

The Role Of Financial Performance In Maximizing The Capital Of The Saudi Industrial Development Fund Imam Mohammed Ibn Saud Islamic University (Imiu)

Al-Siddig Talha M. Rahma¹, Amir Mohammed Diab Ismail², Tawfig Eltayeb El Basher Abdelrahman³, Dr. Durria Hyder Siddeg⁴

Abstract

This study aimed to clarify the role of financial performance in maximizing the capital of the Saudi Industrial Development Fund. The quantitative approach was followed in this study, and to achieve the objectives of the study, secondary data was relied upon. The study population was represented in the financial statements of the Saudi Industrial Development Fund, and a purposeful sample was selected from the financial statements during the period from (2002 - 2022), one of the most important findings of the study is that there is a positive relationship between financial performance and maximizing the Fund's capital, and that a large percentage of the loans granted are repaid, which leads to the creation of returns that contribute to maximizing the Fund's capital. The most important recommendations of the study were the necessity of developing new investment tools that would increase the fund's returns.

KEYWORDS: *maximizing the capital - financial performance - Saudi Industrial Development Fund.*

1. Introduction

This study focuses on examining the role of the financial performance of the Saudi Industrial Development Fund in maximizing its capital. Understanding the relationship between financial performance and capital maximization is crucial for the effective management and growth of the Fund. By analyzing the annual reports and financial statements of the Fund from 2002 to 2022, this study aims to provide valuable insights into how the Fund can enhance its financial performance to attract more capital and contribute to its overall growth and development.

The role of financial performance is crucial in maximizing the capital of development funds. Development funds are typically established to support various projects and initiatives aimed at promoting economic growth, social welfare, and overall development. Here are several key

¹Associate Professor – Referred as the Second party of Research Group Funding Agreement and The principle investigator Imam Mohammad Ibn Saud Islamic University, Saudi Arabia.

²Professor. Arab East College–KSA.

³Assistant Professor Imam Mohammad Ibn Saud Islamic University, Saudi Arabia

⁴Assistant Professor, Department of Business Administration, College of Business Administration, Majmaah University, Al-Majmaah 11952, Saudi Arabia.

aspects of how financial performance plays a pivotal role in maximizing the capital of development funds.

- Resource Allocation and Efficiency:

Financial performance metrics help development fund managers allocate resources efficiently. By assessing the return on investment (ROI) and cost-effectiveness of various projects, funds can be directed toward initiatives that generate the highest impact.

- Sustainability and Long-Term Viability:

A strong financial performance ensures the sustainability and long-term viability of development funds. It allows for the continuous support of projects without relying solely on external sources, promoting financial independence and resilience.

- Attracting Investments:

Positive financial performance enhances the fund's reputation, making it more attractive to potential investors, donors, and partners. This, in turn, increases the capital base as more entities are willing to contribute funds to a well-managed and financially sound development fund.

- Risk Management:

Financial performance indicators aid in identifying and managing risks associated with various projects. By assessing financial health and potential challenges, development funds can implement risk mitigation strategies, safeguarding the capital invested.

- Measuring Impact:

Financial metrics provide a quantitative way to measure the impact of projects. This is essential for demonstrating accountability and transparency to stakeholders, including investors, donors, and the public. Positive financial performance reflects the successful implementation of projects and their contribution to development goals.

- Innovation and Adaptability:

A financially robust development fund is better positioned to innovate and adapt to changing circumstances. This includes embracing new technologies, exploring alternative funding sources, and adjusting strategies to address emerging challenges.

- Capacity Building:

Financial success allows development funds to invest in capacity-building initiatives. This includes training staff, improving governance structures, and implementing systems that enhance the overall efficiency and effectiveness of the fund.

- Leveraging Capital:

Positive financial performance enables development funds to leverage their capital more effectively. This can be achieved through partnerships, co-financing arrangements, or attracting additional funding from other sources, thereby multiplying the impact of the available capital.

In summary, financial performance serves as a linchpin in the effective operation of development funds. It not only ensures the sustainability of the fund but also plays a pivotal role in maximizing the impact of capital deployed towards projects and initiatives aimed at fostering development.

(Ali and Faisal2020), (Othman and Albuainain2022)

1.1. Background

The Saudi Industrial Development Fund (SIDF) was established to support the industrial sector in Saudi Arabia by providing loans and financing options to industrial enterprises. Over the years, the Fund has played a significant role in promoting industrial development and economic diversification in the country. Understanding the background of the SIDF is essential to comprehend its current position, operations, and the challenges it faces in maximizing its capital. This section will provide a comprehensive overview of the Fund's history, objectives, and its role in supporting the industrial sector.

(ALZYADAT2021)

1.2. Problem Statement

The problem addressed in this study revolves around the granting and repayment of loans by the Saudi Industrial Development Fund (SIDF). The efficient management of loan granting and repayment processes is crucial for the Fund's ability to maximize its capital (Parvin et al., 2020). Identifying the challenges and issues related to loan granting and repayment will help in understanding the factors that impact the financial performance of the Fund. This section will delve into the specific problems faced by the SIDF in managing the loan process and highlight the importance of addressing these challenges to enhance capital maximization.

1.3. Objectives

The main objective of this study is to explore the role of financial performance in maximizing the capital of the Saudi Industrial Development Fund. To achieve this, the following specific objectives will be pursued: 1) To analyze the financial performance indicators of the Fund over the period from 2002 to 2022, 2) To examine the relationship between financial performance and capital maximization, 3) To assess the impact of loan granting and repayment on the Fund's capital, and 4) To provide recommendations for improving the financial performance of the SIDF and enhancing capital maximization. These objectives will guide the research process and contribute to a comprehensive understanding of the topic.

2. Literature Review

This section reviews the relevant literature on the role of financial performance in maximizing the capital of development funds. It examines studies that have explored the relationship between financial performance and capital maximization in various contexts. The review includes research on the factors that influence financial performance, strategies for capital maximization, and the role of development funds in economic growth. By analyzing the existing literature, this section provides a foundation for understanding the key concepts and theories related to the topic.

Sovaniski, T. (2020). Capital Structure Impact on Financial Performance of Kurdistan Manufacturing Firms. SSRN.

The research objective was to establish the effects of capital structure on the performance from the financial perspective of Kurdistan manufacturing firms. Theoretically, it is assumed that

the capital mix a firm uses to finance its operations does not matter and that its future operating income generated by its asset is what determines its value. Multiple linear regression which included return on equity as an independent variable, capital structure, liquidity, size, and growth as the independent variables. These variables were used to establish whether capital structure decisions affect the profitability of manufacturing firms in Kurdistan. The results obtained from the regression equations established a negative relation between total debt, size, and financial performance which indicates using more debt or assets is linked to a decrease in performance from a financial perspective. The study further found that financial performance increased with an increase in liquidity and sales growth. From the findings outlined above, the study recommends that companies should consider borrowing less funds and using internal funds economically.

Sorana Vătavua,* The impact of capital structure on financial performance in Romanian listed companies (2015)

This research aims to establish the relationship between capital structure and financial performance in 196 Romanian companies listed on the Bucharest Stock Exchange and operating in the manufacturing sector, throughout eight years (2003-2010). The analysis is based on cross-sectional regressions. The capital structure indicators refer to long-term debt, short-term debt; total debt, and total equity, while return on assets and return on equity are the performance proxies. Previous studies indicate asset tangibility, tax, risk, liquidity, and inflation as capital structure determinants in Romanian manufacturing companies. As long as these factors have an important impact on financing decisions, they will be included in the analysis as they are expected to also influence performance. Results indicate that performance in Romanian companies is higher when they avoid debt and operate based on equity. However, it seems that manufacturing companies do not have sufficient internal funding to undertake profitable investments and do not use their assets effectively. During times of increased taxes and inflation profitable companies divest part of their assets reducing their costs. There is an indication of risk-taking behavior across manufacturing companies. This shows a preference for debt when they are in financial difficulties and they face high business risks, or when they cannot settle their debts due to a lack of cash. Due to missing data regarding long-term debt ratios, those regression results are not statistically significant. Moreover, the regression models referring to return on equity explain a reduced proportion of its variation.

Mwafag May 30, 2022 The Impact of the Capital Structure on Financial Performance: An Applied Study on the Saudi Basic Materials Companies,(This study aimed to measure the impact of the capital structure on the financial performance of basic materials companies listed on the Saudi Stock Exchange (Tadawul) during the period (2014-2021). The study relied on a number of independent variables to measure financial performance (the ratio of total debts to total assets, the ratio of Total debt to equity, the ratio of long-term debt to total assets), and ROE was used as an independent variable to measure financial performance. The study targeted all Saudi public shareholding basic materials companies listed in the Saudi financial market, a sample of (42) companies were selected, which represent the study population. To verify the acceptance or rejection of the study's hypotheses, the descriptive statistics method was followed, and the multiple linear regression model was used. The researcher concluded that there is a positive and statistically significant effect of the total debt to the equity of the study sample companies, and the absence of a significant effect of (total debt to total assets and long-term debt to total assets) on the financial performance. The study recommended that Saudi companies should use both short-term and long-term debt to finance their operations, which has a positive impact on financial performance. The study also recommended the Saudi Capital Market Authority to issue guidelines for Saudi public shareholding companies that contain the

advantages that companies obtain from managing the capital structure with high efficiency and its repercussions on financial performance

The Impact of Corporate Capital Structure on Financial Performance Based on Convolutional Neural Network

Yiheng Luo and Chenxi Jiang (26 Apr 2022)

Capital structure is an important indicator to measure the source, composition, and proportion of a company's equity and debt capital. It is not only related to the internal operating environment of listed companies but also related to the rights and obligations of shareholders and is closely related to the company's future development direction, decision-making bodies, and changes in governance structure. This study aims to study the impact of corporate capital structure on financial performance based on a convolutional neural network. Based on the relevant theories of capital structure, by constructing a convolutional neural network model, taking a listed company as the research object, this study analyzes the company's capital structure, liabilities, and other financial conditions. Finally, it is concluded that short-term liabilities can meet the company's sustainable development and enhance the competitiveness of the industry, thereby increasing the company's operating income. However, a poor capital structure can negatively impact a company's finances. By improving the corporate governance structure of listed companies, strengthening the adjustment of the financing structure of listed companies, and strengthening the management of listed company's operating risks, the company's capital structure can be improved so that the company's financial situation can be sustainable and healthy.

What Distinguishes the Current Study from Previous Studies:

In terms of the subject, the current study examines the impact of the capital structure on the financial performance of Saudi public shareholding companies listed on the Saudi Stock Exchange (Tadawul). By reviewing previous studies that spoke on the subject of this study; although many previous studies dealt with the same variables of this study, the current study has been applied by the researcher to Saudi basic materials in order to obtain results that can be generalized to all companies listed in the Saudi financial market. In addition to recentness, it covered the period between 2014-2021, none of the previous studies covered it. Especially since this period was subjected to many economic changes at the level of the Kingdom, in addition to financial problems for companies. Which led to fluctuations in the Saudi financial market due to the Corona pandemic and its consequences.

2.1. Financial Performance

to fully understand the relevance and significance of financial performance in the context of development funds, it is important to explore the concept in detail. This section aims to provide a comprehensive overview of financial performance and its implications, specifically focusing on the case of the Saudi Industrial Development Fund.

2.2. Capital Maximization

This section focuses on capital maximization and its significance for development funds. It explores different strategies and approaches that funds can employ to maximize their capital, including diversification of investment portfolios, effective risk management, and efficient allocation of resources. The section also discusses the role of capital maximization in achieving the objectives of development funds, such as supporting economic growth, creating

employment opportunities, and fostering industrial development. By analyzing the literature, this section provides insights into the various dimensions of capital maximization and its relevance to the Saudi Industrial Development Fund.

2.3. Saudi Industrial Development Fund

This section provides an overview of the Saudi Industrial Development Fund (SIDF), including its establishment, objectives, and functions. It discusses the role of the SIDF in promoting industrial development in Saudi Arabia, supporting local businesses, and contributing to the diversification of the economy. The section also examines the key initiatives and programs implemented by the SIDF to achieve its goals, such as providing financial assistance, offering advisory services, and facilitating investment opportunities. By examining available information and reports on the SIDF, this section provides a comprehensive understanding of the fund and its significance in the context of financial performance and capital maximization.

3. Methodology

This section outlines the methodology used to examine the role of financial performance in maximizing the capital of the Saudi Industrial Development Fund. The research followed a quantitative approach by analyzing the annual reports and financial statements issued by the Fund from 2002 to 2022. These documents provided valuable data to assess the financial performance of the Fund and its impact on capital maximization. The methodology also involved conducting statistical analysis to determine any relationships between financial performance and capital maximization. By employing this methodology, the study aims to provide a comprehensive understanding of the role of financial performance in maximizing the capital of the Saudi Industrial Development Fund.

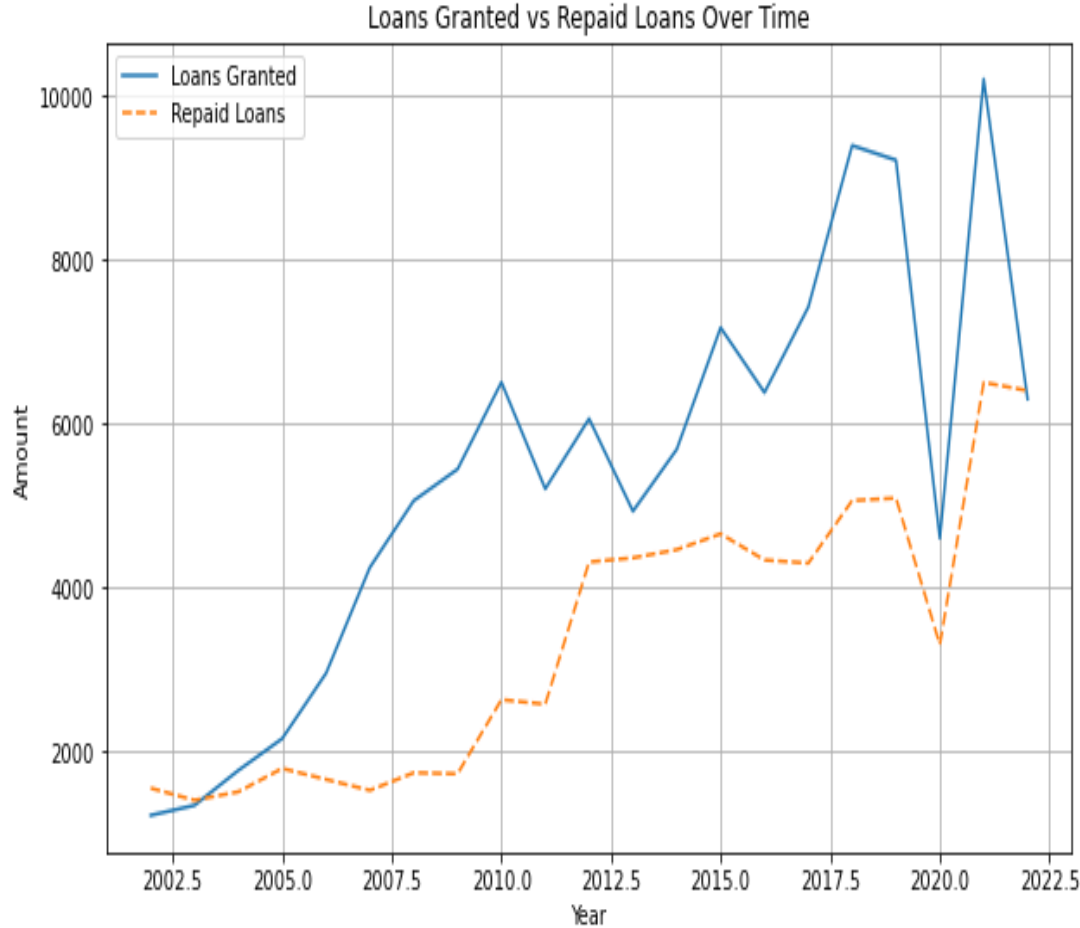
3.1. Data Collection

Data collection for this study focused on gathering relevant information from the annual reports and financial statements issued by the Saudi Industrial Development Fund. The period from 2002 to 2022 was selected to ensure a comprehensive analysis of the Fund's financial performance and capital maximization. The collected data included details on loan granting and repayment, as well as the returns to the Fund. By examining these data sources, the study aimed to obtain reliable and accurate information regarding the financial performance of the Fund and its impact on capital maximization. The data collection process followed rigorous guidelines to ensure the validity and reliability of the findings.

3.2. Data Analysis

Data analysis played a crucial role in examining the relationship between financial performance and capital maximization in the Saudi Industrial Development Fund. The collected data from the annual reports and financial statements were subjected to statistical analysis to identify patterns, trends, and associations. Various quantitative techniques, such as correlation analysis and regression modeling, were employed to analyze the data and uncover any significant relationships. The findings from the data analysis provided valuable insights into the impact of financial performance on capital maximization. Through robust and rigorous data analysis, this study aimed to generate concrete evidence and reliable conclusions regarding the role of financial performance in maximizing the capital of the Saudi Industrial Development Fund.

Here's the graph showing the comparison between Loans Granted and Repaid Loans over time:



The statistical properties of each series are detailed in the table below:

Here are the recalculated statistical characteristics of the data, including the Jarque-Bera (JB) statistic test and its p-value:

Variable	Loans Granted	Repair Loans
Mean	5391.48	3374.81
Standard Deviation	2551.21	1692.31
Max	10200	6500
Min	1220	1404
JB Statistic	0.34	1.57
p-value	0.85	0.46

And here is the correlation coefficient between the two variables in the form of a matrix:

	Loans Granted	Repair Loans
Loans Granted	1	0.81
Repair Loans	0.81	1

The calculated statistical characteristics reveal that "Loans Granted" has a mean of 5391.48 with a standard deviation of 2551.21, and "Repaid Loans" has a mean of 3374.81 with a standard deviation of 1692.31. The JB statistic test results indicate that neither series deviates significantly from a normal distribution, as suggested by the p-values of 0.85 for "Loans Granted" and 0.46 for "Repaid Loans."

The correlation matrix shows a strong positive correlation of 0.81 between "Loans Granted" and "Repaid Loans," indicating that as the amount of loans granted increases, the amount of loans repaid also tends to increase.

The statistical characteristics suggest that both "Loans Granted", and "Repaid Loans" have a wide range of values, with "Loans Granted" generally being higher. The JB test results suggest that the assumption of normality is not violated for either variable, which is important for certain types of statistical analyses.

The strong positive correlation between the two variables suggests a close relationship, where increases in loans granted are associated with increases in loans repaid. This relationship is intuitive, as more loans granted would likely result in more loans being repaid, assuming a constant repayment rate.

Here are the results of the Granger causality test:

	Lag	F-Statistic	p-value
0	1	0	0.95
1	2	1.22	0.32
2	3	2.8	0.09
3	4	2.31	0.15

The Granger causality test was employed to examine the causal relationship between the variables "Loans Granted" and "Repaid Loans" using data from 2002 to 2022. The test was conducted with a maximum lag of 4 to determine if past values of one variable are useful in predicting the future values of another.

The test results, summarized in the table, show the F-statistic and corresponding p-values for each lag. At lag 1, the F-statistic is 0.0 with a p-value of 0.95, indicating no evidence of

causality at this lag. As the lag increases, the F-statistic increases, reaching a peak at lag 3 with an F-statistic of 2.8 and a p-value of 0.09. However, none of the p-values at any lag are below the conventional significance level of 0.05, suggesting that, statistically, "Loans Granted" does not Granger-cause "Repaid Loans" within the tested lags.

The absence of a statistically significant Granger causal relationship suggests that past values of "Loans Granted" do not have predictive power over the future values of "Repaid Loans" within the context of this dataset. This could imply that the repayment of loans is influenced by factors not captured by the amount of loans granted alone, such as economic conditions, interest rates, or individual borrower circumstances.

The Granger causality test indicates no significant causal relationship between the amounts of loans granted and loans repaid in the dataset spanning from 2002 to 2022. This finding underscores the complexity of financial behaviors and suggests that further research should consider additional variables to better understand the dynamics of loan repayment.

4. Findings

This study aimed to explore the role of the financial performance of the Saudi Industrial Development Fund in maximizing its capital. Based on the analysis of the annual reports and financial statements from 2002 to 2022, several key findings emerged. Firstly, there exists a positive relationship between the financial performance of the Fund and the maximization of its capital. This indicates that when the Fund performs well financially, its capital is also maximized. Furthermore, it was observed that a significant proportion of the loans granted by the Fund to various industries have been successfully repaid. This repayment of loans contributes to the returns received by the Fund, further enhancing its capital.

4.1. Relationship between Financial Performance and Capital Maximization

The relationship between financial performance and capital maximization in the context of the Saudi Industrial Development Fund was explored in this study. Through the analysis of financial data, a positive correlation was found between the Fund's financial performance and the maximization of its capital. This means that when the Fund performs well financially, its capital is maximized. These findings highlight the importance of maintaining strong financial performance strategies to enhance the capital base of the Fund and support its objectives.

4.2. Loan Granting and Repayment

This section investigates the loan granting and repayment processes of the Saudi Industrial Development Fund. Analysis of the data revealed that the Fund has been actively granting loans to various industries. Importantly, a significant portion of these loans has been successfully repaid by the borrowers. This repayment not only reflects the financial discipline and stability of the borrowing companies but also contributes to the returns received by the Fund. The effective management of loan granting and repayment is vital for the overall capital maximization of the Fund.

4.3. Returns to the Fund

Examining the returns to the Saudi Industrial Development Fund is a crucial aspect of understanding the capital maximization of the Fund. The findings of this study demonstrate that the Fund receives returns through the repayment of loans granted to various industries. This indicates that successful loan repayment contributes significantly to the Fund's capital. The ability of the Fund to generate returns is essential for sustaining and maximizing its capital, enabling it to continue supporting industrial development projects in Saudi Arabia.

5. Discussion

The discussion of this study's findings reveals the important role that financial performance plays in maximizing the capital of the Saudi Industrial Development Fund. The positive relationship between the financial performance of the Fund and the maximization of its capital highlights the significance of effective financial management. The study's analysis of the Fund's annual reports and financial statements from 2002 to 2022 indicates that a considerable portion of the loans granted to the factories are repaid, resulting in returns to the Fund. These returns contribute significantly to the capital maximization efforts of the Fund, enhancing its ability to support industrial development in Saudi Arabia.

5.1. Implications of the Findings

The findings of this study have several implications for the Saudi Industrial Development Fund. Firstly, the positive relationship between financial performance and capital maximization underscores the importance of maintaining strong financial health and performance. It highlights the need for the Fund to continue providing loans to eligible factories and ensuring effective monitoring and repayment mechanisms. Secondly, the returns generated from loan repayments contribute significantly to the Fund's capital, enabling it to expand its financial resources and support more industrial projects. These implications emphasize the need for continued focus on financial performance as a key driver of capital maximization for the Fund.

5.2. Factors Influencing Financial Performance

Several factors influence the financial performance of the Saudi Industrial Development Fund. One key factor is the evaluation and selection of loan recipients. Implementing robust criteria for assessing the financial health and viability of factories seeking loans is crucial in ensuring a higher likelihood of loan repayment. Effective loan monitoring and risk management systems are also critical in minimizing default rates and maximizing the Fund's overall financial performance. Furthermore, economic factors such as market conditions, interest rates, and industrial growth play a role in shaping the financial performance of the Fund. Understanding and responding to these factors can help drive improved financial performance and contribute to capital maximization.

5.3. Strategies for Capital Maximization

To maximize the capital of the Saudi Industrial Development Fund, several strategies can be implemented. Firstly, the Fund should prioritize loan granting to financially viable and well-managed factories with promising growth prospects. Conducting thorough assessments and due diligence before approving loans can enhance the likelihood of timely repayments and returns. Implementing effective loan repayment monitoring systems and offering support and guidance to loan recipients can also contribute to maximizing capital. Additionally, diversifying the Fund's investment portfolio and exploring alternative sources of funding could further enhance capital maximization. Adopting these strategies will strengthen the Fund's financial position and enable it to play a more significant role in driving industrial development in Saudi Arabia.

6. Conclusion

In conclusion, this study has found that there is a positive relationship between the financial performance of the Saudi Industrial Development Fund and the maximization of its capital. Through the granting and repayment of loans, the Fund has been able to generate returns that contribute to the growth and enhancement of its capital. The findings of this study highlight the importance of effective financial performance in maximizing the capital of the Fund. This research has implications for both the Fund itself and other financial institutions, providing insights into strategies for capital maximization. Further research and analysis can enhance our

understanding of the specific factors that influence financial performance and contribute to the long-term growth and success of the Fund.

6.1. Summary of Findings

The findings of this study indicate that the financial performance of the Saudi Industrial Development Fund plays a crucial role in maximizing its capital. The analysis of annual reports and financial statements revealed a positive relationship between financial performance and capital maximization. It was found that a significant portion of loans granted by the Fund are repaid, leading to returns that contribute to the growth of its capital. These findings highlight the importance of effective financial management and loan repayment processes in achieving capital maximization. Overall, the study provides empirical evidence supporting the role of financial performance in maximizing the capital of the Saudi Industrial Development Fund.

6.2. Contributions to Knowledge

This study makes several contributions to knowledge regarding the role of financial performance in maximizing the capital of the Saudi Industrial Development Fund. Firstly, it provides empirical evidence of a positive relationship between financial performance and capital maximization in the context of the Fund. This finding adds to the existing literature on financial management and capital enhancement in development funds. Additionally, the study sheds light on the loan granting and repayment processes of the Fund, showing how these activities contribute to the growth of its capital. The insights gained from this research can inform financial institutions and policymakers in their efforts to maximize capital and drive economic development.

6.3. Recommendations for Future Research

Based on the findings of this study, several recommendations can be made for future research in the area of financial performance and capital maximization. Firstly, it would be beneficial to conduct a more in-depth analysis of the factors that influence financial performance within the Saudi Industrial Development Fund. This could involve examining the impact of specific financial management strategies and policies on capital growth. Additionally, future research could explore the potential role of technology and digital transformation in optimizing financial performance and capital maximization. Finally, comparative studies could be undertaken to analyze the financial performance of other development funds and identify best practices for achieving capital maximization.

References:

1. Ali, A., & Faisal, S. (2020). Capital structure and financial performance: A case of Saudi petrochemical industry. *The Journal of Asian Finance, Economics and Business*, 7(7), 105-112. [researchgate.net](https://www.researchgate.net)
2. Othman, J., & Albuainain, S. F. (2022). The Impact of Public Investment Fund on the Financial Performance of Listed Firms on Tadawul: Empirical Evidence from the Saudi Arabia Market. *International Journal of Academic Research in Business and Social Sciences*, 12(4), 120-140. [researchgate.net](https://www.researchgate.net)
3. ALZYADAT, J. A. (2021). Sectoral banking credit facilities and non-oil economic growth in Saudi Arabia: application of the autoregressive distributed lag (ARDL). *The Journal of Asian Finance, Economics and Business*, 8(2), 809-820. [koreascience.kr](https://www.koreascience.kr)
4. Parvin, S. S., Hossain, B., Mohiuddin, M., & Cao, Q. (2020). Capital structure, financial performance, and sustainability of microfinance institutions (MFIs) in Bangladesh. [sustainability.mdpi.com](https://www.sustainability.mdpi.com)

5. Sovaniski, T. (2020). Capital Structure Impact on Financial Performance of Kurdistan Manufacturing Firms. Available at SSRN: <https://ssrn.com/abstract=3679202> or <http://dx.doi.org/10.2139/ssrn.3679202>
6. Sorana Vătavua,* (2015) The impact of capital structure on financial performance in Romanian listed companies, Available At [https://doi.org/10.1016/S2212-5671\(15\)01508-7](https://doi.org/10.1016/S2212-5671(15)01508-7)
7. Yiheng Luo And Chenxi Jiang (2022) the Impact of Corporate Capital Structure on Financial Performance Based on Convolutional Neural Network Available at <https://doi.org/10.1155/2022/5895560>
8. Z. Wang, J. Peng, W. Song et al., “A convolutional neural net-work-based classification and decision-making model for visibledefect identification of high-speed train images,” *Journal of sensors*, vol. 2021, Article ID 5554920, 17 pages, 2021
9. Z. Ma, W. Zheng, X. Chen, and L. Yin, “Joint embedding VQAmode based on dynamic word vector,” *PeerJ Computer Science*, vol. 7, p. e353, 2021
10. Y. Wang, R. Zou, and F. Liu, “A review of wind speed andwind power forecasting with deep neural networks,” *Applied Energy*, vol. 304, Article ID 117766, 2021