamics, firms can make more informed strategic decisions to optimize their profitability. The study provides empirical evidence from a developing economy and suggests directions for future research to further explore the complex interactions between financial structure and firm performance.

LIMITATIONS AND FUTURE DIRECTIONS

This study's reliance on secondary data from the Pakistan Stock Exchange (PSX) presents a primary limitation, as data quality and availability can vary, potentially affecting the robustness and generalizability of the findings. The focus on non-financial firms in Pakistan may limit the

applicability of the results to other sectors, such as financial institutions or service industries, due to their unique characteristics and regulatory environments. Additionally, the study's context is confined to Pakistan, whose economic, regulatory, and cultural conditions may differ significantly from other regions, limiting the generalizability of the findings. Future research should explore similar relationships in different geographical contexts to enhance external validity. The static analysis approach used in this study may not fully capture the dynamic nature of financial structure and profitability over time. A longitudinal study could provide deeper insights into these temporal dynamics. While several key variables were examined, factors such as corporate governance practices, managerial expertise, and technological advancements were not included, suggesting that future research should incorporate a broader range of variables for a more comprehensive understanding of profitability determinants. The financial ratios used to measure financial sustainability may not capture all dimensions of a firm's financial health. Future research could explore alternative measures, such as cash flow stability, credit ratings, and market perceptions, to enhance the robustness of the findings. Lastly, the study primarily establishes associations rather than causal relationships. Future research could employ experimental or quasi-experimental designs to establish causal links between financial structure, financial sustainability, and profitability.

REFERENCES

Abbas, Q., Ahmad, R., Asif, M., & Mehmood, A. (2022). The Impact of Investment Decisions on Firm Profitability of Non-Financial Sectors in Pakistan: Mediating Role of Sales Growth. iRASD Journal of Economics, 4(4), 527-543.

Abdullah, H., & Tursoy, T. (2021). Capital structure and firm performance: evidence of Germany under IFRS adoption. Review of Managerial Science, 15(2), 379-398.

Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The journal of risk finance*, *6*(5), 438-445.

Acosta-Gonzalez, E., Fernandez-Rodriguez, F., & Ganga, H. (2019). Predicting corporate financial failure using macroeconomic variables and accounting data. *Computational Economics*, 53(1), 227-257.

Agembe, A. J., Chesoli, J. W., & Ngacho, C. (2024). The Relationship between Retained Earnings and Financial Performance of Listed Non-Financial Firms: An Econometrics Examination. *Journal of Finance and Accounting*, *8*(7), 64-75.

Akhtar, M., Yusheng, K., Haris, M., Ain, Q. U., & Javaid, H. M. (2022). Impact of financial leverage on sustainable growth, market performance, and profitability. *Economic Change and Restructuring*, 1-38.

Ali, S., Jiang, J., Murtaza, G., & Khan, M. (2022). Influence of real earning management on subsequent dividend payout decisions and corporate returns: A case of developing economy. *Frontiers in Environmental Science*, *10*, 882809.

Alifiah, M. N. (2014). Prediction of financial distress companies in the trading and services sector in Malaysia using macroeconomic variables. *Procedia-Social and Behavioral Sciences, 129*, 90-98.

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal o f finance, 23(4),* 589-609.

Altman, E. I. (1973). Predicting railroad bankruptcies in America. *The Bell Journal o f Economics and Management Science,* 4(1), 184-211.

Apergis, N. (2020). Financial market imperfections and profitability: New evidence from a large panel of US SME firms. *Journal of Forecasting*, *39*(2), 220-241.

Aziz, S. (2023). Debt Financing and Performance of Firms in Pakistan. *Journal of Business Administration and Management Sciences (JOBAMS)*, *5*(1), 53-64.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, *17*(1), 99-120.

Bevan, A. A., & Danbolt, J. (2000). Dynamics in the determinants of capital structure in the UK.

Bhagat, S., & Bolton, B. (2008). Corporate governance and firm performance. *Journal of corporate finance*, *14*(3), 257-273.

Bodhanwala, S., & Bodhanwala, R. (2018). Does corporate sustainability impact firm profitability? Evidence from India. *Management decision*, *56*(8), 1734-1747.

Bokpin, G. A. (2009). Macroeconomic development and capital structure decisions of firms: Evidence from emerging market economies. *Studies in economics and finance*, *26*(2), 129-142.

Bukhari, S. T. H. S., Chaudhary, G. M., & Hussain, N. (2023). Debt Capital, Default Risk and Financial Performance of Firms. *Journal of Development and Social Sciences*, *4*(1), 132-139.

Caprio Jr, G., & Demirgug-Kunt, A. (2012). The role of long-term finance. *World Bank Research Observer*.

Chisti, K. A., Ali, K., & Sangmi, M. I. D. (2013). Impact of Capital Structure on Profitability of ListedCompanies (Evidence from India). *The USV Annals of Economics and Public Administration*, *13*(1 (17)), 183-191.

Collins, N. R., & Preston, L. E. (2023). Concentration and price-cost margins in manufacturing industries.

Dangl, T., & Zechner, J. (2021). Debt maturity and the dynamics of leverage. *The Review of Financial Studies*, *34*(12), 5796-5840.

Demirhan, A. A., & Aldan, A. (2021). Financial constraints and firm employment: Evidence from Turkey. *Borsa Istanbul Review*, *21*(1), 69-79.

Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative science quarterly*, 29(1), 52-73.

Diamond, D. W., & He, Z. (2014). A theory of debt maturity: the long and short of debt overhang. *The Journal of Finance*, *69*(2), 719-762.

Egbunike, C. F., & Okerekeoti, C. U. (2018). Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria. *Asian Journal of Accounting Research*, *3*(2), 142-168.

Fama, E. F., & French, K. R. (2005). Financing decisions: who issues stock?. *Journal of financial economics*, *76*(3), 549-582.

Feeney, M. (2023). *Market Concentration and Business Dynamism: Do Concentrated Markets Deter New Entrants?* (Master's thesis, Georgetown University).

Feldstein, M. S. (1972). Corporate taxation and dividend behaviour: A reply and extension. *The Review of Economic Studies*, *39*(2), 235-240.

Filipe, S. F., Grammatikos, T., & Michala, D. (2016). Forecasting distress in European SME portfolios. *Journal o f banking & finance*, *64*, 112-135.

Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: which factors are reliably important? *Financial management*, 35(1), 1-37.

Frank, M. Z., & Sanati, A. (2021). Financing corporate growth. The Review of Financial Studies, 34(10), 4926-4998. doi: 10.1093/RFS/HHAA133

Gedajlovic, E., & Shapiro, D. M. (2002). Ownership structure and firm profitability in Japan. *Academy of management journal*, *45*(3), 565-575.

Ghosh, S. (2008). Leverage, foreign borrowing and corporate performance: firm-level evidence for India. *Applied Economics Letters*, *15*(8), 607-616.

Gill, A., Biger, N., & Mathur, N. (2011). The effect of capital structure on profitability: Evidence from the United States. *International Journal of Management*, *28*(4), 3.

Goudie, A. W., & Meeks, G. (1991). The exchange rate and company failure in a macro-micro model of the UK company sector. *The Economic Journal*, 101(406), 444-457.

Gujarati, D. N., & Porter, D. C. (2003). Basic Econometrics. 4th. In: New York: McGraw-Hill.

Handoyo, S., Suharman, H., Ghani, E. K., & Soedarsono, S. (2023). A business strategy, operational efficiency, ownership structure, and manufacturing performance: The moderating role of market uncertainty and competition intensity and its implication on open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(2), 100039.

Harford, J., Klasa, S., & Maxwell, W. F. (2014). Refinancing risk and cash holdings. *The Journal of Finance*, *69*(3), 975-1012.

Herwald, S., Voigt, S., & Uhde, A. (2024). The impact of market concentration and market power on banking stability–evidence from Europe. *The Journal of Risk Finance*, *25*(3), 510-536.

Hoffmann, M. L., Siddiqui, R. T., & Nguyen, E. H. (2023). Long-Term Debt and Financial Performance: A Study of Abbott Manufacturing Firm in Brussels, Belgium. *Journal of Finance and Accounting*, *7*(8), 1-10.

Jahangir, A., & Shabbir, A. (2023). What Determines the Profitability of Business Firms in Pakistan. *Business Management and Strategy*, *14*(2), 71-84.

Javeed, A., Muhammad, R., & Yaqub, S. (2015). An Empirical Examination of the Impact of Corporate Governance Measures and Capital Structure on Firm Profitability in Pakistan. *Research Journal of Finance and Accounting*, *6*(13), 9-17.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, *3*(4), 305-360.

Johnson, C. G. (1970). Ratio analysis and the prediction of firm failure. *The Journal o f finance*, 25(5), 1166-1168.

Karbhari, Y., & Muhamad Sori, Z. (2004). Prediction of corporate financial distress: Evidence from Malaysian listed firms during the Asian financial crisis. Available at SSRN 596607.

Kayo, E. K., & Kimura, H. (2011). Hierarchical determinants of capital structure. *Journal o f banking & finance*, 35(2), 358-371.

Khoja, L., Chipulu, M., & Jayasekera, R. (2019). Analysis of financial distress cross countries: Using macroeconomic, industrial indicators and accounting data. *International Review o f Financial Analysis*, *66*, 101379.

Kieschnick, R., Laplante, M., & Moussawi, R. (2013). Working capital management and shareholders' wealth. *Review of finance*, *17*(5), 1827-1852.

Kim, Yongjin, Debt Maturity Choice and Firms' Investment (July 2, 2015). Available at SSRN: https://ssrn.com/abstract=3038633 or http://dx.doi.org/10.2139/ssrn.3038633

Koussis, N., Martzoukos, S. H., & Trigeorgis, L. (2017). Corporate liquidity and dividend policy under uncertainty. *Journal of Banking & Finance*, *81*, 221-235.

Lamichhane, P. (2022). Determinants of Shareholders' Profitability in Nepalese Commercial Banks. *Butwal Campus Journal*, *5*(1), 43-55.

MacKay, P., & Phillips, G. M. (2005). How does industry affect firm financial structure? *The Review o f Financial Studies*, 18(4), 1433-1466.

Mallick, S., & Yang, Y. (2011). Sources of financing, profitability and productivity: First evidence from matched firms. *Financial Markets, Institutions & Instruments*, *20*(5), 221-252.

Mehboob, A., & Zaidi, S. S. Z. (2024). Exploring the Relationship between Sustainability Performance, Sustainable Competitive Advantages, and Firm Performance in Small and Medium-sized Enterprises of Pakistan. *Global Management Journal for Academic & Corporate Studies*, *14*(1), 1-23.

Mensah, Y. M. (1984). An examination of the stationarity of multivariate bankruptcy prediction models: A methodological study. *Journal o f accounting research*, 22(1), 380-395.

Mirzaei, M., Ramakrishnan, S., & Bekri, M. (2016). Corporate default prediction with industry effects: evidence from emerging markets. *International journal o f economics and Financial Issues*, 6(3S).

Mistri, P., & Chakrabarti, M. (2022). Impact of capital structure on firm profitability: A study of select large-cap auto ancillary companies in India. *Mudra: Journal of Finance and Accounting*, *9*(1), 36-55.

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, *48*(3), 261-297.

Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *The American economic review*, 433-443.

Mulekano, M. A., & Miroga, J. (2023). Retained earnings and profitability of manufacturing firms listed at Nairobi Securities Exchange. *The Strategic Journal of Business & Change Management*, 10 (4), 163 – 173. http://dx.doi.org/10.61426/sjbcm.v10i4.2741

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, *13*(2), 187-221.

Namazi, M., & Salehi, M. (2010). The Role of Inflation in Financial Repression: Evidence of Iran. *World Applied Sciences Journal*, 11(6), 653-661.

Naomi, I. W. (2023). Debt Financing and Financial Performance of Manufacturing Firms in Kenya. African Journal of Commercial Studies. *African Journal of Commercial Studies*, *3*(2), 86-95.

Nasimi, A. N., & Nasimi, R. N. (2018). Effect of capital structure on firms' profitability: An empirical evidence from Pakistan Stock Exchange (PSX). *Research Journal of Finance and Accounting*, *9*(11), 57-68.

Naz, A., & Sheikh, N. A. (2023). Capital structure and earnings management: evidence from Pakistan. *International Journal of Accounting & Information Management*, *31*(1), 128-147.

Nazir, A., Azam, M., & Khalid, M. U. (2021). Debt financing and firm performance: empirical evidence from the Pakistan Stock Exchange. *Asian Journal of Accounting Research*, *6*(3), 324-334.

Nazir, W., & Asad, H. (2023). Ownership Concentration, Firm Risk taking and Performance: Evidence from Developing Economy of Pakistan. *Pakistan Journal of Humanities and Social Sciences*, *11*(2), 2679-2701.

Nguyen, H. T., & Nguyen, A. H. (2020). The impact of capital structure on firm performance: Evidence from Vietnam. The Journal of Asian Finance, Economics and Business, 7(4), 97-105.

Papanastasopoulos, G., Thomakos, D., & Wang, T. (2010). The implications of retained and distributed earnings for future profitability and stock returns. *Review of Accounting and Finance*, *9*(4), 395-423.

Perera, W., & Priyashantha, P. (2018). The impact of working capital management on shareholders wealth and profitability: Evidence from Colombo Stock Exchange. *Available at SSRN 3178018*.

Prasad, N., Verma, M. K., Tanwar, N., & Kumar, M. (2024). Capital Structure Impact on Firm Performance: An Empirical Study of the Pharmaceutical Sector in India. *Economic Affairs*, *69*(2), 843-848.

Priyanka, Priyanka., Rajesh, Singh. (2024). How do different debt levels influence the financial performance of fmcg companies in india?. ShodhKosh Journal of Visual and Performing Arts, 4(1) doi: 10.29121/shodhkosh.v4.i1.2023.2515

Rasheed, R., Shahid, M., Mukhtar, M., & Ishaq, M. N. (2022). Impact of capital structure and liquidity conditions on the profitability of pharmaceutical sector of Pakistan. *IRASD Journal of Management*, *4*(2), 135-142.

Rashid, A., & Abbas, Q. (2011b). Predicting Bankruptcy in Pakistan. *Theoretical & Applied Economics*, 15(9), 103-128.

Raza, R. S., Mustafa, M. P., & Zoltan, S. A. (2023). Leverage, Debt Maturity and Corporate Financial Performance: Evidence from Non-Financial Firms Listed at Pakistan Stock Exchange. *Journal of Finance and Accounting*, *7*(9), 1-11.

Rohilla, S., & Sharma, P. (2023). Impact of debt financing on financial performance of firms: A systematic literature review. Australian Journal of Business and Management Research, 7(2), 35–55.

Salteh, H. M., Ghanavati, E., Khanqah, V. T., & Khosroshahi, M. A. (2009), ―Capital structure & firm performance; Evidence from Tehran Stock Exchange.‖, Reports of the financial year, 2005, 3-2.

Serrasqueiro, Z., Pinto, B., & Sardo, F. (2023). SMEs growth and profitability, productivity and debt relationships. *Journal of Economics, Finance and Administrative Science*, *28*(56), 404-419.

Shah, S. S., Pitafi, S. A., & Soomro, A. (2019). THE NEXUS BETWEEN CAPITAL STRUCTURE AND FIRMS'PROFITABILITY: EVIDENCE FROM OIL & GAS SECTOR OF PAKISTAN. *Journal of Business Strategies*, *13*(1), 109.

Shikumo, D. H., Oluoch, O., & Wepukhulu, J. M. (2023). Financial Structure, Firm Size and Financial Growth of Non-Financial Firms Listed at the Nairobi Securities Exchange. *arXiv preprint arXiv:2303.10910*.

Shubita, M. F., & Alsawalhah, J. M. (2012). The relationship between capital structure and profitability. *International Journal of Business and Social Science*, *3*(16).

Smith, M., & Liou, D.-K. (2007). Industrial sector and financial distress. *Managerial Auditing Journal*, 22(4), 376-391.

Sohn, B. C. (2012). Equity value, implied cost of equity and shareholders' real options. *Accounting & Finance*, *52*(2), 519-541.

Sommer, C. (2024). The Impact of Long-Term Finance on Job Quality, Investments and Firm Performance: Cross-Country Evidence. *The European Journal of Development Research*, *36*(4), 747-776.

Srivastava, A. (2011). Equity Ownership and Financial Performance. *Journal of Economics and Behavioral Studies*, *2*(4), 131-137.

Taffler, R. J. (1984). Empirical models for the monitoring of UK corporations. *Journal o f banking & finance*, *5*(2), 199-227.

Taggart Jr, R. A. (1985). Secular patterns in the financing of US corporations. In *Corporate capital structures in the United States* (pp. 13-80): University of Chicago Press

Tahir, M., & Anuar, M. B. A. (2016). The determinants of working capital management and firms performance of textile sector in pakistan. Quality & Quantity, 50, 605-618. doi: 10.1007/S11135-015-0166-4

Thirumalaisamy, R. (2020). The efficiency implications of corporate earnings retentions. *African Journal of Business Management*, *14*(4), 140-150.

Tomczak, S. (2017). Influence of the size of equity on corporate efficiency. *Oeconomia Copernicana*, *8*(2), 239-254.

Ullah, S., Tang, S., & Raza, M. Y. (2023). How the energy depletion rate and financial structure can promote environmental sustainability: Empirical evidence from Pakistan using ecological footprints. Energy Strategy Reviews, 50, 101208.

Venugopal, M., & Reddy, R. (2016). Impact of capital structure on firm's profitability and shareholder wealth maximization: A study of listed Indian cement companies. *Journal of Business and Management*, *18*(4), 21-27.

Whittington, G. (1972). *The profitability of retained earnings* (pp. 152-160). University of Cambridge, Department of applied economics.

Widigdya, S., Akhmadi, A., & Ichwanudin, W. (2024). Impact of Capital Structure on Firm Value with Profitability as Mediator: Indonesian Coal Companies Study. *Indonesian Journal of Innovation Multidisipliner Research*, *2*(1), 106-116.

Young, W., Hsu, J., Gao, P. Y., & Yang, T. J. (2023). Industry competition, market shares, and the long-run performance of SEO firms. *Asia-Pacific Financial Markets*, *30*(4), 845-867.

Zhang, Z., & Xu, X. (2023). Sustainable financial risk, resources abundance and technological innovation: Evidence from resources abundance economies. *Resources Policy*, *83*, 103559.

Zhu, Y. (2013). Determinants of long-term debt issuing decisions: An alternative approach. *Australian Journal of Management*, *38*(2), 429-439.