

Financial Leverage and Firm Performance: An Empirical Review and Analysis

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Abstract:

This study examines the impact of financial leverage on firm performance and value, focusing on the trade-offs between debt and equity financing. Financial leverage, the use of borrowed capital to finance business operations, can enhance profitability and growth, but also introduces significant risks, especially in developing economies. By analyzing various models and empirical studies, the paper discusses the role of leverage in determining financial performance, highlighting both its potential advantages and the dangers of excessive debt. The research draws on theoretical frameworks, such as the trade-off theory and pecking order theory, to evaluate the relationship between financial leverage and corporate performance across different industries. Key findings emphasize the need for firms to carefully balance their debt levels to avoid financial distress and ensure long-term sustainability. The paper concludes with recommendations for future research, urging a deeper investigation into the varying effects of leverage on firms of different sizes and across industries.

Keywords: Financial leverage, firm performance, debt financing, capital structure, trade-off theory

1. Introduction

In their pursuit to enhance their capital investments, corporate entities must secure appropriate financing. Consequently, equity and debt constitute the two principal sources

of capital for a business organization. Equity encompasses equity capital, retained earnings, and preference capital, whereas debt comprises term loans and debentures. The optimal capital structure can be articulated as the amalgamation of debt and equity that maximizes the firm's value while minimizing the overall cost of capital (Sugumar, 2023).

In light of formidable competition and escalating growth imperatives, organizations necessitate the expansion of their operations and projects, which is predominantly achieved through borrowing, a phenomenon referred to as financial leverage. Corporations frequently require supplementary capital to facilitate the expansion of their operations and typically prefer to source this funding through debt in order to diminish financing expenditures. This dynamic induces fluctuations in the profit levels of firms and subsequently influences their financial performance (Mahmood, 2023). Financial challenges are a prevalent occurrence that routinely emerges within any firm operating in the economy.

Financial leverage denotes the degree to which a corporation depends on debt as a means of financing. While it proves effective in augmenting investment and profitability, financial leverage concurrently entails substantial risks, particularly in developing economies. The equilibrium between the risks and rewards associated with leverage is essential for sustaining operational efficacy and long-term profitability (Afandy, 2024).

Leverage ratios serve as instruments to evaluate a firm's capacity to fulfill its financial obligations. Corporations that employ a debt ratio exceeding their equity are susceptible to a decline in financial stability. Consistent with the trade-off theory, it can be inferred that an elevated level of leverage poses a risk to a firm's financial stability and heightens the likelihood of financial distress (Heniwati & Essen, 2020). The leverage ratios can elucidate the proportion of a firm's assets that are financed through debt. If a substantial portion of the company's wealth is derived from debt, the company must generate profits exceeding the debt amount to service its debt and interest while still achieving profitability.

Financial leverage is computed utilizing the following formula: $FLR = (\text{total debt} / \text{total assets})$ (Mahmood, 2023). Leverage has the potential to diminish the percentage of profits allocated to shareholders; thus, it can serve as a regulatory mechanism to alleviate agency issues. Nevertheless, elevating the leverage level may involve employing a financing source with fixed interest in anticipation of generating additional profits that surpass these interest costs, thereby augmenting the profits available for shareholders. Furthermore, an excessive escalation in financial leverage amplifies the likelihood of

bankruptcy, which subsequently erodes investor confidence. Additionally, financial leverage profoundly impacts the overall performance of corporations. The debt-to-equity ratio serves as a metric of a firm's financial leverage, reflecting its capacity to satisfy all obligations (Arhinful & Radmehr, 2023).

Financial leverage is a crucial factor that highlights the risks and returns associated with the debt to total assets ratio, as it reflects the utilization of debt for investing in a company's assets. A rise in debt utilization indicates heightened risks from commitments to lenders, whereas a decline in financial leverage results in a lower return rate and reduced risk. Therefore, it is crucial to take into account the financial leverage ratio when making funding choices within the company.

1.2 Research problem

Financial leverage refers to the practice of borrowing capital to finance a company's operations (Setianti & Haryono, 2023). Debt financing provides several advantages for businesses, including predictable interest rates, increased financial flexibility, and potential tax benefits. The optimal amount of debt a company uses to structure its capital plays a crucial role in its financial performance and overall value (Arhinful & Radmehr, 2023). While traditional capital structure theories advocate for a limited use of debt to enhance performance, excessive debt introduces significant financial risks, such as the inability to meet interest and principal payments, which could lead to a loss of control over the company, with ownership shifting from shareholders to creditors. This highlights the need for businesses to carefully assess their debt strategies, debt levels, and overall capital structures to ensure long-term sustainability and growth.

This study aims to explore the impact of financial leverage on firm performance and value, providing a comprehensive analysis based on findings from various industries, using different models and measurement indicators.

2. Literature Review

2.1 Theoretical framework

Trade-off Theory

The trade-off theory suggests that companies utilizing debt for financing their operations must ensure they can reap the benefits of leveraging capital effectively. When a firm is unable to manage its debt properly, it risks facing financial distress (Farooq et al.,

2023). The theory posits that there is a balance between the use of debt (leverage) and the stability of a firm. Leverage refers to the proportion of a firm's debt relative to its equity. A higher leverage ratio increases the risk of bankruptcy, while lower leverage may limit a company's profitability, creating a trade-off between the two factors. Companies that rely heavily on debt must be diligent in repaying their obligations, particularly when profits are uncertain (Umdiana & Claudia, 2020). Excessive leverage can adversely affect a firm's stability, leading to financial difficulties, as it can negatively influence performance and long-term viability.

Pecking Order Theory

The pecking order theory, as outlined by Brealey et al. (2018), suggests that firms follow a specific hierarchy when choosing sources of financing. Internally generated funds are prioritized first, followed by debt financing, with equity financing being the last resort. Many established firms tend to use debt more than equity, as debt financing is often more accessible and less costly than raising funds through equity (Hoshi et al., 2004). Debt financing offers several benefits over equity financing, including tax advantages related to interest payments and the predictability of fixed repayment schedules. This hierarchy of financing preferences supports the rationale behind companies' preference for debt financing over equity.

2.2 Empirical Literature

According to Sugumar, (2023) the major determinants of financial leverage include size, profitability, non-tax debt shield, liquidity, dividend payout ratio, growth, efficient tax rate, age, selling and distribution expenses ratio, interest coverage ratio, inflation rate, solvency ratio, return on equity, bank rates, cost of equity and cost of debt. Through applying Correlation analysis, Multiple Regression analysis and Stepwise Regression analysis it was revealed that non-debt tax shield, liquidity, inflation rate, bank rate had no relationship with debt-equity ratio whereas size, profitability and dividend payout ratio were found to significantly affect debt to equity ratio.

Afandy (2024), in his research on the impact of financial leverage and cost management on operational efficiency and earnings stability in Indonesia's hospitality industry, employed a quantitative research method. The study analyzed data from 280 hospitality businesses using Structural Equation Modeling Partial Least Squares (SEM-PLS). The findings revealed that both financial leverage and cost management played crucial roles in enhancing earnings stability, with financial leverage also contributing significantly to improving operational efficiency. These results underscore the importance

of cost management and financial leverage as key drivers of operational efficiency and earnings stability in the hospitality industry. By controlling costs and optimizing resources, businesses can maintain consistent financial outcomes, while financial leverage helps secure capital for expansion and operational improvements. However, achieving high operational efficiency is essential, as it mediates the relationship between these financial strategies and stable earnings.

Setianti and Haryono (2023) investigated the effects of product market competition, financial leverage, and financing risk on the stability of Islamic banks in Indonesia between 2018 and 2022. Using panel regression with EViews 10 software and the Common Effect Model (CEM), their study found that financial leverage and financing risk had a negative impact on banking stability. They cautioned that Islamic banks should closely manage their leverage, as excessive financial leverage could lead to challenges, such as the need to service debt and interest payments during times of uncertain income. Higher financial leverage was found to be associated with lower stability in Islamic banks in Indonesia, highlighting the importance of prudent financial leverage management.

Mahmood (2023), in his study on the effect of financial leverage on dividend payout ratios in industrial companies listed on the Qatar Stock Exchange, discovered a significant positive relationship between the Debt-to-Assets ratio and the Dividend Payout Ratio. This indicates that using external funds in the investment structure of industrial companies enhances the dividend payout to shareholders, leading to increased earnings per share. However, the study found no significant effect of the Debt-to-Equity ratio on the Dividend Payout Ratio, suggesting that dividend distribution was not influenced by the source of financing, whether debt or equity. The research further indicated that while debt financing did not directly influence dividend payouts, companies could increase shareholder wealth by reinvesting debt financing into financial assets, thereby enhancing the dividend payout ratio.

Arhinful and Radmehr (2023) studied the impact of financial leverage on the financial performance of firms listed on the Tokyo Stock Exchange. Using a random-effects model with data from 257 firms, they found that both the cash coverage ratio and interest coverage ratio had a positive and statistically significant effect on return on assets (ROA), whereas the asset coverage ratio had a negative and statistically insignificant effect. In terms of return on equity (ROE), the study found a negative and statistically significant impact from the asset coverage ratio, cash coverage ratio, and debt service obligation, while the interest coverage ratio had a positive and significant effect. These findings suggest that managers should consider reducing the percentage of debt financing in their capital

structure to minimize the costs associated with interest and debt repayment, thereby enhancing profitability and reducing the risk of financial distress or bankruptcy.

3. Methodology

This study adopts a systematic review of literature from past studies by various researchers who applied various models, data collection and analysis procedures on different industries using different variables. This method was selected due to the availability of information on past studies and the need to investigate them further due to their divergent findings. The findings from the extensive review will form the basis of our conclusions, recommendations and further gaps for future studies.

4. Results and Discussion

The degree of financial leverage (DFL) is a financial ratio that measures how sensitive a company's earnings per share (EPS) are to changes in its operating income, stemming from shifts in its capital structure. This ratio calculates the percentage change in EPS resulting from a unit change in earnings before interest and taxes (EBIT). A higher DFL indicates that a company's earnings are more volatile, as leverage amplifies the effects of fluctuations in operating income. Since interest payments are typically fixed, leverage boosts returns and EPS when operating income is rising, but it can create challenges if operating income declines.

A higher DFL signifies greater volatility in EPS. This ratio helps businesses evaluate the extent of debt or financial leverage that is appropriate for their capital structure. If a company operates in a stable environment where operating income remains relatively steady, it can sustain higher debt levels. However, in industries where operating income is highly volatile, it may be wise to limit debt to manageable levels. The firm's leverage, or use of debt, is closely tied to these factors, as higher leverage increases the cost of capital by raising perceived risk, especially in volatile economic or political conditions. Therefore, firms must carefully consider their leverage ratios to optimize their cost of capital while maintaining financial stability and growth potential (Kengere et al, 2023).

The use of financial leverage varies significantly across industries. Sectors such as banking, manufacturing, retail, airlines, utilities, pharmaceuticals, and oil and gas tend to operate with higher degrees of leverage. The degree of financial leverage impacts various aspects of a company's performance, including dividend payments, liquidity, and potential for growth and expansion. However, overreliance on financial leverage in these industries

has led to financial difficulties for some firms, with excessive leverage being a contributing factor in the bankruptcy of several companies.

Financial leverage plays a pivotal role in the capital structure decisions of firms. It refers to the use of borrowed funds (debt) to finance a company's operations and investments. The degree to which a firm utilizes debt financing relative to equity is referred to as its leverage ratio, and it significantly affects the company's performance, profitability, and financial risk. This section discusses the implications of financial leverage for firm performance, drawing on various theoretical frameworks and empirical findings.

4.1 Financial Leverage and Firm Performance

Financial leverage can enhance a firm's profitability by enabling it to invest in profitable ventures using borrowed capital, which would not be possible with equity alone. However, the advantages of leverage are counterbalanced by the risks it introduces. As noted by [Sugumar \(2023\)](#), when firms use debt financing, they must generate returns greater than the cost of the debt (interest payments), otherwise, the firm risks insolvency or bankruptcy. This aligns with the trade-off theory, which posits that there is an optimal level of leverage where the marginal benefit of debt (in terms of tax shields and growth opportunities) is equal to the marginal cost of financial distress ([Farooq et al., 2023](#)).

On the other hand, excessive leverage increases the firm's financial risk, which can negatively affect its performance. According to [Mahmood \(2023\)](#), a high debt-to-equity ratio can elevate the likelihood of financial distress, especially in volatile markets. This is particularly evident in industries where revenue streams are uncertain, such as hospitality and banking ([Afandy, 2024](#)). Research by [Arhinful and Radmehr \(2023\)](#) also shows that high leverage ratios lead to lower financial performance indicators such as Return on Assets (ROA) and Return on Equity (ROE), as firms are burdened with higher interest payments.

Moreover, the pecking order theory, as outlined by [Brealey et al. \(2018\)](#), suggests that companies prioritize internal financing, followed by debt, and then equity. This hierarchy is based on the relative costs and benefits of each financing source. Debt is often preferred over equity as it is cheaper and provides tax advantages. However, this does not preclude the need for caution, as excessive reliance on debt can strain the company's financial stability, especially in uncertain economic environments ([Hoshi et al., 2004](#)).

4.2 Industry Variations in Leverage

The effect of financial leverage on firm performance varies across industries. In capital-intensive industries like manufacturing, airlines, and utilities, firms often operate with higher leverage to fund expensive infrastructure and projects. These industries can

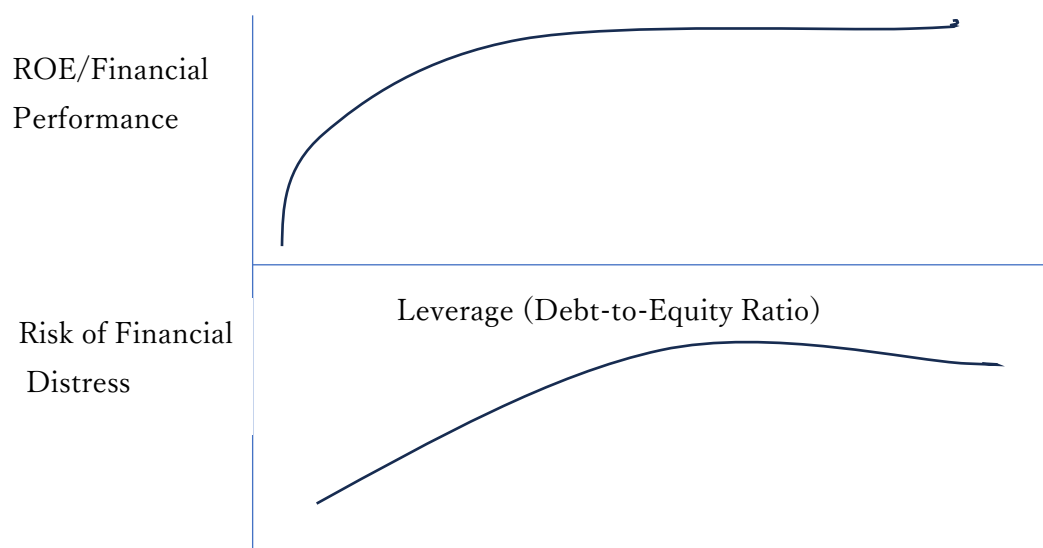
sustain high levels of debt because they typically have stable cash flows and assets that can be used as collateral (Mahmood, 2023). However, over-leveraged firms in these industries can face significant challenges if their cash flows fall short, as seen in the bankruptcy cases of several firms during financial crises.

Conversely, industries with more volatile income streams, such as hospitality, retail, and certain service-based sectors, must exercise caution in their use of financial leverage. As highlighted by Afandy (2024), companies in the hospitality sector, for example, face fluctuating demand, making it difficult to service debt in periods of low income. Setianti and Haryono (2023) also found that excessive leverage in Islamic banks in Indonesia led to instability, as these institutions struggled to meet debt obligations during economic downturns.

4.3 The Role of Debt Ratios in Financial Performance

Leverage ratios, such as the debt-to-equity ratio and the debt-to-assets ratio, are essential tools for assessing the impact of financial leverage on a company's performance. A high debt-to-equity ratio indicates a higher reliance on debt financing, which can amplify returns during periods of high profitability but can lead to distress during downturns. Conversely, a low debt ratio signals a conservative approach to financing, which may limit growth opportunities but ensures greater financial stability (Arhinful & Radmehr, 2023).

A balance must be struck between debt and equity to optimize financial performance while managing risk. The degree of financial leverage a company employs should align with its capacity to generate stable and predictable cash flows to meet debt obligations. Firms must assess both their short-term liquidity needs and long-term sustainability when making capital structure decisions.



The upward sloping curve represents the positive impact of financial leverage on the firm's return on equity (ROE) as leverage increases. The downward sloping curve represents the increasing risk of financial distress with higher leverage. Beyond a certain point, the risk of bankruptcy rises, and the benefits of leverage diminish, reflecting the trade-off theory. This diagram underscores the importance of balancing leverage to optimize firm performance while minimizing the risk of financial distress.

5. Conclusions and recommendations

Financial leverage is an important concept in the management of any firms' finances and operations. The use of debt is seen to positively impact the financial performance of most firms' indication that better management of debt financing is vital for the survival of a firm. Excessive use of debt is seen to have a negative influence on the financial performance of firms as it raises the overall cost of capital rendering firms' inability to pay back debts when they fall due. There exists a higher chance of failure if too much financial leverage is used, as servicing the loan becomes more challenging. The financial leverage formula is hence a very valuable indicator of a company's financial performance.

Financial leverage is a critical aspect of corporate finance that can significantly influence a firm's performance and stability. While leveraging debt can provide firms with the capital needed for growth and expansion, it also introduces substantial risks, especially if the debt levels exceed the firm's ability to manage them effectively. As discussed, the optimal level of leverage is a delicate balance between maximizing the benefits of debt, such as tax advantages and increased profitability, and managing the risks of financial distress and bankruptcy.

Theoretical frameworks, such as the trade-off theory and pecking order theory, offer valuable insights into how firms should approach their capital structure decisions. These theories highlight the importance of balancing debt and equity, taking into consideration factors like financial stability, profitability, and industry characteristics. Empirical studies have reinforced these ideas, showing that financial leverage can have both positive and negative effects on firm performance depending on how it is managed. For firms in stable, capital-intensive industries, higher leverage may be sustainable and beneficial, whereas in more volatile sectors, excessive debt could lead to severe financial challenges. Therefore, companies must carefully assess their financial leverage based on their specific circumstances, market conditions, and growth strategies.

Ultimately, the findings suggest that while financial leverage can enhance shareholder wealth and enable expansion, firms should exercise caution in utilizing debt to avoid over-leveraging, which can undermine financial stability. Future research should

continue to explore the nuanced relationship between financial leverage, firm size, and industry dynamics, helping managers make informed decisions about their capital structure and its impact on long-term sustainability and growth.

Recommendations and Future research

It is recommended that firms carefully assess their capital structure to maintain an optimal balance between debt and equity. Companies should strive to avoid excessive reliance on debt financing, as over-leveraging can increase the risk of financial distress and reduce long-term profitability. Financial managers should adopt a cautious approach, considering both the firm's ability to generate stable cash flows and the economic environment in which they operate. In industries with high volatility, such as hospitality or retail, it is particularly important to limit debt to a level that can be serviced even during periods of economic downturn.

Additionally, firms should focus on improving operational efficiency and profitability through cost management and strategic investments, which can help mitigate the risks associated with high leverage. Managers must regularly monitor leverage ratios, such as the debt-to-equity and debt-to-assets ratios, to ensure they remain within manageable limits. Using financial leverage as a tool for growth is beneficial, but it should be coupled with a robust risk management strategy to safeguard the company's financial health.

Moreover, firms should consider diversifying their financing sources. While debt financing may be cheaper in the short term, equity financing can provide a buffer during periods of financial strain. Implementing a flexible approach, where debt is used selectively for strategic growth and not as a means of ongoing operational financing, can help firms balance risk and reward.

As financial leverage is seen to have a different effect on the financial performance of firms in different industries and of different sizes, future researchers should attempt to link the two major variables so as to find any relationships. They should prioritize a mix of both primary data and secondary data while conducting a longitudinal survey. This will provide an accurate insight on how size of a firm affects their degree of financial leverage.

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