



Research Article

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Operating Profit Margin, Financial Leverage, and Return on Invested Capital's Effects on the Profitability of Firm in Jordan's Industrial Sector

Ola Mohammad Khresat

Monira Abu Jassar

Department of Accounting Science,
Zarqa University,
Zarqa, Jordan

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Abstract

The study sought to clarify the determinants affecting the financial performance of industrial sector companies listed on the Amman Stock Exchange for the years 2017-2021, where information related to the company's performance, especially its profitability, is valuable to support administrative provisions regarding expected changes in the company's future control over economic resources. The research has used the E-Views 12 program for data processing and panel data regression processing to examine the influence of operating profit margin, financial leverage, and return on invested capital. The results indicate that both return on invested capital and operating profit margin have a positive effect on profitability. Financial leverage does not have a positive effect on profitability.

Keywords: return on assets, profitability ratio, operating profit margin, debt to equity, and firm growth

1. Introduction

Due to the intense competition in the business sector, it is necessary for every organization to work on developing its performance to achieve the goals it seeks. The primary goal of a corporation is to generate a financial profit. To achieve this objective, it is essential to evaluate financial performance by utilizing ratio analysis. Ratio analysis is commonly used by both external and internal stakeholders to evaluate the company's overall health and performance. This research utilizes profitability as a reference to evaluate the amount of profit generated, thereby determining the efficiency of the firm's business operations. Profitability determines a company's ability to achieve financial gains through its regular commercial operations (David &Aprilyanti, 2018). It was also shown that companies were able to obtain profits during specific periods of time (Susandy&Anggraeni, 2018).

To guarantee the enduring prosperity of a firm, it is imperative to enhance, execute, and uphold strategies, measures, and policies that are economically and financially prudent. These decisions should be grounded in a comprehensive comprehension of the external and internal elements that impact the company's functioning. The effectiveness of managerial options relies on the capacity to recognize the elements that, when utilized productively, might enhance outcomes and performance. The research posited that the selection of relative profitability indicators is crucial in accurately

expressing the variables pertaining to the economic development and performance growth of organizations.

2. Literature Review

The dependent variable utilized for assessing profitability was return on assets (ROA). The concept encompasses all the factors related to managing assets and is widely recognized as a crucial measure for enhancing firm performance. It also serves as a determinant of their economic growth potential (Helfert, 2002). Research articles have demonstrated that there are numerous elements that have differing degrees of influence on the profitability of a firm. Several current research studies have examined the financial performance of companies in many different countries and sectors, employing statistics such as return on total assets (Abujassar, 2024; Khresat and Sadiq, 2022), net operating profitability (Raheman et al., 2010; Dong & Su., 2010; Padachi, 2006), ROA, and return on invested capital (Narware, 2010).

The regression study utilized economic data on rate of return and information derived from different financial displays, which were calculated using financial statements. This investigation facilitated the identification of an econometric model for assessing economic performance, especially measured as return on assets. This illustrates the impact and explanation of a variety of factors on the development of firms' returns. The ROA index measures profitability in companies as a result of efficient resource utilization and efficient management. It is commonly employed as a dependent variable to evaluate economic performance.

2.1 Studies related to operating profit margin and Return on Assets

The operating profit margin (OPM) is extracted from the company's net income by dividing it by the total sales. A high OPM indicates that companies are working to effectively improve their administrative efficiency, while a lower OPM suggests that the organization is less successful in maximizing its management efficiency. Firms generally employ OPM and ROA as financial indicators to assess their financial success. OPM quantifies a firm's profitability by calculating the proportion of profit obtained for each dollar of revenue, whereas ROA evaluates the efficiency with which a corporation uses its assets to make a return. The literature on OPM and ROA is substantial, and multiple studies have been conducted to identify the relationship between these measures and the financial performance of a company. In a study conducted by Putry (2013), the author examined the influence of three variables, namely current ratio, total asset turnover, and operating profit margin, on the return on assets of firms between 2009 and 2011. The study found that the profit margin has an influence on the return on assets. In a similar vein, Pranata (2014) conducted a study to examine total asset turnover, profit margin and the relationship between them, non-performing loans, and return on assets. The study examined the effect of these variables together and individually and concluded that the operating profit margin has had a significant effect on the ROA.

Because of this, the following Ho was created: There is no significant effect at a return on assets level of 5% on the rate of return on assets.

2.2 Studies related to financial leverage and return on assets

Through previous studies, it has been shown that financial leverage has a harmful effect on performance. Among them is a study conducted in 2011 by Mahira; a correlation was found between a higher debt ratio and a decrease in the firm's performance, while a decrease in the debt ratio leads to an improvement in the firm's performance. This phrase indicates that the performance is contingent upon the debt-to-equity ratio. High interest rates and a more intricate financial leverage policy adversely affect the firm's overall performance (AstawaPutu, SudikaPutu, 2015). In a recent study conducted by Shaik (2022), the focus was on analyzing the impact of debt financing, specifically the

debt-equity ratio, on financial performance, specifically evaluated using the return on assets. The data was obtained from annual financial statements published by Saudi Arabian petroleum corporations between 2012 and 2019. The investigation included incorporating the current ratio as an interaction variable. It appears that companies' financial performance is negatively impacted by the use of debt financing.

As a result, the HO was formulated: There is no significant effect at a 5% level of financial leverage on the rate of return on assets.

2.3 Studies related to return on invested capital and return on assets

The return on invested capital (ROIC) is a metric that quantifies the return generated from the capital put into a business or investment. Fernandes (2014) defines ROIC as a metric that gauges a business's profitability and its capacity to generate value. Investment is a strategic endeavor with the objective of generating financial gains for a business. Investing yields both financial gains and contributes to sustained corporate expansion. The investment decision holds significant importance. Businesses and investors consistently evaluate and compute risk considerations while making investment decisions. Mieiă (2009) asserted that investment activities are essential for a firm to achieve its long-term and sustained development. Investments are typically made over an extended period of time. An investment refers to the allocation of a valuable resource with the intention of obtaining a future benefit or advantage.

Because of this, the Ho was formulated that there is no significant effect of the level of return on invested capital of 5% on the rate of return on assets.

3. Methodology and Data

This research is quantitative. The population of the current study consists of all industrial companies from 2017 to 2021. This research consists of a sample size of 30 firms. The research applied a panel data regression model for further analysis, using a paired test for each model. The period from 2017 to 2021 was selected for this study due to its significance in capturing key economic and regulatory developments affecting industrial sector companies listed on the Amman Stock Exchange. This period encompasses changes in corporate governance, accounting, and tax regulations in Jordan, which may have influenced companies' financial performance. External factors, such as global economic shifts, fluctuations in commodity prices, and the COVID-19 pandemic, also likely impacted profitability and financial leverage. To achieve the objectives of the study and to demonstrate the effect of the operating profit margin, financial leverage, and return on invested capital on the return on assets. Research hypotheses are derived from existing theories and validated by a series of statistical tests. The research conclusion was derived from the outcomes of the statistical analysis. The processing of secondary data acquired from several sources is performed using software tools such as Microsoft Excel and E-Views 12.0.

3.1 Variable Definitions

- *Operating Profit Margin*

The operating profit margin is a key profitability ratio that measures the percentage of revenue that remains after deducting operating expenses, such as wages, raw materials, and other costs directly associated with the production of goods and services. This ratio is used to assess a company's ability to generate profit from its core business activities before accounting for interest and taxes. A higher operating profit margin indicates greater efficiency in managing operating costs relative to revenue (Penman, 2013).

- *Return on Invested Capital*

Return on Invested Capital evaluates how effectively a company uses its invested capital to

generate profits. This measure reflects the company's ability to produce a return from its capital investments, both equity and debt. ROIC is calculated by dividing the Net Operating Profit After Taxes (NOPAT) by the total invested capital, which includes both equity and debt. A higher ROIC indicates that a company is efficiently utilizing its capital to generate returns (Koller, Goedhart, & Wessels, 2010).

- *Financial Leverage*

Financial leverage refers to the proportion of a company's capital that comes from debt rather than equity. It is a measure of the risk and financial structure of the company, as a higher financial leverage ratio suggests greater reliance on debt to finance assets. Financial leverage is calculated by dividing the total debt by the equity. The more debt a company uses relative to its equity, the higher its financial leverage, which increases the company's financial risk (Ross, Westerfield, & Jordan, 2019). For policymakers and regulators in Jordan's industrial sector, the study highlights the need to encourage a more strategic use of financial leverage, focusing on long-term growth rather than short-term liquidity management. Regulations should promote balanced capital structures and prudent debt management, incentivize efficient asset utilization, and guide companies in making strategic investments. By optimizing capital structure and leveraging resources effectively, industrial companies can improve profitability and long-term financial stability.

4. Regression Statistics

The research model employed is as follows:

Table 1:

DEP VAR: ROA				
Method: Panel Least Squares				
Date: 12/27/23				
Sample: 2017 2021				
Periods: 5 years				
Cross-sections: 30				
Total panel observations (balanced): 150				
Variable	Coefficient	Standard Error	t-Statistic	Probability
OPM	16.39987	0.916797	-0.106610	0.0000
C	1.327974	0.439715	3.020077	0.0030
R-squared			0.683753	
Adjusted R-squared			0.681616	
F-statistic			319.9885	
Prob(F-statistic)			0.000000	

$$ROA = 1.32797404977 + 16.3998658391 * OPM$$

Sources: E-VIEWS 12

The findings of this study, indicating a positive relationship between Operating Profit Margin and Return on Assets in Jordanian industrial companies, align with results from similar studies in other markets. For instance, Pranata (2014) in Indonesia and Putry (2013) in Malaysia also found that higher OPM significantly improved ROA, demonstrating the importance of operational efficiency in enhancing profitability. Similarly, Mollah, Lipy, and Nasir (2020) found a positive link between OPM and ROA in the U.S. industrial sector, supporting the idea that better operational efficiency leads to superior financial performance. However, in emerging markets like India, Gupta and Sharma (2016) reported a weaker relationship, which could be attributed to factors such as intense competition and different regulatory environments. The study's R^2 value of 68% further suggests that OPM is a strong determinant of ROA, a finding also supported by Li and Wang (2019) in China, who observed that

operational efficiency significantly influenced profitability in manufacturing firms. These comparisons suggest that improving operational efficiency is crucial for enhancing profitability in industrial sectors, particularly in emerging economies like Jordan.

Table 2:

DEP VAR: ROA				
Method: Panel Least Squares				
Date: 12/27/23				
Sample: 2017 2021				
Periods: 5 years				
Cross-sections: 30				
Total panel observations (balanced): 150				
Variable	Coefficient	Standard Error	t-Statistic	Probability
LEV	-0.001741	0.016329	-0.106610	0.9152
C	0.385835	0.779885	0.494733	0.6215
R-squared			0.000077	
Adjusted R-squared			-0.006679	
F-statistic			0.011366	
Prob(F-statistic)			0.915243	

$$ROA = 0.385834877016 - 0.00174088765838 * LEV$$

Source: E-VIEWS 12

The results of this study, which show that financial leverage (LEV) has a negative but statistically insignificant effect on Return on Assets (ROA), align with findings from similar research in other markets. For example, Enekwe et al. (2014) and Ilyukhin (2015) found that leverage had a limited impact on profitability, suggesting that higher debt levels do not always lead to improved returns. In their analysis of Nigerian firms, Enekwe et al. (2014) found that increased leverage raised financial risks without enhancing profitability, a pattern observed in this study.

Similarly, studies in other emerging markets have shown similar results. Al-Matari et al. (2014) found that, in Saudi Arabia, financial leverage did not significantly affect profitability, as the cost of debt outweighed any potential benefits. In Turkey, Yildirim and Yildirim (2013) reported that while leverage negatively impacted profitability, the effect was not always statistically significant, varying by sector. In contrast, studies in developed markets like Rajan and Zingales (1995) show a stronger correlation between leverage and profitability, particularly in high-leverage industries. These findings underscore that the impact of leverage on profitability can vary significantly depending on the market context.

Table 3:

DEP VAR: ROA				
Method: Panel Least Squares				
Date: 12/27/23				
Sample: 2017 2021				
Periods: 5 years				
Cross-sections: 30				
Total panel observations (balanced): 150				
Variable	Coefficient	Standard Error	t-Statistic	Probability
ROIC	56.04654	2.707606	20.69967	0.0000
C	-0.426905	0.395200	-1.080225	0.2818
R-squared			0.743268	
Adjusted R-squared			0.741533	
F-statistic			428.4762	
Prob(F-statistic)			0.000000	

$$ROA = -0.426904565335 + 56.0465356257 * ROIC$$

Source: E-VIEWS 12

The findings of this study, which demonstrate a strong positive correlation between Return on Invested Capital and Return on Assets in Jordanian industrial firms, align with similar research in other markets. For instance, Zamfir et al. (2016) found a comparable relationship in Romanian manufacturing firms, showing that efficient use of invested capital significantly enhances profitability. Similarly, Damodaran (2007) emphasized that effective capital management improves financial performance, particularly in larger firms, where better capital allocation drives higher returns on assets.

In contrast, studies in other emerging markets present mixed results. Arora and Sharma (2015) found a weaker correlation in India, potentially due to less efficient capital allocation practices in some sectors. In China, Li and Wang (2019) observed that while ROIC influences ROA, its effect varies by industry, with capital-intensive sectors benefiting more from efficient capital management. In developed markets, Mollah et al. (2020) confirmed that higher ROIC leads to better profitability, further supporting the importance of capital efficiency. The R^2 value of 74% in this study reinforces the significance of capital allocation as a driver of profitability, aligning with global findings that capital management is essential for financial success.

5. Conclusion

After investigation of the hypotheses, it was determined that there exists a significant statistical correlation between the operating profit margin and the rate of return on assets. This is supported by a prob (F-statistic) value of 0.0000, which is below the threshold of 0.05 for statistical significance. This indicates the efficiency of the management of industrial companies to manage their operations, as the high profit margin for operation is associated with an increase in the ability of companies to reduce their fixed expenses and increase their profits, in addition to their ability to provide goods at the lowest prices without incurring losses and thus lead to an increase in the return on their assets.

Furthermore, it was discovered that the variable return on invested capital had a significant effect on the return on assets. The probability (F-statistic) value was 0.0000, which is less than the significance level of 0.05. This demonstrates the appropriateness of the current use of invested capital to generate revenue for the company and the company's ability to generate gains. However, when examining the effect of financial leverage on ROA, there is no statistically significant correlation. This is indicated by the value of prob (F-statistic) being equal to 0.91524, which is greater than 0.05. This indicates that Jordanian industrial companies tend to leverage in order to cover the liquidity deficit in companies and not to employ financing to acquire new assets and investments to increase their realized profits, so the study recommends the allocation of capital in appropriate investments and the use of companies for their money and success in order to generate profits according to the calculated return for each Jordanian dinar invested. Companies can also improve cost, which helps reduce unnecessary expenses, and manage the efficiency of asset use. In order to achieve the highest ROA, it is necessary to improve inventory levels, reduce dormant assets, and increase revenue and sales growth by expanding their customer base or by offering new products and services.

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