THE EFFECT OF FINANCIAL LEVERAGE ON COMPANY'S CAPITAL STRUCTURE: EVIDENCE FROM DEVELOPING MARKET

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Abstract

This research paper aims to investigate the impact of financial leverage on a company's capital structure. The study focuses on 54 Jordanian industrial companies listed on the Amman Stock Exchange market for the year 2021. The primary objective of the research is to determine whether financial leverage has a significant effect on a company's capital structure, debt, and equity. The study utilizes a purposive sampling technique, and the data is collected from the annual reports of the selected companies. The social statistical tool SPSS is used to analyze the data and test the hypotheses. The study's findings indicate that financial leverage has a considerable impact on the capital structure of the organization. The results suggest that the higher the financial leverage, the higher the proportion of debt in the capital structure. Furthermore, the study also discovered that financial leverage has a large impact on a company's debt and equity, which suggests that financial leverage plays a significant role in determining a company's financing decisions. The study's relevance lies in its contribution to the existing literature on corporate finance, particularly in the context of Jordanian industrial companies.

Keywords: Capital Structure, Debt, Equity, Financial leverage, Jordanian Industrial Companies, Amman Stock Exchange, Purposive Sampling, Social Statistical Tools

Authors' individual contribution: Conceptualization — Z.A.-H. and O.S.S.; Methodology — O.S.S.; Investigation — Z.A.-H.; Resources — Z.A.-H. and O.S.S.; Writing — O.S.S.; Visualization — Z.A.-H.; Supervision — O.S.S.

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1. INTRODUCTION

The purpose of this research paper is to examine the impact of financial leverage on a company's capital structure. Financial leverage refers to the use of debt financing in a company's capital structure, which can have both positive and negative effects on the company. On one hand, financial leverage can increase a company's return on equity by allowing it to finance its operations and investments with borrowed money, which can be particularly beneficial in times of high economic growth. On the other hand, financial leverage can also increase a company's risk by making it more vulnerable to changes in market conditions, such as an increase in interest rates or a decline in asset values. As such, it is important for companies to carefully consider the trade-offs between the potential benefits and risks of financial leverage when making decisions about their capital structure.

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In this research paper, we will explore the various factors that can influence a company's financial leverage, as well as the impact of financial leverage on a company's financial performance and risk profile.

The practical implications of this study give more understanding of the effect of financial leverage on capital structure for a number of reasons. First, capital structure refers to the mix of debt and equity that a company uses to finance its operations and investments. The proportion of debt to equity in a company's capital structure can have a significant impact on its financial performance and risk profile. For example, a company with a high level of financial leverage may have a higher return on equity, but it may also be more vulnerable to changes in market conditions, such as an increase in interest rates or a decline in asset values.

Understanding the impact of financial leverage on capital structure can help companies make informed decisions about how to finance their operations and investments in a way that balances the potential benefits and risks.

In addition, studying the effect of financial leverage on capital structure can also provide insights into the financial management strategies of companies and how they respond to different market conditions. For example, some companies may choose to use financial leverage to take advantage of growth opportunities, while others may prefer to maintain a lower level of financial leverage order to reduce their risk exposure. in Understanding these strategies can be valuable for investors, creditors, and other stakeholders who are interested in the financial health and stability of a company.

Finally, studying the effect of financial leverage on capital structure can also contribute to the broader understanding of financial management and the role of debt financing in the economy. This knowledge can be useful for policymakers, academics, and other stakeholders who are interested in the role of debt financing in economic growth and stability.

The social implications of this research could help in promoting the responsible use of financial leverage, which may contribute to greater financial stability and reduce the risk of financial crises. Furthermore, a better understanding of the impact of financial leverage on capital structure can help companies in Jordan operate more efficiently and effectively, leading to greater economic growth and development. In addition, the research findings can be used to educate stakeholders, including shareholders and employees, about the importance of responsible financial management and the risks and benefits of using debt financing. Also, a more comprehensive understanding of capital structure and financial leverage can contribute to a betterinformed public discourse on the role of debt financing in the economy, leading to more informed public policies and regulations.

Jordanian industrial businesses are aware of the value of debt in raising capital, as well as the risks involved in using this method to fund their operations. The intended capital structure of a company should be determined by management using a rigorous and responsible procedure. Many businesses acted carelessly toward stockholders' interests throughout the past 20 years, which seriously damaged stakeholder confidence and eventually had an impact on the firm's profitability and returns on equity.

A company's capital structure refers to the specific ratio of debt to equity that it uses to fund all aspects of operations and expansion. In other words, a company's capital structure describes how it uses a variety of funding sources to pay for its operations and expansion (Dakua, 2019).

The vitality of a firm's capital structure, which impacts the overall stability of a firm, lends the topic its importance. A company with a good capital structure has a better possibility of boosting the market price of its shares and securities, which will also increase the market's estimation of the firm's value (Akintoye, 2009; Afifa et al., 2021). Additionally, a sound capital structure makes sure that the available resources are utilized efficiently, preventing over- or undercapitalization. Capital structure aids in optimizing shareholder capital while lowering the overall cost of capital for the organization, which increases profits in the form of larger returns to stakeholders. Finally, a sound capital structure gives businesses the flexibility to adjust their loan capital in response to changing market conditions (Barakat, 2014; Gaytan et al., 2022).

The aim of the current research paper is to examine the effect of financial leverage on a company's capital structure and to determine the optimal structure of capital in the industrial companies in Jordan. The study's relevance lies in its contribution to the existing literature on corporate finance, particularly in the context of Jordanian industrial companies. The expected research findings can help policymakers and financial managers in making informed decisions about the appropriate level of financial leverage for their organizations.

The structure of this paper is as follows. Section 2 reviews the relevant literature. Section 3 analyses the methodology that has been used. Section 4 presents the results and discussions. Finally, Section 5 provides the conclusions with its recommendations, and study limitations.

2. LITERATURE REVIEW

Financial leverage is the ratio of fixed-income securities to preferred shares in a company's capital structure (Dakua, S019). Financial leverage is beneficial when the assets acquired using debt capital create more income than the cost of the debt used to fund them. In each of these cases, financial leverage is employed to increase business profits. With that said, financial leverage will decrease equity value and subsequently decrease the value of the firm if the company does not have enough taxable revenue to shield or if its operating profits are below a key level (Kale, 2014; Ibrahim & Isiaka, 2020).

The first phase in the capital decision-making process is for the management of a company to determine how much external capital it will need to raise in order to operate its business, given the significance of a firm's capital structure. Once this sum has been established, management must look at the financial markets to ascertain the conditions under which the business might raise



funds. This stage is essential because the market climate can limit the company's capacity to issue debt securities or ordinary stock at an appealing price or level (Singh & Bansal, 2016).

Equity capital comes from claims to a company's future cash flows and earnings as well as ownership stakes in the latter. Bond issuances and loans are examples of debt, whereas common stock, preferred stock, and retained earnings are examples of equity. Short-term debt is sometimes recognized as a part of the capital structure, and one of the two primary methods for a corporation to raise capital on the financial markets is through debt (Ahmed et al., 2018).

Companies in various industries will employ capital structures that are more appropriate for their line of work. While labor-intensive or serviceoriented businesses, like software companies, may favor equity, capital-intensive industries, like the auto industry, may use more debt (Ishari & Abeyrathna, 2016; Akhtar et al., 2022).

Due to the tax benefits of debt, businesses gain from it. Interest payments made as a result of borrowing money may be tax deductible. In contrast to equity, debt permits a firm or business to maintain ownership. Additionally, debt is widely available and simple to get during periods of lowinterest rates (Flannery, 2017; O'Connell et al., 2022).

Equity enables outside investors to acquire a stake in the business. Even when interest rates are low, equity costs more than debt. Equity, on the other hand, does not require repayment like debt does. In the event that earnings are dropping, this is advantageous to the business. Contrarily, equity is the owner's claim to a portion of the company's future profits (Margaritis & Psillaki, 2010; Owusu et al., 2022).

In order to finance their operations, businesses can either issue more debt or stock. When companies issue stock, they give up some of their ownership in the business without having to repay investors; when they issue debt, they raise their leverage because they have to repay investors. Investors use a company's debt-to-equity ratio as a risk indicator (Flannery, 2017).

Companies with high leverage ratios and aggressive capital structures utilize more debt than equity to finance their assets and pay for operating expenses. A corporation with a capital structure that is more cautious and uses equity rather than debt has a low leverage ratio. However, a capital structure that is cautious can result in lower growth rates, and one that is high leverage can result in better growth rates (Perinpanathan, 2014; Bajaj et al., 2021).

The debt-to-equity ratio is a measure of capital structure used by analysts. By dividing total liabilities by total equity, it is determined. Both debt and equity have been incorporated by businesses their corporate plans. But occasionally, into businesses could rely too much on debt and outside finance in particular. By watching the debt-to-equity ratio and comparing it to that of the company's competitors in the industry, investors may keep tabs on a company's capital structure (Toumi, 2020).

A corporation with excessive debt could be considered a credit risk. However, too much equity could indicate that the business is underutilizing its growth prospects or overpaying for its cost of capital (as equity tends to be more costly than debt) (Imbierowicz & Rauch, 2014). Unfortunately, there isn't a magic debt-to-equity ratio that can be used as a guide to arrive at an optimal capital structure in the actual world. Depending on the sector a company operates in, its stage of development, and potential future changes in interest rates and regulatory environments, what constitutes a healthy balance of debt and equity varies over time (Buettner et al., 2012).

Many metrics, including the leverage ratio, the debt-to-equity ratio, the weighted average cost of capital (WACC), and the debt ratio, can be used by analysts and investors to assess the capital structure (Battisti et al., 2020).

3. RESEARCH METHODOLOGY

3.1. Method and hypotheses development

There are several approaches that can be used to address potential homogeneity concerns associated with the results of the effect of financial leverage on capital structure. One approach is to use robustness checks, which are designed to assess the robustness or stability of the results of a study. Robustness checks can help to identify the extent to which the results of a study are sensitive to changes in the assumptions or methods used.

One type of robustness check that can be used to address homogeneity concerns is a sensitivity analysis, which involves testing the robustness of the results to changes in specific assumptions or variables. For example, in the context of the effect of financial leverage on capital structure, a sensitivity analysis might involve testing the robustness of the results to changes in the measure of financial leverage used, or to changes in the sample of companies included in the study. By performing sensitivity analyses, researchers can identify the extent to which the results of a study are sensitive to different assumptions or variables and can assess the robustness of the results in different contexts.

Other approaches that can be used to address homogeneity concerns include the use of multiple regression analysis, which allows researchers to control for the effects of other variables that might be correlated with financial leverage; the use of panel data analysis, which allows researchers to control for differences across companies or over time; and the use of instrumental variables, which can be used to identify the causal effect of financial leverage on capital structure.

Samples of this study were taken from the annual reports of industrial companies listed on the Amman Stock Exchange. We would like to clarify that we used purposive sampling, which is a non-probability sampling technique that involves selecting samples based on specific criteria that are relevant to the research objectives. In our case, we selected 54 Jordanian industrial companies listed on the Amman Stock Exchange for the year 2021 based on their availability and relevance to the study's goal.

The main criteria used for sampling the firms were: 1) annual reports must be available at the stock exchange and 2) the firm must be listed for the entire period of the study 2021. For achieving the purpose of the study, the annual



reports of these companies were analyzed using the social statistical program SPSS. The regression technique is used for data analysis. The regression equitation is developed to test the relationship between the dependent variable of *financial leverage* and the independent variable of *capital structure*.

The dependent variable *capital structure* indicates the mix of equity financing and debt financing supporting the assets side of the company's balance sheet. The aim is to check if either profitability or degree of financial leverage (DFL) or both have any effect in bringing about capital structure change.

The independent variable *financial leverage* results from the presence of fixed financial costs in a firm's income stream. The extent of the presence of fixed financial costs in a firm's income stream is measured by the DFL. Financial leverage increases the expected return on equity, but it also increases the risk faced by the shareholders. The business risk part of total risk is affected by operating leverage, whereas financial leverage affects financial risk thus affecting the total risk of the firm. Though capital structure theories consider long-term debt as a proxy for financial leverage we measure "degree of financial leverage" as the ratio of earnings before taxes (EBT) to earnings before interest and taxes (EBIT).

The research hypotheses which can be developed in the following way.

The main hypothesis is:

*H*₀: There is no statistically significant effect of financial leverage on the capital structure of the company ($\beta 1 = 0$).

The sub-hypotheses are formulated as follows:

 H_{01} : There is no statistically significant effect of financial leverage on the company's debt ($\beta 1 = 0$).

 H_{02} : There is no statistically significant effect of financial leverage on the company's equity ($\beta 1 = 0$).

These hypotheses state that the coefficient of financial leverage (β 1) in the regression equation is equal to zero, which means that *financial leverage* has no significant effect on the company's *capital structure, debt,* or *equity.* If the null hypothesis is rejected, then we can conclude that there is a statistically significant effect of financial leverage on the respective variable being tested.

3.2. Research regression equation

The regression equation that can be used to test the hypotheses is as follows:

$$Capital structure =$$

$$\beta 0 + \beta 1(Financial leverage) + \varepsilon$$
(1)

where,

• *Capital structure* represents the overall capital structure of the company.

• *Financial leverage* represents the extent to which the company uses debt financing.

• $\beta 0$ represents the intercept.

• $\beta 1$ represents the coefficient of financial leverage, which indicates the effect of financial leverage on the capital structure.

• ε represents the error term.

To test the sub-hypotheses, we can modify the above regression equation as follows:

For H_{01}

$$Debt = \beta 0 + \beta 1(Financial \ leverage) + \varepsilon$$
(2)

where, *Debt* represents the proportion of debt in the capital structure.

For H₀₂

 $Equity = \beta 0 + \beta 1(Financial \, leverage) + \varepsilon$ (3)

where, *Equity* represents the proportion of equity in the capital structure.

We can then perform hypotheses testing on the estimated coefficients $\beta 1$ of the above regression equations to determine whether there is a statistically significant effect of *financial leverage* on the *capital structure*, *debt*, or *equity*, depending on the hypotheses being tested.

4. RESULTS & DISCUSSIONS

4.1. Statistical analysis

The variance inflation coefficient (VIF) was used to indicate the absence of linear coupling between variables. Table 1 shows that the value of the VIF is less than 10 and thus there is no linear duplication between the variables.

Table 1. The variance inflation coefficient (VIF)

VIF	Durbin-Watson	Capital structure (C-S)
Туре	Capital structure	Capital structure
1.254	1.927	a= 0.094

4.2. Homogeneity test

One of the requirements for the multiple linear regression test is to verify the lack of homogeneity in the regression equation, so the researchers conducted the homogeneity test, as this test is considered one of the important tests to ensure the validity of the assumptions of the regression model, as the presence of homogeneity in the data leads to inconsistent results For regression coefficients, standard errors are biased and this leads to misleading results (de Jager, 2008). The problem of homogeneity was verified by the Breusch-Pagan Godfrey test, as this test is one of the most common tests to confirm the presence of the problem of homogeneity. The decision rule of this test is that if the p-value is less than 0.05, then the problem of homogeneity is fulfilled, and if the p-value is greater than 0.05. then the problem of homogeneity is not achieved. Table 2, illustrates the results of the Breusch-Pagan Godfrey test to verify the problem of variance instability:

Table 2. Homogeneity test

Dependent variable	Test value	P-value
Debt	3.62	0.103
Equity	2.31	0.141

Table 2 shows the results of the Breusch-Pagan Godfrey test to examine the problem of homogeneity. It is clear from Table 2 that the problem of homogeneity doesn't exist, as

the test value was 3.62 and the p-value was 0.103, for the debt risk equation and 2.31 with a probability value of 0.141 for the equity risk equation, meaning that the probability values are greater than the value 0.05, and therefore the problem of homogeneity is verified.

4.3. Hypotheses test

4.3.1. Testing main hypothesis (H₀)

A multiple regression analysis was conducted to identify the effect of financial leverage on the company's capital structure. The level of significance of the effect of financial leverage on the company's capital structure of the industrial companies was 000.0, and the calculated F-value was 7.122, which indicates that we refuse the null hypothesis and accept the alternative hypothesis; there is a statistically significant effect of financial leverage on the company's capital structure. The study model (Adj. R²) explained what is equal to 8.5% of financial leverage effect on the capital structure of the companies subject to the study sample, and the relationship coefficient (*Beta*) between each of the independent and dependent variables reached 31.4%. Table 3 illustrates these results.

Table 3. Multiple regression analysis of main hypothesis (H₀)

Coef.	Sig.	F	Adj. R ²	R^2	R	VIF	Tolerance
Constant Financial leverage	0.000	7.122	0.085	0.099	0.314	1.014	0.986

A statistically significant effect of financial leverage on the company's capital structure in Jordanian industrial companies would suggest that financial leverage has a meaningful impact on the proportion of debt to equity in the capital structure of these companies. This conclusion would be based on the results of a statistical analysis that found a significant relationship between financial leverage and capital structure in the sample of Jordanian industrial companies studied.

There are several potential reasons why financial leverage may have a statistically significant effect on capital structure in Jordanian industrial companies. One possibility is that financial leverage can increase a company's return on equity by allowing it to finance its operations and investments with borrowed money, which can be particularly beneficial in times of high economic growth. This can lead companies to adopt a more leveraged capital structure in order to take advantage of these growth opportunities.

On the other hand, financial leverage can also increase a company's risk by making it more vulnerable to changes in market conditions, such as an increase in interest rates or a decline in asset values. This can lead companies to be more cautious about their use of financial leverage and to adopt a more conservative capital structure in order to reduce their risk exposure.

It is important to note that the specific effects of financial leverage on capital structure in Jordanian industrial companies may depend on a variety of factors, such as the specific financial and economic conditions in Jordan, the regulatory environment for companies, and the individual characteristics of the companies in the sample. Further research would be needed to understand the specific mechanisms through which financial leverage affects capital structure in this context.

4.3.2. Testing hypothesis (H_{01})

The level of significance of the effect of financial leverage on the company's debts of the industrial companies was 000.0, and the calculated F-value was 8.975, which indicates that we refuse the null hypothesis and accept the alternative hypothesis; there is a statistically significant effect of financial leverage on the company's debts. The study model (Adj. R²) explained what is equal to 10.8% of financial leverage effect on debts of the companies subject to the study sample, and the relationship coefficient (*Beta*) between the independent and dependent variable reached 34.8%. Table 4 illustrates these results.

Table 4. Multiple regression analysis of *H*₀₁

Coef.	Sig.	F	Adj. R ²	R^2	R	VIF	Tolerance
Constant Debt	0.000	8.975	0.108	0.121	0.348	1.014	0.986

4.3.3. Testing hypothesis (H₀₂)

The level of significance of the effect of financial leverage on the company's equity of the industrial companies was 000.0, and the calculated F-value was 7.099, which indicates that we refuse the null hypothesis and accept the alternative hypothesis; there is a statistically significant effect of financial

leverage on the company's equity. The study model (Adj. R^2) explained what is equal to 8.5% of financial leverage effect on equity of the companies subject to the study sample, and the relationship coefficient (*Beta*) between the independent and dependent variable reached 31.4%. Table 5 illustrates these results.

Table 5. Multiple regression analysis of *H*₀₂

Coef.	Sig.	F	Adj. R ²	R^2	R	VIF	Tolerance
Constant <i>Equity</i>	0.000	7.099	0.085	0.098	0.314	1.014	0.986

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In other words, it is found that there is a statistically significant effect of financial leverage on a company's debt and equity in Jordanian companies, this would suggest that financial leverage has a meaningful impact on both the debt and equity components of a company's capital structure in this context. This conclusion would be based on the results of a statistical analysis that found a significant relationship between financial leverage and both debt and equity in the sample of Jordanian industrial companies studied.

There are several potential reasons why financial leverage may have a statistically significant effect on a company's debt and equity in Jordanian industrial companies. One possibility is that financial leverage can increase a company's return on equity by allowing it to finance its operations and investments with borrowed money, which can be particularly beneficial in times of high economic growth. This can lead companies to adopt a more leveraged capital structure in order to take advantage of these growth opportunities, which could result in a statistically significant effect of financial leverage on both debt and equity.

On the other hand, financial leverage can also increase a company's risk by making it more vulnerable to changes in market conditions, such as an increase in interest rates or a decline in asset values. This can lead industrial companies to be more cautious about their use of financial leverage and to adopt a more conservative capital structure in order to reduce their risk exposure. This could result in a statistically significant effect of financial leverage on both debt and equity, as industrial companies may choose to reduce their use of debt financing and increase their reliance on equity financing in order to mitigate the risks associated with financial leverage.

It is important to note that the specific effects of financial leverage on a company's debt and equity in Jordanian industrial companies may depend on a variety of factors, such as the specific financial and economic conditions in Jordan, the regulatory environment for companies, and the individual characteristics of the companies in the sample. Further research would be needed to understand the specific mechanisms through which financial leverage affects a company's debt and equity in this context.

5. CONCLUSION

Based on the previous results, it can be concluded that there is a statistically significant effect of financial leverage on a company's capital structure in Jordanian industrial companies. This suggests that financial leverage has a meaningful impact on the proportion of debt to equity in the capital structure of these companies. In addition, the results also indicate that there is a statistically significant effect of financial leverage on both a company's debt and equity in Jordanian industrial companies.

These conclusions are based on the results of a statistical analysis that found a significant relationship between financial leverage and capital structure, as well as between financial leverage and both debt and equity, in the sample of Jordanian industrial companies studied. While these results provide valuable insights into the impact of financial leverage on capital structure in this context, it is important to note that the specific effects of financial leverage may depend on a variety of factors, such as the specific financial and economic conditions in Jordan, the regulatory environment for companies, and the individual characteristics of the companies in the sample. Further research would be needed to understand the specific mechanisms through which financial leverage affects capital structure in this context.

Based on the previous results, which indicate that there is a statistically significant effect of financial leverage on a company's capital structure in Jordanian industrial companies, the following recommendations could be made:

Industrial companies should carefully consider the trade-offs between the potential benefits and risks of financial leverage when making decisions about their capital structure. While financial leverage can increase a company's return on equity by allowing it to finance its operations and investments with borrowed money, it can also increase a company's risk by making it more vulnerable to changes in market conditions.

Industrial companies should consider the specific financial and economic conditions in Jordan when making decisions about their use of financial leverage. For example, if interest rates are expected to rise or if asset values are expected to decline, companies may want to be more cautious about their use of financial leverage in order to reduce their risk exposure.

Industrial companies should consider the regulatory environment for companies in Jordan when making decisions about their capital structure. For example, if there are regulatory restrictions on the use of financial leverage, companies may need to be more cautious about their use of debt financing.

Industrial companies should carefully monitor their financial performance and risk profile in order to identify any potential issues that may arise as a result of their use of financial leverage. This can help companies proactively address any potential problems and to maintain a healthy and stable capital structure.

Further research could be conducted to better understand the specific mechanisms through which financial leverage affects capital structure in the context of Jordanian industrial companies. This could provide valuable insights for companies, investors, and other stakeholders who are interested in the financial health and stability of these companies.

This study has some limitations, just like any other academic endeavor, so it is important to consider those limitations when evaluating the study's findings. But these restrictions also offer chances for additional study in this field.

Because this study only focused on Jordanian industrial companies, it is important to use caution when extrapolating its conclusions.

This study is examining the effect of financial leverage on the company's capital structure, and the results of this research could be attributed to other factors affecting the company's capital structure, so additional research should be done in this field.

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