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**Dr. Wisam Sami Jabbar Zinal**  
Lecturer, Hawija Technical  
College, Northern Technical  
University, Mosul, Iraq

### **Financial leverage and its impact on the profitability rate of companies: An applied study of a number of companies listed on the Amman stock exchange for the period (2019-2022)**

**Dr. Wisam Sami Jabbar Zinal**

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#### **Abstract**

The study seeks to determine the impact of financial leverage on the profitability rate of companies. Then it explains the extent of this impact on companies by taking advantage of the financial leverage extracted from the annual reports of the mentioned companies, by applying it to a selected sample of Jordanian companies in the Amman Stock Exchange for the period (2019-2022). The study sample consisted of 12 Jordanian institutions, represented by the total liabilities over the total assets. They were then discussed, analyzed, and described deductively, and the study hypotheses were tested using a pair of statistical programs (E-Views10) and (Spss v23). The study reached a number of conclusions and recommendations, the most important of which were the following: The financial leverage and profitability rate of the companies in the study sample, there is a direct relationship as well as an inverse relationship. The research findings indicate that organizations should prioritize and implement strategies aimed at increasing their liabilities relative to their assets. This is expected to have a positive impact on the profitability rate of the establishments included in the study sample.

**Keywords:** Financial leverage, corporate profitability rate

#### **Introduction**

The issue of financial leverage, that is, the use of debt in the company's financial structure, is one of the most important and vital topics in the field of corporate financial management. The world is witnessing a package of rapid changes, including aspects of economic life and in the field of business, which in turn have been reflected in the corporate sector, which is considered a very important point considering the sector. Enterprises are mainly to build the economy of society.

The company's management in general and the financial director in particular are interested in monitoring financial leverage indicators, as they give perceptions about the size of the company's debt, the extent of the company's reliance on external financing represented by debt, the extent of dependence of total liabilities on total assets, and measuring activities by knowing the percentage of profits achieved by those borrowed funds within the level As for the corporate profitability rate, this ratio shows the extent of net income over shareholders' equity, meaning that cash flows are the result of operational activities. The higher this ratio is, it is a good indicator and expresses the company's efficiency in using its assets in an optimal way. However, if its financial performance is low or within an inappropriate level, what is required is the role of financial leverage in achieving debt to reduce financial weakness in profits.

#### **The Study Problem**

The optimal use of financial leverage for companies can increase profits and avoid the occurrence of financial crises, or the so-called financial weakness that most companies suffer from, through analyzing and evaluating financial leverage. Hence, the study problem can be formulated as follows:

1. How do the profitability rates of the enterprises in the study sample relate to and are

**Corresponding Author:**  
**Dr. Wisam Sami Jabbar Zinal**  
Lecturer, Hawija Technical  
College, Northern Technical  
University, Mosul, Iraq

- affected by financial leverage?
2. What kind of financial leverage do the businesses in the study sample employ?
  3. Can the profitability rate of companies determine the effectiveness of financial leverage in the study sample?

**The Importance of the Study**

The significance of businesses' existence is what gives the study its weight. One of the crucial financial indicators that financial managers in Jordanian companies should be aware of and study is how financial leverage affects the profitability of the company. This is because it has a big influence on administrative choices and clarifies the relationship between financial leverage and profitability. Consequently, the significance of these businesses lies in their ability to attain the maximum return on profits and in their potential to shed light on the effects of financial strain on Jordanian enterprises' profitability.

**Objectives of the Study**

1. Studying financial leverage indicators for companies

- and explaining the most important items that companies focus on in the field of profitability rates of Jordanian companies listed on the Amman Stock Exchange.
2. Measuring and analyzing financial leverage and highlighting its impact on the profitability rate of Jordanian companies listed on the Amman Stock Exchange.

**Study Hypotheses**

1. There is no statistically significant correlation between financial leverage and the profitability rate of companies.
2. There is no statistically significant effect between financial leverage and the profitability rate of companies.

**Study Population and Sample**

Twelve companies for the (2019–2022) period comprised the study sample, while private Jordanian enterprises registered on the Amman Stock Exchange represented the study population.

**Table 1:** Shows the companies of the study sample listed on the Amman Stock Exchange

No.	Code	Name	Date of Establishment
1.	MANR	Afaq for Investment and Real Estate Development (Holding)	2007
2.	FRST	Jordan First Investment	2006
3.	JTEL	Jordanian Communications	1996
4.	MALL	International hotels and commercial markets	1998
5.	UMIC	Modern International Company for Vegetable Oils Manufacturing	1986
6.	DADI	Dar Al Dawaa for Development and Investment	1975
7.	UTOB	Union Factories Company for Tobacco and Cigarette Production	1993
8.	AIEI	Arab International for Education and Investment	1989
9.	SITT	Salam International Transport and Trade	1997
10.	UINV	Al-Ittihad Financial Investments	1994
11.	AEIV	Arab East for Financial and Economic Investments	1995
12.	SPIC	Specialized investment groups	1994

**Source:** Prepared by the researcher based on the annual reports of companies listed on the Amman Stock Exchange

**Literature Review**

**First: The Concept of Financial Leverage**

Many studies have dealt with the term financial leverage and agree that this term is the second side of debt, or borrowing. Many have invented the term financial leverage, adorned the word debt or borrowed, which indicates the risks of borrowing and the weakness of the borrower due to his need for financing, and his need to borrow may be due to (Amen, 2020:44) [4]. There are risks that the company goes through, as not all leveraged companies achieve good results. (Eid, 2023:187) [6]. Financial leverage is described as taking out loans or employing other financial instruments to maximize investors' gains or losses; typically, the most suitable debt is utilized. The debt-to-income ratio rises over time. Financial leverage's impact on earnings. Also, the lower the debt ratio, the less the impact of financial leverage on profits (Kai, 2021:33) [8].

Using fixed-cost assets to optimize returns also results in financial leverage. increasing risk and returns are associated with increasing leverage. Conversely, lower leverage leads to lower returns and risk (Zinal, 2023:34) [16]. where financial leverage can be positive or negative, positive leverage occurs when the company gains more on assets purchased with money than the fixed cost of using them, and vice versa. Meaning, the amount of money it earns is more than its revenues (Mohamed, 2017:2) [9].

**Second: Financial Indicators Section**

**1. Financial leverage:** This financial metric examines the amount of capital derived from debt financing while also assessing the company's capacity to meet its debt payments. By borrowing money to inflate investment returns, we can control assets through financial leverage. This is because an asset's value increases or decreases, which has the effect of increasing or decreasing investment returns. Because businesses rely on a combination of debt and stocks to fund their operations, financial leverage is crucial in determining a company's capacity to make debt payments on time. One of the most crucial metrics for determining how much a business can borrow (take on debt) in order to fund its assets is financial leverage. By borrowing money to boost investment returns, leverage allows us to exert influence over assets. Increasing an asset's value increases investment returns, while decreasing its value decreases investment returns. By borrowing money to inflate investment returns, we can manage assets through financial leverage, as a rise in investment returns, but a fall in an asset's value causes an increase in investment returns. This is how the degree of financial leverage is determined (Taees,2023:460) [13].

$$\text{Financial Leverage} = \text{Total Debt} / \text{Total Assets}$$

**2. Operating leverage:** A cost accounting method called

operating leverage is used to calculate how much a business can raise operating income by raising sales. To be able to pay for as much of their expenses and liabilities as feasible, businesses need to have a high operating leverage. Businesses can utilize operating leverage to calculate the break-even point, which helps them set sales prices (loans) that will pay costs and turn a profit. Consequently, higher earnings are associated with lower costs. A firm's operating leverage is determined by the relative growth rates of its revenues and expenses. A company with positive operating leverage has revenues that rise at a faster rate than its expenses, whereas a company with negative operating leverage has expenses that grow at a faster rate than its revenues. The formula below is used to determine the operating leverage degree: (Weygandt, 2019:6) <sup>[15]</sup>.

Operating Leverage = Marginal Contribution / Net Profit

**3. Total leverage:** Due to its ability to explain changes in sales volume and how they affect profit per share, it is regarded as one of the most significant techniques for estimating the total fixed expenses (financial and operational) of businesses. Businesses with high fixed cost percentages also have high total leverage. The following formula is used to get the overall degree of leverage: (Rao, 2012:211) <sup>[10]</sup>.

Total Leverage = Financial Leverage \* Operating Leverage

### Third: Financial Leverage Indicators

High financial leverage indicates that the company is riskier. When debt ratios rise by a high percentage compared to equity, this indicates that the corporation investments have been financed through external loans, and the capital becomes unable to absorb losses that may lead to a loss in the value of the company's assets, which leads to the company's inability to pay its obligations to depositors. To allow for this, the company faltered and declared bankruptcy. The most important indicators by which financial leverage can be measured are all of the following: (Abdeen, 2021:143) <sup>[1]</sup>.

**1. The Ratio of Total Debt to Equity:** This ratio represents one of the measures of financial leverage. This ratio determines the use of additional resources that can lead to increased financial returns and is calculated as a ratio between total assets and equity: (Sane, 2018:11) <sup>[11]</sup>.

Total Debt to Equity Ratio = Total Debt / Total Equity \* 100

**2. The Ratio of Total Debts to Total Assets:** It is one of the ratios used to track the capital structure of companies, and it measures the extent to which the company has gone to finance its assets with the funds of others. Owners prefer a high ratio because increasing it leads to maximizing their returns as well as continuing their control through. They do not need to increase the company's capital by introducing new partners and are measured as follows: (Tulsian *et al.*, 2021:21) <sup>[14]</sup>.

Debt To Total Assets Ratio = Total Debt / Total Assets \* 100

### Fourthly: The Concept of Profitability Rate

Analysts and investors use profitability as a financial metric

to assess a company's capacity to turn a profit in relation to sales, balance sheet assets, operating expenses, and shareholders' equity over a given time frame. (Taees, 2023:462) <sup>[13]</sup>. As a gauge of efficiency, profitability is also described as the metric by which profit is calculated. success or failure of the bank's finances (Shaheen, 2017:32) <sup>[12]</sup>. The profitability rate is also called (net profit margin). This ratio is thought to represent the amount of net profit realized for every dinar of net sales or revenues, after deducting interest and taxes, a company with a greater ratio is more profitable and has better cost management than its competitors (Abdul Kadhim & Muhammad, 2023:122) <sup>[2]</sup>.

### Fifth: Indicators for Measuring the Profitability Rate:

These indicators are among the most important financial indicators used to evaluate companies' performance. They measure the company's ability to achieve a return on invested funds. These indicators include the following ratios.

**1. Return on Equity Ratio:** It is a measure that measures the return achieved on shareholders' investments in equity. When measuring this ratio, it is easy to know the return that shareholders in the company receive compared to other shareholders in other companies. (Hassan, 2021:273) <sup>[7]</sup> This ratio indicates the return achieved as a result of the owners' investment. This indicator is calculated by dividing the net income after taxes by the property rights and my agencies: (Al-Subhi, 2019:7) <sup>[3]</sup>.

Profitability Ratio = Net Income After Tax / Total Equity \* 100

**2. Return on Assets Ratio:** It is a metric used to assess how well management generates profits overall using the resources at its disposal. The return on investment is another term for this return. Since this return serves as a gauge for the profitability of all investments, both short- and long-term, businesses are constantly seeking to enhance it. A growth in this indication also suggests that investment and operational management strategies are working well. By dividing net income after taxes by total assets, this proportion is computed (Weygandt, 2019:32) <sup>[15]</sup>.

Profitability Rate = Net Income After Tax / Total Assets \* 100

### Practical Results

#### First: Financial Analysis of The Study Variables

##### 1- Analysis of Financial Leverage Indicators

This indicator is a measure of all obligations on companies in relation to their assets, and a high number for this indicator leads to maximizing the return obtained by the owners and also avoids them resorting to increasing the company's capital and thus introducing new partners. However, a high percentage of this ratio is an indicator of the increased risks to which the company is exposed. Table 2 shows a detailed explanation of this indicator for companies over the period of the study, as follows.

Financial Leverage = Total Debt / Total Assets \* 100

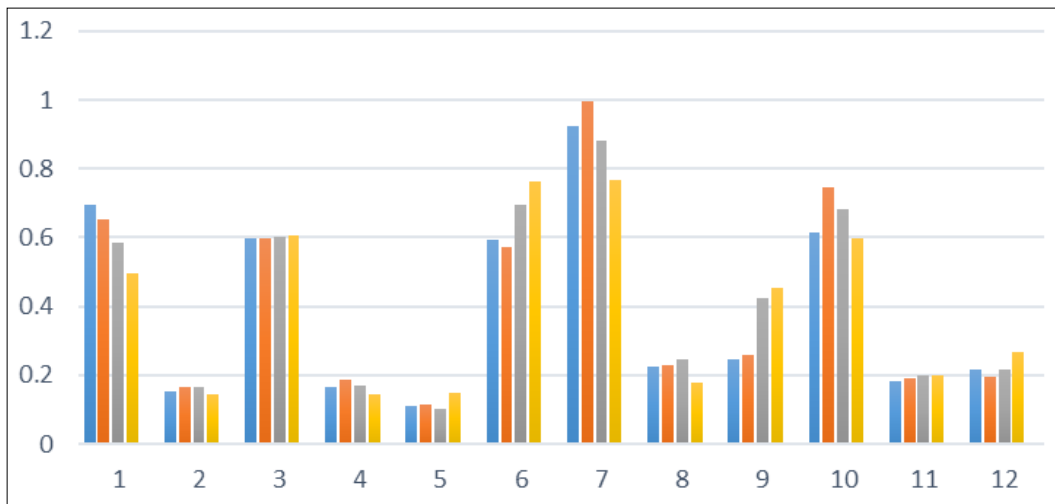
**Table 2:** Results of the Leverage Analysis

NO.	Year	2019	2020	2021	2022	Average
1.	MANR	0.497	0.586	0.651	0.697	0.608
2.	FRST	0.143	0.166	0.165	0.153	0.157
3.	JTEL	0.607	0.603	0.598	0.598	0.602
4.	MALL	0.146	0.169	0.187	0.164	0.167
5.	UMIC	0.148	0.103	0.116	0.109	0.119
6.	DADI	0.765	0.694	0.573	0.593	0.656
7.	UTOB	0.768	0.882	0.998	0.926	0.894
8.	AIEI	0.177	0.248	0.227	0.226	0.220
9.	SITT	0.453	0.426	0.258	0.248	0.346
10.	UINV	0.596	0.682	0.748	0.616	0.661
11.	AEIV	0.201	0.200	0.191	0.184	0.194
12.	SPIC	0.267	0.218	0.194	0.215	0.224

Source: Prepared by the researcher based on companies’ annual reports & calculator outputs

Through financial analysis of the data contained in the annual reports of the companies sampled in the study, Table (2) shows us the percentage of return on assets as follows: The highest rate for measuring the value of financial leverage was (0.998) for the Union Factories Company for the Production of Tobacco and Cigarettes (UTOB) in the year 2021, as a result of the increase in the value of

liabilities in relation to the value of the corporation assets, which achieved an increase in the value of financial leverage, while the lowest rate for measuring the value of financial leverage was (0.103). To the International Lubricants Company (UMIC) in the year 2020, as a result of the decrease in the value of liabilities relative to the value of assets.



Source: Prepared by the researcher based on companies’ annual reports and Excel outputs

**Fig 1:** Financial analysis of financial leverage

**2. Profitability Rate Analysis**

This ratio indicates the net income that various partners or shareholders in companies can obtain by investing their money. If we find that this ratio is high, we can say that this company has high efficiency in its financial performance,

and this is what makes it attractive to various investors. Table (3) shows a detailed explanation of this indicator for companies during the study period, as follows.

$$\text{Profitability Ratio} = \frac{\text{Net Income after Tax}}{\text{Total Equity}} \times 100$$

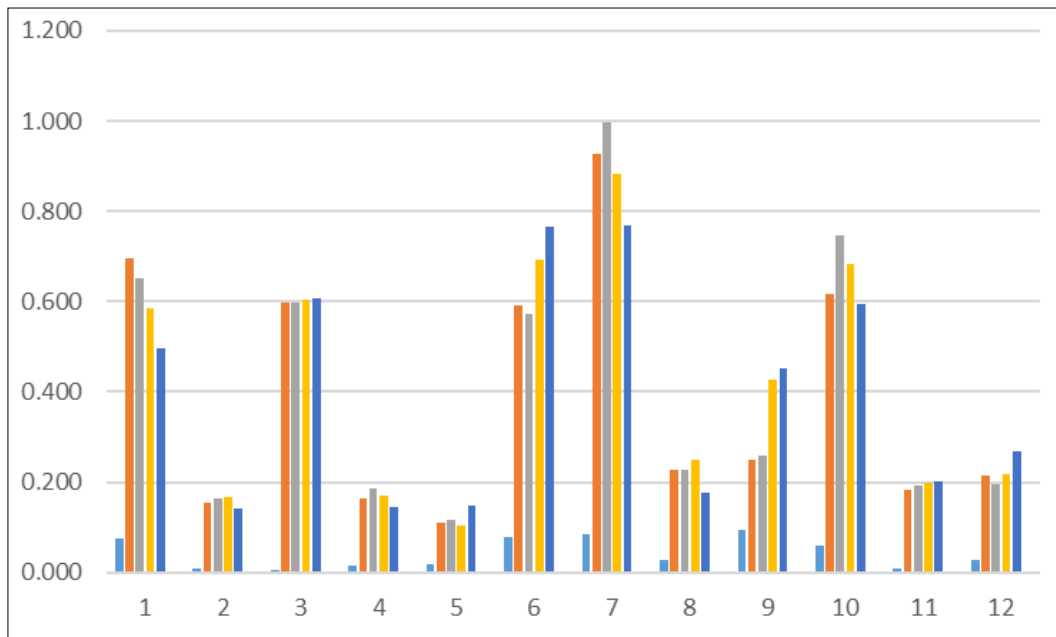
**Table 3:** Results of Analysis of Companies' Profitability Ratio

No.	Year	2019	2020	2021	2022	Average
1.	MANR	-0.124	-0.385	-0.224	-0.159	-0.223
2.	FRST	-0.055	-0.100	-0.028	-0.045	-0.057
3.	JTEL	0.070	0.064	0.093	0.148	0.094
4.	MALL	0.000	0.009	-0.001	-0.002	0.001
5.	UMIC	0.068	0.056	0.082	0.071	0.069
6.	DADI	-0.314	0.279	0.025	0.053	0.011
7.	UTOB	0.300	-0.111	1.115	-0.767	0.134
8.	AIEI	0.082	0.073	0.051	0.043	0.062
9.	SITT	0.069	0.056	0.059	0.086	0.067
10.	UINV	-0.159	-0.168	-0.136	0.011	-0.113
11.	AEIV	-0.030	-0.007	0.014	-0.009	-0.008
12.	SPIC	0.069	0.053	0.045	0.044	0.053

Source: Prepared by the researcher based on companies’ annual reports & calculator outputs

Through financial analysis of the data contained in the annual reports of the companies sampled in the study, Table (3) shows us the percentage of return on assets as follows: The highest ratio of net profits over total assets among the companies in the study sample and for all years of the study was achieved by the company Al-Ittihad Factories for the Production of Tobacco and Cigarettes (UTOB), as it reached (1.115) for the year (2021). The reason for the increase in this ratio is due to the high percentage of net profit and the

company's success in achieving a high level of income. The lowest ratio is also for the Union Factories Company for Tobacco and Cigarette Production (UTOB), which is (0.767) in (2022). This decrease in the ratio indicates the company's loss and failure to achieve profits due to an increase in expenses and an increase in total assets. The net profit is less than the assets, and this is evidence that the company is suffering from financial instability (fragility in the financial system).



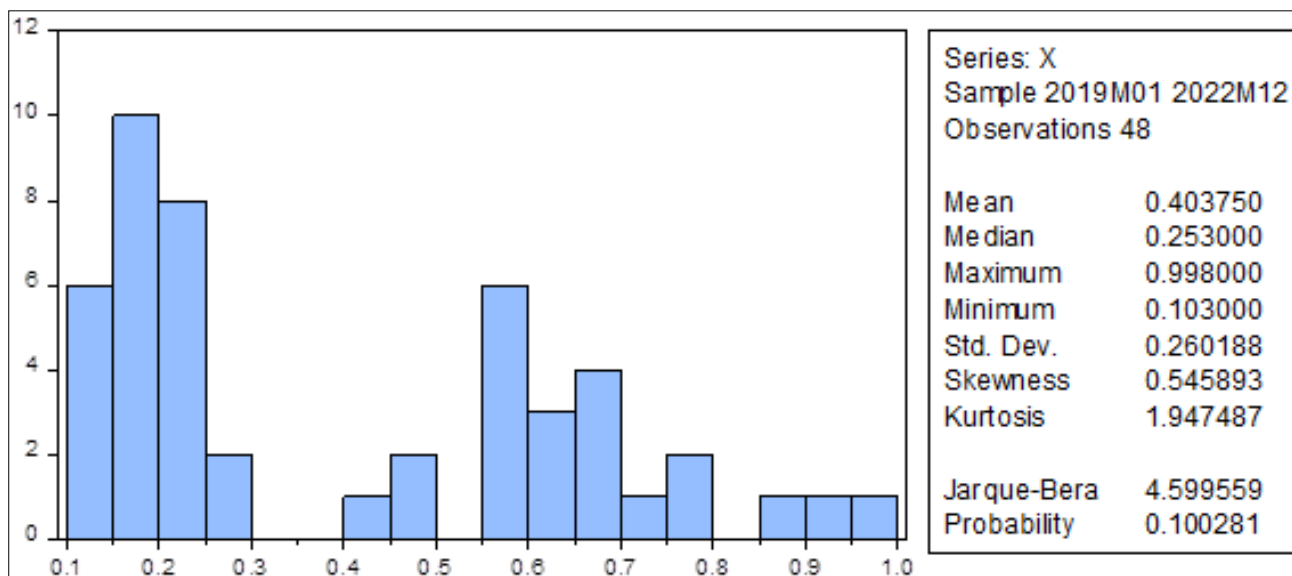
Source: Prepared by the researcher based on companies' annual reports and Excel outputs

Fig 2: Financial Analysis Profitability Rate

**Second: Normal Distribution Tests for the Study Variables**

Although the entire literature assumes a normal distribution of financial data, the fluctuating nature of this data imposes

instability on the time series, and therefore the data was tested using the EViews10 program to determine whether the distribution of the data is normal or not, as shown in Figure No. (3), (4).



Source: Prepared by the researcher based on the statistical program E-Views 10

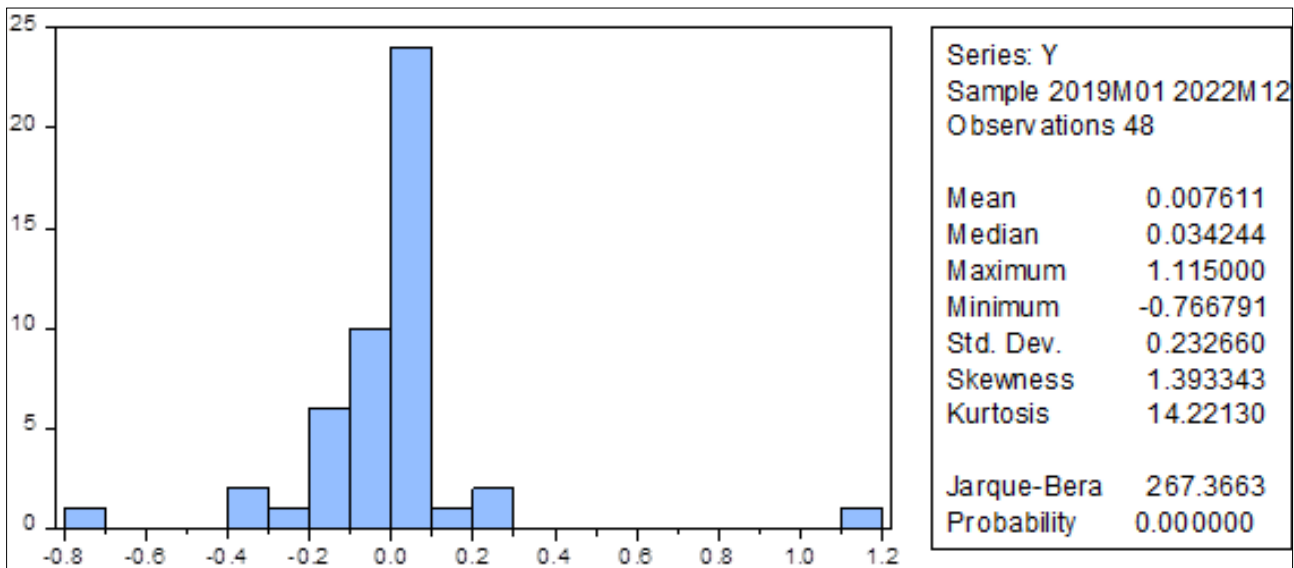
Fig 3: Shows the normal distribution test for financial leverage data

Over the study period, the greatest value of financial leverage was recorded at 0.998%, while the lowest value was recorded at (0.103%), while the average value of

financial leverage was (0.40375), with a median value of (0.253), and the value of the skewness coefficient was (0.545893). It is a positive value that indicates that the

iterative distribution curve is skewed to the right with a flattening factor of (1.947487), while the degree of dispersion of the financial leverage values of the companies in the study sample is around its mean with a standard deviation of (0.260188). Figure (3) shows us that the value of the financial leverage of the corporation in the study sample approaches its normal distribution. The (Jarque-Bera) test was used as the decision rule to determine whether the data values follow a normal distribution or not.

By referring to Figure (3), it appears to us that the data values of the sample companies The study follows a normal distribution, as the value of the Jerque-Bera test for companies reached (4.599559) with a probability value of (0.100281), which is greater than the value of Sig (0.05). This shows that the values of financial leverage follow a normal distribution and do not have a stable pattern in their fluctuations. During the study period.



Source: Prepared by the researcher based on the statistical program E-Views 10

Fig 4: Shows the normal distribution test for the profitability rate data

The highest profitability rate for companies during the study period was (1.115) percent, while the lowest profitability rate for companies during the study period was (-0.766791%). The average profitability rate ratio of the corporation in the study sample was (0.007611), with a median value of (0.034244), and the value of the skewness coefficient was (1.393343), which is a positive value indicating that the iterative distribution curve is skewed to the right with an oblateness factor of (14.22130). As for the degree of dispersion of the profitability rate ratio, the study sampled companies around their mean with a standard deviation of 0.232660. Figure (4) shows us that the profitability ratio of the corporation in the study sample is close to its normal distribution. The (Jarque-Bera) test was used as the decision rule to determine whether the data follows a normal distribution or not. By referring to Figure

(4), it appears that the data on the profitability ratio of the corporation in the study sample does not It follows a normal distribution, as the value of the Jerque-Bera test for companies reached (4.599559) with a probability value of (0.000), which is smaller than the value of Sig (0.05). This shows that the profitability ratio of companies does not follow a normal distribution and has a stable pattern in its fluctuations during the period. of study.

**Third: Time Series Stability Tests for The Study Variables**

The Unit Root Test and the Dicky-Fuller Augmented method were applied in order to determine the stability of the time series of data for the study variables, as Table (4) shows the results of the analysis:

Table 4: Unit Root Test results for the study variables

Unit Root Test Table (ADF) At Level			
With Constant		Financial leverage	Profitability Rate
	t-Statistic	-8.856193	-7.045459
Prob.	0.000	0.000	

Source: Prepared by the researcher based on the statistical program E-Views 10

It appears from the table (4) that the study variables are stable at the original level of the data without taking into account the difference according to the Dicky-Fuller Augmented test, meaning that the study variables are integrated of degree (1).

**Fourthly: Results of Choosing the Study Hypotheses. 1- Correlation Test between the Financial Leverage and the Profitability Rate**

To achieve this presentation, the researcher used Pearson analysis in the program (E-View10), and the results were shown in Table No. 5

**Table 5:** Results of the correlation between financial leverage and the profitability rate

	Profitability rate
Financial leverage	-0.018
Sig. (2-tailed)	0.031
N	48

\*. Correlation is significant at the 0.05 level (2-tailed).  
 Source: Prepared by the researcher based on the statistical program E-Views 10.

We notice from table (5) that there is a significant correlation between (financial leverage) and (profitability rate) and that the degree of correlation between them reached (-0.018) at a significance level of (0.05), and as a result, there is an inverse negative association between financial leverage and profitability rate, meaning that the profitability rate decreases as financial leverage increases for the research sample organizations. Consequently, we reject the null hypothesis and adopt the alternative hypothesis.

**2- Regression Analysis Between financial leverage and the profitability rate of companies:**

The contents of this part come as a continuation of testing the validity of the study plan by verifying the validity of the influence hypotheses that indicate the existence of an influence relationship between the study variables, as shown in Table (6).

**Table 6:** Results of the Regression Analysis Between the impact of financial leverage on the profitability rate of companies

	Profitability Rate			R2	F. Statistic	
	B	T. Statistic	Sig.		Sig.	
(Constant) - B0	0.063	0.223	0.002	0.221	0.015	0.011
Financial leverage	0.132	-0.121	0.011			

Source: Prepared by the researcher based on the statistical program E-Views 10.

We note from the results of table (6) that the effect of financial leverage on the profitability rate, as the total of what is explained by financial leverage according to the value of (R2) amounted to about (22.1%), while (77.1%) of the change occurring in financial leverage from the study sample It is attributed to other factors that cannot be controlled or that were not included in the regression model. This is supported by the value of the regression coefficient (B1) of (0.132), which indicates that if the financial leverage increases by one unit, the profitability rate will change in a direct direction by (0.132) units. It is a significant increase according to the calculated (F) value of (0.015) at a level of statistical significance (0.011) that is less than the significance level of (0.05), and also according to the calculated (T) value of (0.223). Therefore, we accept the alternative hypothesis and reject the null hypothesis

**Conclusion and Recommendations**  
**Conclusion**

1. Financial leverage is used to maximize profits, and one of its advantages is that it has a fixed cost. In this aspect, this advantage serves companies that have limited capital and the size of their huge projects. They can exploit this aspect in financing the company's capital structure, and diversity in the capital structure reduces risks, and this limit. The possibility that the

- company will be exposed to financial instability.
2. Financial leverage indicators contribute to identifying the main risks and the trends of those risks. They are considered a red light when the amount of debt increases, because the greater the degree of leverage means an increase in the degree of risk.
  3. The results of the analysis showed a significant (inverse) relationship between financial leverage and profitability rate, i.e., the higher the financial leverage of the research sample enterprises, the lower their profitability rate.
  4. The relationship between financial leverage and profitability rate is significant, meaning that the higher the financial leverage of the study sample companies, the lower their profitability rate, which is further impacted by shareholders' rights.

**Recommendations**

1. It is necessary for companies that suffer from high financial fragility to increase the degree of financial leverage in order to improve their financial performance to achieve a better return on equity and achieve a greater market value.
2. The study recommends choosing the degree of financial leverage that serves its investments and reflects positively on financial performance.
3. The study advises businesses to lower the level of financial leverage in their financing structures since going overboard compromises an organization's independence because risk increases with increased financial leverage.
4. The necessity of making optimal use of assets that generate additional profits and dispensing with non-profitable assets in order to maximize profits to increase the profitability rate, through the relationship that emphasizes that the higher the financial leverage ratio, the lower the profitability rate.

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