Factors affecting the financial performance of manufacturing companies in Ethiopia

The Case of Selected Manufacturing, Ethiopia

Thesis Submitted for the Partial Fulfillment of the Requirements for the

Master of Science Degree in Corporate Finance

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Statement of Declaration

I, the undersigned, hereby declare that the work contained in this thesis entitled "**Factors Affecting the Financial Performance of Manufacturing Companies in Ethiopia: The Case of Selected Manufacturing Companies"** is my original work. I have carried out the research independently, with guidance and support from my research advisor. I further declare that I have not previously submitted this thesis, in its entirety or in part, at any university for the purpose of obtaining a degree. This work is submitted in partial fulfillment of the requirements for the MSc in Corporate Finance, with a specialization in Investment Management.

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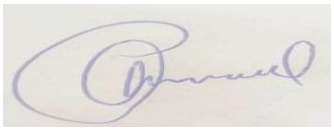
Signature: 

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APPROVAL

This is to certify that the thesis entitled "**Factors affecting the financial performance of manufacturing companies in Ethiopia The Case of Selected Manufacturing, Ethiopia"**" submitted to Addis Ababa University, school of commerce, for the award of Degree of Masters of Science in corporate finance speciality in investment management is a bona-fide work that has been carried out by Meron Kebede under my guidance and supervision.

Advisor Dr. Dakito Alemu

Signature

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This is to Certify that the thesis prepared by Meron Kebede, entitled: **Factors affecting the financial performance of manufacturing companies in Ethiopia The Case of Selected Manufacturing, Ethiopia"** submitted in partial fulfillment of the requirements for the Degree of Masters of Science in corporate finance specialty in investment management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Definition of Terms

Financial Performance: This refers to the measure of a company's profitability, efficiency, and overall financial health over a specific period. It can be assessed using various financial metrics, such as net income, return on assets (ROA), return on equity (ROE), and earnings per share (EPS). Financial performance indicates how well a company generates revenue relative to costs and expenses.

Leverage: In finance, leverage refers to the use of borrowed capital (debt) to increase the potential return of an investment. Firms can use leverage to finance their assets, with the expectation that the income generated by those assets will exceed the cost of borrowing. The degree of leverage can affect a company's risk profile; higher leverage can lead to higher returns but also increases the risk of financial distress.

Liquidity: This term describes a company's ability to meet its short-term financial obligations using its most liquid assets. A company is considered liquid if it can quickly turn its assets into cash without significantly affecting their value. Common liquidity ratios include the current ratio and quick ratio, which help assess the short-term financial health of the company.

Firm Size: This refers to the scale or magnitude of a company, which can be measured in various ways, including total assets, revenue, number of employees, or market capitalization. Firm size can influence various aspects of business operations and financial performance, with larger firms often benefiting from economies of scale.

Firm Age: Firm age refers to the number of years a company has been in operation since its establishment. Age can influence a firm's reputation, stability, and access to resources. Older firms may have more established market positions and customer bases but could also face challenges related to innovation and adaptation to changing market conditions

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First and foremost, I would like to offer my heartfelt thanks to God the Almighty, who created me in His own image and likeness. His guidance and blessings have been instrumental in my life, and I am profoundly grateful for the grace He has bestowed upon me, enabling me to successfully complete this master's thesis.

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Finally, I would like to acknowledge my Classmates and colleagues who have shared this journey with me. The collaborative spirit and exchange of ideas have enriched my experience and contributed to the completion of this thesis.

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Abstract

The manufacturing industry in Ethiopia is currently underdeveloped, contributing only 11.7% to the country's Gross Domestic Product (GDP). The objective of this study was to investigate the various factors affecting manufacturing companies in Ethiopia. To achieve this, the study utilized panel data collected from selected manufacturing firms over the period of 2019 to 2023. A combination of descriptive and explanatory research designs was employed. Secondary data were sourced from the Ethiopian Revenue Customs Authority's large taxpayer branch office, ensuring the reliability and accuracy of the data used in the analysis. To analyze the data, the study utilized panel data regression and Spearman correlation to test the relationships and effects of independent variables on dependent variables. The study's findings reveal several significant relationships: The analysis indicated a significant negative relationship between leverage and financial performance, specifically measured by Return on Assets (ROA). This finding suggests that as leverage increases, the return on assets tends to decrease, consistent with the pecking order theory. This theory suggests that firms prefer internal financing over external financing and that higher debt levels can be unfavorable to financial performance due to increased costs and financial risk. In contrast, liquidity demonstrated a significant positive relationship with ROA. This indicates that companies that effectively manage their liquid assets can enhance their financial performance, capitalizing on investment opportunities and maintaining operational flexibility. Additionally, the analysis revealed that firm size and age had a negative relationship with ROA. In conclusion, the study recommends that manufacturing companies focus on optimizing liquidity to effectively capitalize on investment opportunities and manage their operations

Key Terms: Age, Financial Performance, Firm Size , Leverage, Liquidity

Chapter One

1.1 Introduction

The manufacturing industry plays a crucial role in stimulating economic growth and revitalizing national economies. A robust manufacturing sector not only invigorates other industries but also generates long-term financing for sustained investments. In Ethiopia, the government has launched a ten-year development plan (2021-2030) aimed at achieving middle-income status and shared prosperity while aligning with the homegrown economic reform agenda to unlock the country's development potential.

According to the annual report of the National Bank of Ethiopia for the fiscal year 2022/23, the industrial sector plays a crucial role in the country's economy, contributing approximately 28.8% to the Gross Domestic Product (GDP). This positions the industrial sector as the third-largest contributor to the GDP, following the service sector, which leads the economy, and is closely followed by agriculture, which has historically been the backbone of Ethiopia's economic activities.

The notable contribution of the industrial sector signifies its importance in the nation's aspiration for economic diversification and development. As Ethiopia continues to undergo significant economic transformation, the industrial sector is pivotal in driving growth and creating employment opportunities. This sector includes various industries such as manufacturing, construction, and mining, each impacting economic performance through production outputs, job creation, and value addition.

Manufacturing, in particular, has emerged as a key area of focus for the Ethiopian government, aligning with its goals for industrialization as outlined in the country's Growth and Transformation Plans (GTP). The government has actively promoted policies to enhance the manufacturing sector's competitive advantage through incentives for investment, improved infrastructure, and capacity building. Notably, sectors such as textiles and garments, agro-processing, and construction materials have attracted significant investment, underscoring the government's commitment to transforming Ethiopia into a manufacturing hub.

A recent study on industrial policy and late industrialization in Ethiopia reveals that the country has maintained a rapidly growing economy for nearly 15 years. The government has prioritized the manufacturing sector due to its significant potential, strong connections with other industries, and considerable impact on employment. However, since 2010, Ethiopia has struggled to realize its objective of establishing the manufacturing sector as the main engine for sustained economic growth and structural transformation (Oqubay, 2018).

Financial performance is vital for understanding the economic outcomes of manufacturing firms, serving as an indicator of their effectiveness and resource utilization. Investors and policymakers increasingly focus on both financial and non-financial performance metrics, including profitability, efficiency, and business value, to inform decision-making and enhance overall economic performance.

In light of the identified challenges facing Ethiopia's manufacturing sector, this research aims to assess its current state, identify key factors influencing financial performance, thereby contributing to strategic recommendations that can enhance the industry's competitiveness and foster sustainable economic growth.

The primary objective of this study is to explore an area that has been largely overlooked in Ethiopia, where there is a significant gap in research. While many sectors have been examined for their economic contributions, the specific factors influencing the financial performance of manufacturing firms have not received adequate academic attention. This study aims to bridge that gap by investigating the various elements that can impact the financial outcomes of selected manufacturing companies in Ethiopia

1.2 STATEMENT OF THE PROBLEM

The manufacturing industry in Ethiopia is underdeveloped. The industrial sector only contributes 11.7% to GDP. Manufacturing employs over 329,000 people across various industries like textiles and garments. However, manufacturing makes up a small portion of GDP at only 4%. Manufacturing is concentrated in a few large towns, with Addis Ababa accounting for 37% of large and medium industries and the surrounding Oromia region accounting for 27% more. The underdevelopment of manufacturing is challenging Ethiopia's economic growth and development *(Manufacturing Industry in Ethiopia*, 2023).

Profitability is crucial for any business, viewed from both shareholder and economic perspectives. As a firm experiences growth and demonstrates strong profitability, it can enhance dividend payouts to its owners, strengthen its capital structure, and improve the safety and stability of its financial operations. Additionally, this growth leads to increased job opportunities, higher tax contributions, and other beneficial effects for shareholders and stakeholders. As a key performance indicator, profitability reflects the overall success of manufacturing operations.

The manufacturing sector is pivotal to the economies of both developed and developing nations. Yet, in Ethiopia, this sector's growth and economic impact are still in the early stages. Throughout two consecutive growth and transformation plans, Ethiopia has experienced rapid and substantial economic expansion, with the industrial sector contributing an average of 22.8% to the GDP growth. Presently, the Ethiopian Government has laid out a decade-long strategic vision, spanning from 2020 to 2030, aimed at positioning Ethiopia as a beacon of prosperity in Africa by 2030. To fulfill sustainable development goals, it's essential to enhance the average capacity utilization of the manufacturing industry from 50% to 85% and to boost the industry's competitiveness by elevating product quality.

The UNDP-Ethiopia (2023) report from highlights that the manufacturing sector in Ethiopia has recently encountered numerous challenges, some of which are attributed to a combination of macroeconomic strains, security issues, and external shocks. Notably, the sector's contribution to GDP has seen a decline, dropping from 5.9% in 2019 to 4.4% in 2022, largely as a result of these adversities. Approximately 450 manufacturing firms, out of a total of nearly 5000, have halted operations over the past year.. The study also identifies several factors contributing to the sector's underdevelopment, such as stringent regulations, foreign exchange scarcities, a lack of incentives, and a series of macroeconomic shortcomings affecting land, credit, and input markets. Furthermore, inconsistencies in policy implementation regarding taxes, subsidies, and licensing across different regions, coupled with the ongoing security crisis, have been significant hindrances to the growth of the manufacturing sector.

Debt financing plays a crucial role in facilitating a firm's growth. However, it can lead to financial difficulties if not managed effectively. Therefore, it is essential to strike a balance between debt and equity.

A review of the studies done globally, Khan Abid and Dunli Zhang (2024). Their study on Pakistan's food and personal care products industry identifies a significant negative correlation between leverage and financial performance, consistent with the signaling theory. This suggests that high leverage increases perceived financial risk, leading to worse performance outcomes.

Ahmad et al. (2022) examined the manufacturing sector in Indonesia, reporting a negative and significant effect of the debt-to-equity ratio on firm value, while total asset turnover had a negative and insignificant effect. The current ratio showed a positive but insignificant effect on firm value. Trung Nguyen (2024)'s findings highlight a more complex relationship, asserting that high liquidity during COVID-19 may lead to unrealized revenue opportunities, indicating that while liquidity can be beneficial, mismanagement of liquid assets can negatively impact performance. This aligns with the trade-off theory, reinforcing the idea that firms must balance liquid asset holdings against potential investment opportunities.

In the Ethiopian context, most studies have been conducted to investigate the effect of capital structure on financial performance of Manufacturing. Tilahun Getachew (2025), This study investigates the effect of capital structure on the firm value of large food and beverage manufacturing companies, revealing a significant negative impact of leverage on return on assets (ROA). Notably, firm size is positively correlated with ROA. The findings suggest that increased debt levels could be detrimental to financial performance, consistent with a conservative view of capital structure usage. Adamu Y. (2018),In contrast, Adamu explores pharmaceutical manufacturing firms and finds that while long-term debt to equity shows a negative relationship with ROA, the total debt to asset ratio demonstrates a statistically positive association with performance. This divergence raises questions about industry-specific effects, as the pharmaceutical sector may have different capital needs and risks compared to food and beverage firms. Tesfa Nega (2024),research reinforces the notion that higher levels of total debt negatively affect ROA and operating performance, aligning with the pecking order theory, which points out that firms prefer internal financing over debt due to the associated risks. This aligns with Tilahun's findings, emphasizing a general trend in the Ethiopian context toward caution in leveraging.

Manufacturing is a critical sector in Ethiopia's economy, contributing significantly to industrialization and economic development. Despite its importance, existing research has not adequately analyzed how key determinants such as liquidity, leverage, firm size and age specifically influence the financial performance of manufacturing companies within this context. While profitability remains a crucial concern for various stakeholders, including investors, management, and policy-makers, the lack of comprehensive studies in the Ethiopian landscape suggests a significant research gap.

Based on previous studies, there exists a notable issue of inconsistency regarding the findings related to the factors that influence the financial performance of manufacturing firms, both globally and locally. This inconsistency is particularly pronounced in the context of capital structure, where varying results have been reported across different regions and industries. Such discrepancies highlight the complexity of understanding how different factors, such as liquidity, leverage, firm size, and firm age, interact to impact profitability.

The declining financial performance of manufacturing firms in Ethiopia, as evidenced by decreased contributions to GDP and increased firm closures, highlights the need for an in-depth analysis of firm-specific factors. This study aims to analyze the impact of leverage, assess liquidity effects, evaluate how firm size influences performance, and investigate the role of firm age. Given these inconsistencies, there is a compelling need for focused research into the factors affecting the financial performance of selected manufacturing firms in Ethiopia.

1.3 Research Questions

1. How does leverage affect industry financial performance in the study area?

2. What is the effect of Liquidity on industry financial performance in the study area ?

3. How Size of the Company affect industry financial performance in the study area?

4. How does the age of the company affect industry performance in the study area?

1.4 General Objectives

The study's general objective is to examine factors affecting the financial performance of selected manufacturing companies in Ethiopia.

1.4.1 Specific Objectives

1.4.1.1 To Analyze the impact of Leverage on the Financial performance of the manufacturing firms in Ethiopia

1.4.1.2 To Analyze the impact of Liquidity on the Financial performance of Manufacturing firms in Ethiopia

1.4.1.3 To Analyze the impact of the Size of the company on the Financial performance of Manufacturing firms in Ethiopia

1.4.1.4 To Analyze the impact of Age on the financial performance of Manufacturing firms in Ethiopia

1.5 Significance of the study

This research will certainly be advantageous for various stakeholders, including the government, manufacturers, customers, and other researchers. It can serve as a resource for formulating policies, developing strategies, and enhancing efficiency and effectiveness in processes and production, as well as providing a foundation for future studies

1.6 Hypothesis of the study

Hypothesis 1: Leverage has a significant negative effect on financial performance

Hypothesis 2: Liquidity has a significant positive effect on financial performance

Hypothesis 3: Size has a significant negative effect on financial performance

Hypothesis 4: Age has a significant negative Effect on Financial Performance

1.7 Scope of the Study

The research was conducted in the context of Ethiopia. The study primarily focuses on determining the factors affecting the financial performance of the Manufacturing industry in Ethiopia. Specifically, the study targeted manufacturing firms operating within the Ethiopian market.

According to the information provided, there are approximately more than 5000 manufacturing firms in Ethiopia. The researchers utilized secondary data sources to collect the necessary information for the study. The financial statements data were obtained from the Ethiopian Revenue and Customs Authority's Large Taxpayer Branch Office.

1.8 Organization of the paper

The research is organized with five chapters; chapter one deals with the introduction part which is composed of background of the study, statement of the problem, significance of the study, purpose of the study, , scope of the study, and definition of terms. Chapter two discusses a review of the literature on the subject matter of the study. The third chapter contains methodologies, research design and type, population & sampling, data collection procedure, and analysis. The fourth chapter presents an analysis and interpretation of data. The fifth chapter contains the summary, conclusion, and recommendations.

Chapter Two: Literature Review

2.1 Introduction

This chapter presented a review literature that helped inform the variables such as Leverage, Liquidity, Size, Age, and Financial Performance. The literature review was categorized into sections addressing: the theoretical framework concerning leverage, liquidity, size, and age; and the empirical review highlighting various past studies by authors related to leverage, liquidity, size, age, and the financial performance of firms.

2.2 Theoretical Review

The Modigliani Theory, Pecking Order Theory and the Agency theory have attempted to explain relationship between leverage and financial performance of Manufacturing in Ethiopia.

2.2.1 The Modigliani Theory

The contemporary theory of business finance is based on the capital structure irrelevance proposition put forth by Modigliani and Miller in 1958.Before their work, there was no widely accepted theory regarding capital structure. The Modigliani and Miller analysis assumes that the probability distribution of a firm's cash flows is unaffected by the capital structure decisions it makes, and that all investors have the same expectations concerning these cash flows. They also operate on the assumption of a perfect capital market, where investors are rational, well-informed, and have the freedom to buy and sell securities and borrow funds on the same terms as corporations. Modigliani and Miller (1958) demonstrated that a firm's leverage does not influence its market value under no transaction costs and no corporate taxes. When a firm decides on its debt-to-equity ratio to finance its assets, it is simply determining how to distribute cash flows between debt holders and equity holders. As stated by Modigliani and Miller (1958, p. 268) in Proposition I, "The market value of any firm is independent of its capital structure and is determined by capitalizing its expected return at the appropriate rate _k for its class." Myers (2001) explains the logic behind this proposition by drawing a comparison to a perfect-market supermarket, illustrating that the value of a pizza does not depend on how it is sliced.

To incorporate tax considerations, Modigliani and Miller later introduced the concept of an interest tax shield into their model. This tax shield increases the value of a levered firm or reduces its overall cost of capital, as each additional dollar of debt decreases tax liabilities. If debt is regarded

as risk-free and no offsetting costs are associated with leveraging, firms will aim to minimize their taxable income through debt financing. However, in reality, no company relies solely on debt financing. Consequently, additional factors such as bankruptcy costs and agency costs—which rise in present value as the level of debt increases, were taken into account, leading to the development of the trade-off theory of capital structure

2.2.2 The Pecking Order Theory

Myers (1984) and Myers and Majluf (1984) presented a different viewpoint regarding the reasons firms choose specific capital structures, referred to as the pecking order theory. This theory describes a hierarchy of preferences that firms follow when seeking financing for their future operations and growth. The core assumption of the pecking order model is the existence of asymmetric information between a firm's managers and outside investors. This asymmetry means that management, acting in the best interests of existing shareholders, has a better understanding of the true value of the firm's current assets and growth potential, while external investors can only make informed estimates about these values.

Management's financing decisions serve as signals regarding the firm's actual value. For instance, the choice to issue new stock is often interpreted as a negative signal by potential investors, who may infer that management believes the firm is overvalued. As a result, new shareholders may only be willing to invest if shares are offered at a reduced price, increasing the cost of raising additional funds for the firm.

Because of adverse selection costs, issuing new stock can become excessively expensive, prompting management to reevaluate their financing strategies and possibly forgo projects with a positive Net Present Value (NPV). When external funding is necessary and debt issuance is not viable, management may resort to issuing undervalued stock only if the NPV of the new investment exceeds the costs linked to the undervaluation. Myers and Majluf (1984) assert that firms preferentially choose internal funds over external financing to sidestep the issues stemming from asymmetric information.

Furthermore, within the pecking order framework, debt is generally favored over equity. Debt holders face less risk than shareholders since they have a senior claim on the firm's assets and earnings.

Unlike the trade-off theory, the pecking order theory does not advocate for an optimal capital structure. Instead, variations in a firm's debt ratio reflect only the need for external financing rather than an objective to achieve an optimal capital structure. This theory explains the negative correlation between profitability and leverage: more profitable firms tend to borrow less, not because they target a low debt ratio, but because they have greater access to internal financing (Myers, 2001). Conversely, less profitable firms often require external financing, leading them to accumulate debt. As Myers and Majluf (1984) suggest, the pecking order can be viewed as a form of managerial capitalism, where managers attempt to avoid the constraints imposed by capital markets and distance themselves from the interests of shareholders.

2.2.3 The Agency Theory

Jensen and Meckling (1976) argue that agency costs in corporate finance are inevitable, stemming from two primary conflicts: the conflict between a firm’s management and its shareholders, and the conflict between shareholders and debt holders. In the case of manufacturing firms, managers often hold shares in the company, which somewhat alleviates concerns about conflicts of interest between management and shareholders. However, the agency conflict between equity holders and debt holders can be particularly pronounced in manufacturing.

One potential advantage of debt is its ability to limit managerial discretion, a concept related to the free cash flow hypothesis developed by Jensen (1986). Free cash flow refers to the cash that exceeds the funds needed to finance all positive Net Present Value (NPV) projects available to the firm. Jensen (1986, p. 323) articulates the challenge as “how to motivate managers to disgorge cash rather than investing it at below the cost of capital or wasting it on organizational inefficiencies.” When management has access to a large amount of cash, there is a tendency to spend it on expanding the firm, potentially through negative NPV projects or personal perks. One solution to this issue may be the creation of debt. By increasing debt and raising interest and principal payments, firms can diminish available free cash flows, which helps lower agency costs. The issuance of debt effectively forces managers to allocate future cash flows. If a firm is unable

to fulfill its interest and principal payments, creditors have the authority to initiate bankruptcy proceedings, serving as an incentive for improving the firm's operational efficiency. This issue of free cash flow is particularly pronounced in companies that generate significant cash flows but have limited growth prospects, making the role of debt in controlling this cash flow especially critical.

Another source of agency costs is the risk-shifting problem highlighted by Jensen and Meckling (1976). If management acts in the interest of shareholders (who may often be the same individuals in manufacturing firms) and faces the risk of default, there may be a tendency for managers to transfer value from debt holders to shareholders. Because cash flows that occur in non-bankrupt scenarios are the only ones that matter, firms might engage in excessively risky projects that offer high potential rewards under favourable conditions. If a project succeeds and produces returns that exceed the debt's face value, equity investors will receive most of the advantages, while debt holders will incur the losses if the project fails.

address asset substitution issues, debt contracts often include costly monitoring provisions to safeguard the interests of debt investors.

Additionally, Myers (1977) highlights the underinvestment or debt overhang problem, where firms may forgo positive NPV projects. This lack of investment is detrimental to debt holders, as they benefit from an increase in the firm's value. Typically, firms invest until the added present value of a project equals the required investment; however, a portion of this additional value accrues to existing debt holders, who are better protected. The advantage of investment for existing debt holders rises with an increased risk of default, making the market value of debt act like a tax on new investments. If this tax is significant, managers may opt to shrink the firm and distribute cash to shareholders. Myers (2001) further suggests that if a company is already in a position where creditors could enforce bankruptcy or reorganization, managers might "play for time" by concealing issues. Such actions prolong the effective maturity and risk of the debt, ultimately harming debt holders while benefiting shareholders.

2.2.4 Liquidity preference theory

This theory was originally proposed by John Maynard Keynes in 1989. According to Keynes, investors require a risk premium for securities with longer maturities due to the increased uncertainty associated with them. Investors generally prefer to hold cash, which is less risky, leading to the conclusion that the more liquid an investment is, the easier it is to sell quickly at its full value. The theory also posits that because interest rates tend to be more volatile in the short term, the premium associated with short-term securities will be higher compared to the premium for medium-term securities, which in turn will be greater than that for long-term securities.

This theory is particularly relevant to the current study. It suggests that firms should maintain a higher level of cash reserves for investment purposes. In this context, the interest rates charged by financial institutions on short-term loans become crucial. If these rates are favorable, they can significantly enhance a firm's ability to invest and grow. Thus, the relationship between liquidity and financial performance is underscored by this theory, as it highlights the importance of managing cash reserves effectively to capitalize on investment opportunities.

2.2.5 Economies of Scale Theory

Marshall (1890) introduced the theory of Economies of Scale, emphasizing the significant role of external economies in reconciling increasing returns with competitive equilibrium. He aimed to explain the substantial historical decrease in production costs associated with higher output levels. Although Marshall recognized the benefits that small firms derive from the overall advancement of industries and made a clear distinction between external and internal economies, he concluded that both sources could coexist. The availability of external economies for firms tends to rise as industry output scales up, which in turn encourages firms to grow larger and access more internal economies (Melitz & Ottaviano, 2008). Economies of scale refer to the cost benefits that businesses attain as a result of their size, output, or operational scale.

This theory is pertinent to this study as it relates to firm size, one of the independent variables being examined. It is believed that larger firms are more likely to benefit from economies of scale.

Additionally, economies of scope occur when cost savings or performance advantages are gained from conducting two or more activities jointly, rather than separately (Panzar & Willig, 1981).

2.3 Empirical Review

2.3.1 Effect of Leverage on Financial Performance

According to Myers (1984), firms that can generate acceptable levels of profit and earnings typically prefer to use their internal funds to finance their projects. This leads to the conclusion that there is a negative correlation between a firm's profitability and its level of leverage. This suggests that there is a negative correlation between a firm's profitability and its level of leverage. This conclusion is consistent with the pecking order theory and is corroborated by research such as that conducted by Cassar and Holmes (2003).

On the other hand, some traditional theories suggest a positive correlation between profitability and leverage. For instance, Prasad, Ramamurthi, and Naidu (2001) argued that the market hesitates to finance firms that exhibit low profit levels.

Estiasih, S.P., Suhardiyah, M., Suharyanto, Putra, A.C. & Widhayani, P.S. (2024) explored the effects of leverage, firm size, and market value on financial performance in food and beverage manufacturing firms. The results revealed that leverage significantly affects financial performance, while firm size and market value did not have significant effects.

Asimakopoulos et al. (2009) has found that leverage is negatively correlated with financial performance. The reasoning behind this is that higher levels of debt require more resources to service the debt obligations, which can negatively impact a company's financial performance.

On the other hand, other researchers, like Burja (2011) argue that additional debt can be used for good investments, which can in turn increase the company's financial performance. This suggests that the relationship between leverage and financial performance may not be straightforward and can depend on how the debt is utilized.

In recent studies, Khan Abid and Dunli Zhang (2024). Their study on Pakistan's food and personal care products industry identifies a significant negative correlation between leverage and financial

performance, consistent with the signaling theory. This suggests that high leverage increases perceived financial risk, leading to worse performance outcomes.

Iqbal, U. (2018) : In contrast, Usuman's analysis of textile composite companies indicates that while leverage negatively impacts return on equity (ROE), it positively affects return on assets (ROA) if the debt levels remain within equity limits. This discrepancy implies that the implications of leverage may vary by industry and measure of performance—ROE versus ROA.

Richard (2023): Richard's research further complicates the narrative, revealing that while debt service obligations exert a negative impact on financial performance, variables like interest coverage and cash coverage positively affect return on equity (ROE). This study presents a more comprehensive view, suggesting that while excessive leverage is detrimental, a balanced leverage strategy that includes strong cash flows can still yield positive outcomes.

Mulwa Mutua and Wekesa (2017) investigated companies listed on the Nairobi Securities Exchange, finding that capital structure (which includes leverage) positively and significantly affected financial performance. They also noted that dividend policy plays a crucial role in enhancing financial performance.

Ahmad et al. (2022) examined the manufacturing sector in Indonesia, reporting a negative and significant effect of the debt-to-equity ratio on firm value, while total asset turnover had a negative and insignificant effect. The current ratio showed a positive but insignificant effect on firm value

In the Ethiopian context, several researchers have studied the effect of leverage on the financial performance of manufacturing firms**.**

Tilahun Getachew (2025), This study investigates the effect of capital structure on the firm value of large food and beverage manufacturing companies, revealing a significant negative impact of leverage on return on assets (ROA). Notably, firm size is positively correlated with ROA. The findings suggest that increased debt levels could be detrimental to financial performance, consistent with a conservative view of capital structure usage. Adamu Y. (2018), In contrast, Adamu explores pharmaceutical manufacturing firms and finds that while long-term debt to equity shows a negative relationship with ROA, the total debt to asset ratio demonstrates a statistically positive association with performance. This divergence raises questions about industry-specific

effects, as the pharmaceutical sector may have different capital needs and risks compared to food and beverage firms. Moreover, the significance of control variables such as age, size, and liquidity in both studies suggests that these factors play critical roles in shaping financial outcomes, highlighting the importance of contextualizing capital structure theories within specific industry frameworks.

Tesema, T.N. (2024) research reinforces the notion that higher levels of total debt negatively affect ROA and operating performance, aligning with the pecking order theory, which points out that firms prefer internal financing over debt due to the associated risks. This aligns with Tilahun's findings, emphasizing a general trend in the Ethiopian context toward caution in leveraging debt**.** Shibeshi Bzuneh (2017) findings present a more different view, indicating a positive relationship between long-term debt and financial performance (ROA and return on equity - ROE), while short-term debt has adverse implications for ROA. This study complicates the understanding of debt's role. The conflicting results on short-term versus long-term debt's effects suggest that the timing and nature of debt obligations matter significantly, underscoring the necessity for firms to strategically assess their financing decisions.

Telila M. (2018) study in the construction sector highlights a statistically significant positive effect of both short-term and long-term debt ratios on ROA, while noting a negative relationship of debt-to-equity ratio with financial performance. The emphasis on trade-off theory here indicates an acknowledgment of the balance firms must maintain between risk and returns. This underscores the importance of industry-specific analysis, as the construction industry may leverage debt differently due to project financing needs.

The existing literature on this topic presents mixed findings, indicating that the relationship between a company's leverage and its financial performance is complex and may be influenced by various factors. Further research is needed to provide a more comprehensive understanding of this issue.

2.3.2 The Effects of Liquidity on Financial Performance

Fagiolo and Luzzi (2006) examined the changes in size and performance distributions, considering factors such as liquidity constraints and/or age. They discovered that liquidity constraints do not appear to have a significant adverse effect on firm performance in any particular year. However, the methodology used is key to this finding: although the detrimental impact of liquidity constraints on firm performance is evident when analysing the pooled sample, it diminishes when the sample is analysed over time.

The researchers explain that credit shortages constrain firm growth due to limited investment opportunities and, more broadly, the assumption that a lack of financial resources reduces the possibilities for long-term development and financial performance. In other words, the negative effect of liquidity constraints on firm performance is more pronounced when analyzing the overall sample, but this impact becomes less apparent when the data is examined over time.

Liquidity ratios demonstrate the relationship between a firm's current assets and its current liabilities, and thus its capacity to meet upcoming debt obligations. Two commonly used liquidity ratios are the current ratio and the quick ratio (Brigham & Micheal, 2008). These two ratios, along with the cash ratio, are used as variables in the research discussed.

The current ratio measures a firm's ability to pay its short-term liabilities using its current assets. The quick ratio, also known as the acid-test ratio, is a more stringent measure of liquidity, as it excludes inventories from current assets to focus on the most liquid assets (cash, marketable securities, and accounts receivable) in relation to current liabilities. The cash ratio, on the other hand, specifically examines the proportion of a firm's current liabilities that can be covered by its cash and cash equivalents.

These three liquidity ratios - the current ratio, quick ratio, and cash ratio - are commonly used as variables in research to assess a firm's short-term financial health and its capacity to meet its immediate obligations.

Calistus W. et al. (2018) conducted a study on the effect of liquidity on the financial performance of the sugar industry in Kenya. Utilizing random effects modeling and analyzing 11 years of data

from five sugar companies, their findings revealed a negative relationship between liquidity management and financial performance. They emphasized that effective liquidity management planning is crucial for enhancing financial outcomes in the industry.

Similarly, Akenga, G., 2015 examined the impact of liquidity on financial performance, focusing specifically on the effects of the current ratio, cash reserves, and debt ratio on firms' financial health. Employing a causal research design, the study utilized descriptive and inferential analysis methods. The results indicated that both the current ratio and cash reserves have a significant positive impact on return on assets (ROA).

In a different context, Achoki, G. & Kanga, S. (2016). found a positive and significant relationship between liquidity and ROA. They used secondary data sourced from audited financial statements of listed agricultural companies on the Nairobi Stock Exchange, covering the period from 2003 to 2013. Their analysis was conducted using a pooled Ordinary Least Squares (OLS) model.

Banafa, A.S., Muturi, W. & Ngugi, K. (2015). investigated the role of liquidity in the financial performance of non-listed financial firms in Kenya. Their study revealed that liquidity has a significant positive effect on ROA. They adopted the liquidity management theory to support their research objectives, concluding that liquidity management has emerged as an important topic in corporate finance.

Pat Joshi, P.K. (2016)examined liquidity management and its impact on the financial performance of selected steel companies in India. The study highlighted that maintaining appropriate liquidity is crucial for the day-to-day operations of any organization. By employing regression analysis, the research assessed the relationship between profitability and liquidity, further underscoring the importance of effective liquidity management in enhancing a company's financial features

Wahyu Wibowo and Muhammad Tahwin (2023) find that liquidity has a non-significant positive effect on financial performance, which suggests potential limitations in liquidity's immediate impact on profitability, particularly in the coal mining sector.

Trung Nguyen (2024)'s findings highlight a more complex relationship, asserting that high liquidity during COVID-19 may lead to unrealized revenue opportunities, indicating that while liquidity can be beneficial, mismanagement of liquid assets can negatively impact performance.

This aligns with the trade-off theory, reinforcing the idea that firms must balance liquid asset holdings against potential investment opportunities.

Nguyen Hoang Phi Nam and Tran Thi My Tuyen (2024) show that while liquidity positively influences financial performance, it negatively affects capital structure. This finding presents the idea that firms with higher liquidity may avoid debt, which can lead to lower leverage and, subsequently, a less aggressive growth strategy. The negative effect of capital structure on performance also supports the perception that poor debt management can overshadow liquidity benefits.

Wainaina (2014) focused on SMEs in Kenya, revealing that liquidity had a more substantial effect on financial performance than leverage, which was also significant but secondary. Firm size had minimal impact. The study concluded that liquidity, leverage, and firm size together explained 62.4% of the variations in financial performance.

In the Ethiopian Context, Filipos B. (2018) expands the analysis by incorporating both internal and external factors affecting financial performance. The findings reveal that while revenue growth positively impacts financial performance, liquidity, inflation, and interest expenses have adverse effects, adding a layer of complexity to the capital structure debate

2.3.3 The Effects of Size on Financial Performance

Previous research has primarily concentrated on exploring the link between firm size and performance, attempting to resolve whether larger firms outperform their smaller counterparts or the other way around (Penrose, 2009). Recent studies, however, have shifted their focus to a new angle, investigating whether older firms outperform younger ones or vice versa. Some research indicates a positive relationship between firm age and performance (Papadogonas, 2006).

Firm size can influence its financial performance in numerous ways. A larger company may have a greater impact on its current and potential investors, creditors, stakeholders, and even consumers. This is evidenced by the strong business performance of conglomerates and multinational corporations in the global economy. As a result, many researchers consider firm size to be a determinant of financial performance.

Babaloloa Y (2013) investigated the effects of firm size on profitability in Nigeria. This study considered firm size as an important determinant of profitability, utilizing a panel data set covering the period from 2000 to 2009. Profitability was measured using Return on Assets (ROA), with total assets and total sales serving as proxies for firm size. The results concluded that both total assets and total sales positively impact the profitability of manufacturing companies in Nigeria

Efuntade, A.O. & Akinola, A.O., n.d. (2020)explored the relationship between firm characteristics and financial performance, measured by Return on Assets (ROA). The predictive variables considered in this study included leverage, age, size, and sales growth. A descriptive cross-sectional design was adopted for the research. The results indicated that all the dependent variables jointly and significantly impact the financial performance of manufacturing firms in Nigeria.

Irungu, A.M., 2019.studied the effects of leverage, liquidity, asset tangibility, and firm size on the financial performance of listed firms on the Nairobi Securities Exchange. The study adopted a cross-sectional research design and employed dynamic panel data regression and Spearman's correlation to test the relationships between the variables across various sectors. The findings revealed a negative and significant relationship between leverage and the financial performance of both financial and non-financial firms. Conversely, a positive and significant relationship was found between liquidity, asset tangibility, firm size, and financial performance for both types of firms.

Firm size is often associated with economies of scale and market power. Wainaina (2014) noted that firm size had a minimal impact on financial performance compared to liquidity and leverage. However, larger firms may benefit from economies of scale, as suggested by Omondi and Muturi (2013), who found that larger firms tend to perform better financially.

2.3.4 The Effects of Age on Financial Performance

Ilaboya and Ohiokha (2016) define a firm's age as "the number of years since the company was incorporated." Some researchers argue that using the listing date as a criterion for determining firm age is more suitable, asserting that a company's existence begins when it is listed (Shumway, 2001). Conversely, others argue that a company is established as a legal entity at the point of incorporation (Gotzmann, 2008). Wang (2011) characterizes firm age as the number of years that have elapsed since an enterprise was founded until it is evaluated.

Coad et al. (2013) note that the link between firm performance and age has been insufficiently studied, likely due to limited data on firm age. Their research analyses a panel of Spanish manufacturing firms from 1998 to 2006 to examine this relationship. The results reveal that as firms age, their performance generally improves. More established firms exhibit consistent gains in productivity, increased profits, greater size, lower debt ratios, and higher equity ratios. Additionally, they show a stronger ability to translate sales growth into subsequent rises in profits and productivity. The existing literature does not reach a consensus on the relationship between firm age and performance, indicating that more research is needed to enhance understanding of this subject.

Previous research has largely concentrated on exploring the relationship between firm size and performance, trying to establish whether larger firms outperform smaller ones or the other way around (Penrose, 2009). More recent studies, however, have shifted their focus to a different angle, investigating whether older firms perform better than their younger counterparts, or vice versa. Some studies indicate a positive correlation between firm age and performance (Papadogonas, 2006).

Huanghui et al. (2013) examined the impact of firm age and size on performance. The findings suggest that firm age and size are two moderating factors that control the relationship between organizational learning, organizational innovation, and organizational performance.

Pervan, M., Pervan, I. & Ćurak, M., 2017. studied the influence of age on firm performance. The researchers confirmed that among various firm-specific factors influencing profitability, firm age is indeed an important factor. This study performed a dynamic panel analysis based on a sample of 956 firms operating in the Croatian food industry during the period from 2005 to 2014. The results of the analysis showed that age negatively affects firm performance. Other firm-specific factors influencing the profitability of firms in the Croatian food industry include size, liquidity, and solvency.

Fawzi, A.M., 2022 investigated the factors affecting the performance of the food and beverage industry in Malaysia and Indonesia. The research examined the influence of the current ratio (CR), debt to equity ratio (DER), total asset turnover (TAT), and net profit margin (NPM) on company performance, measured by ROA and ROE. The study utilized secondary data from 2011 to 2018. The results of the multiple regression analysis showed that the current ratio and debt to equity ratio do not have a significant influence on ROA, while TAT and NPM have a positive and significant influence on ROA.

Fadi A. and Mohammed O.D. (2018) studied the factors affecting corporate performance. This research highlighted the impact of both macroeconomic and firm-specific factors. The macroeconomic factors were represented by Gross Domestic Product (GDP), inflation rate (INF), and interest rate (IR). Firm-specific factors included firm size, financial leverage, investment, liquidity, and sales growth. The companies' performance was evaluated using ROA and Market to Book Value (MBV). The study concluded that firm-specific factors influence ROA.

Additionally, Tita D. and Lionel G.(2015) conducted a study that revealed leverage and firm age significantly affect financial performance. However, other variables such as liquidity, firm size, managerial ownership, and block holder ownership were found to have no significant effect on financial performance. Their research, which relied on secondary data for analysis, focused on factors affecting the financial performance of property and real estate companies listed on the Indonesia Stock Exchange

In a separate study, Tailab, M.M., 2014. examined the effects of several factors on financial performance, using Return on Assets (ROA) as a proxy for financial performance. Independent variables included leverage, liquidity, inventory growth, firm size, age, and profitability. The

results indicated that leverage, inventory growth, and age had a negative and significant impact on ROA, while liquidity and firm size, in terms of sales, exhibited a positive and significant effect on profitability. Additionally, an insignificant negative relationship was observed between firm size, measured by total assets, and ROA.

2.4 Summary of the Literature Review

Here is a summary of the key points from the literature review: The relationship between leverage and firm profitability has been extensively studied, with mixed findings: Some studies have found a positive relationship between short-term debt ratio and profitability. Other studies have reported a negative relationship between the long-term debt ratio and profitability.

The literature review also reveals: There is extensive research on capital structure, but relatively fewer studies examining the factors affecting the financial performance of manufacturing firms, such as size, age, liquidity (current ratio), and leverage. The majority of the existing studies on this topic have been conducted in either developed or developing countries.

Furthermore, the review of the literature indicates the presence of both conceptual and contextual research gaps.

Conceptual research gaps arise from the fact that the reviewed studies often focused on only one or two of the variables pertinent to the current study, rather than examining all four variables simultaneously. For example, studies conducted by Khan, Abdi, and Dunlizhan (2024), Iqbal (2018), Richard (2023), Adamu (2018), and Tesfa Nega (2024) exclusively investigated the variable of leverage. Similarly, Trung Nguyen (2024), along with Banafa, Muturi, and Ngugi (2015), focused solely on liquidity. Additionally, Babalola (2013) concentrated on firm size, while Coad et al. (2013) and Pervan, Pervan, and Ćurak (2017) examined firm age exclusively. This limited scope in the existing literature suggests a need for comprehensive studies that incorporate all four variables—liquidity, leverage, firm size, and firm age—within a single framework to better understand their interrelationships and collective impact on financial performance.

Additionally, there were conflicting results regarding the effects of some of the variables have been observed in the literature. For instance, while some studies indicate a positive relationship between liquidity and financial performance, others suggest a negligible or even negative impact. These discrepancies highlight the necessity for further investigation to clarify these relationships and provide more conclusive insights.

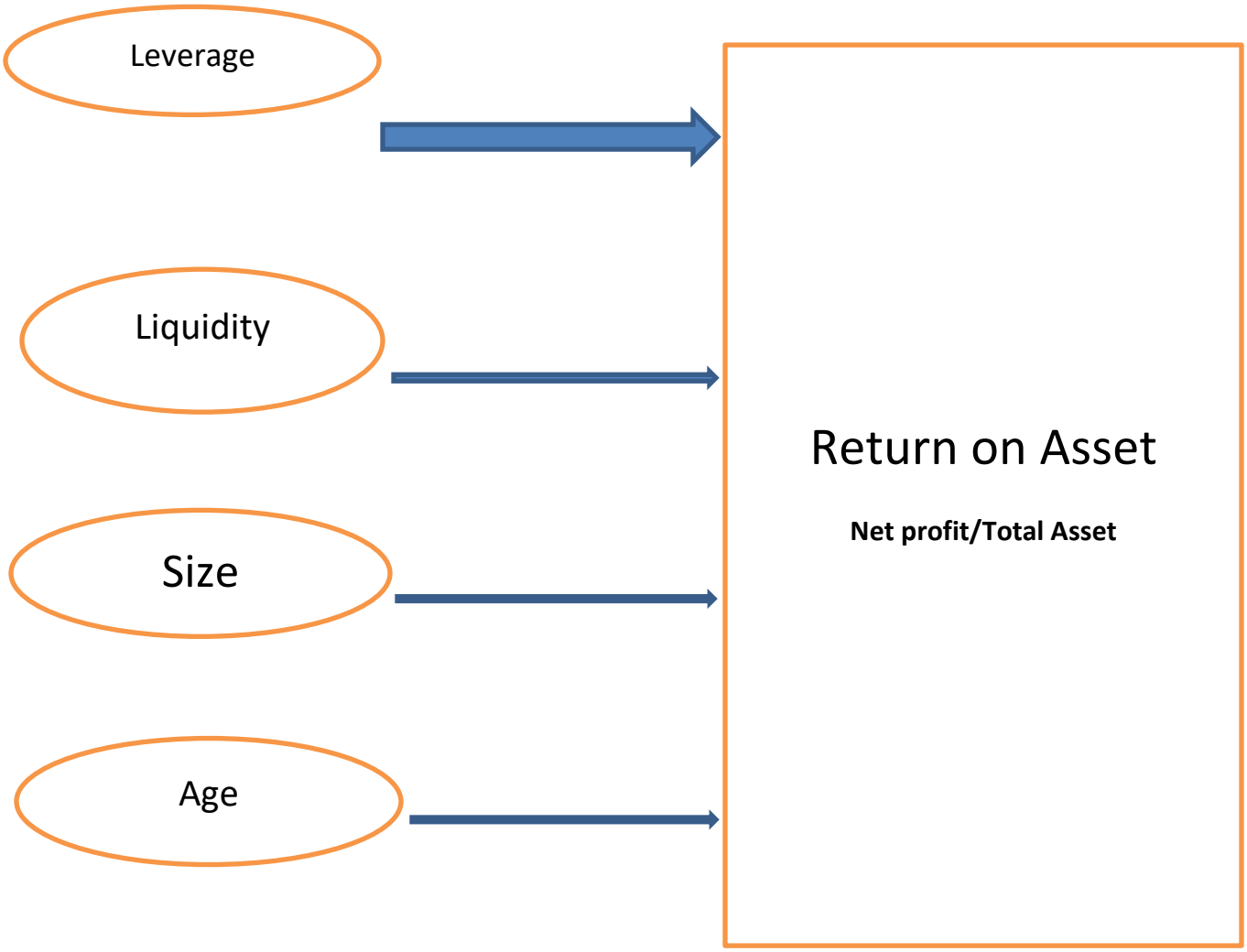
In addition to conceptual gaps, the review also reveals contextual research gaps. Most of the studies reviewed were conducted in different geographical or economic contexts compared to the current study.

Empirical analysis on the factors influencing the financial performance of manufacturing firms is relatively scarce, especially in certain contexts. In summary, while the relationship between leverage and profitability has been widely examined, there appears to be a gap in the literature regarding the comprehensive analysis of factors, including size, age, liquidity, and leverage, that influence the financial performance of manufacturing firms, particularly in certain geographical settings where empirical research is limited.

2.5 Conceptual Framework

A conceptual framework is defined as a visual representation of the hypothesized relationships among the variables in a study (Abadalla, 2017). The conceptualization of variables in academic research is crucial as it lays the groundwork for hypothesis testing and enables the formation of generalizations based on the study's findings (Kungu, 2015). In this research, the independent variables were identified as the conceptual determinants of financial performance. These independent variables included leverage, liquidity, size, and age

Figure 2.1 Conceptual Frame work



Independent Variable **Dependent Variable**

"Source: Adapted from Wainaina, J.N. (2014)with modifications."

Chapter Three: Research Methodology

3.1 Introduction

This chapter discussed the methodology adopted by the researcher in carrying out the study. The chapter also presented the population studied; the methods used to sample it, the instruments used in data collection, and the procedures that were used in data analysis.

3.2. Research Design

A research design is often referred to as the blueprint or roadmap for conducting a research study (Kothari, 2004). An effective research design should adequately address the research problem and meet the study's objectives. According to Creswell (2017), there are three primary approaches to conducting research in business and social sciences: quantitative, qualitative, and mixed methods. Creswell (2017) defines quantitative research as a formal, objective, and systematic process that uses numerical data to gather information. Well-structured and executed quantitative research allows for generalizations to a broader population based on the sample (Creswell, 2003). This method aligns well with the study as it enables the research problem to be explored in precise terms, facilitating more objective conclusions and reducing the subjectivity of judgments.

As noted by Saunders, Lewis, and Thornhill (2009), explanatory studies aim to explore social phenomena and illustrate the relationships between variables. Therefore, to achieve the objectives outlined in the previous section, this study adopts a quantitative, explanatory research design, which is particularly suitable for addressing the research problem and objectives within the context of Ethiopia's manufacturing industry.

The study employs panel data from twenty-one manufacturing companies over a five-year period, from 2019 to 2023. Panel data analysis involves aggregating observations from a cross-section of units (the manufacturing companies) across multiple time periods. This approach is more advantageous than using either cross-sectional or time series data alone. The panel data

methodology offers several benefits, including increased variability, reduced co-linearity between variables, more informative data, enhanced degrees of freedom, and greater efficiency (Baltagi, 2005)

3.3 Source of data and collection instrument

The research was done based on secondary data to meet the objectives of the study. The Financial statements of selected manufacturing were obtained from Ethiopian Revenue and Customs Authority's Large taxpayers' branch office. To avoid the risk of distortion in the quality of data, audited balance sheets and profit and loss accounts were used. Consistent and reliable research indicates that research conducted by using appropriate data collection instruments increases the credibility and value of research findings (Koul 2006). This study also used panel data of Twenty-One Manufacturing to cover the period from 2019 to 2023

3.4 Population of the Study and Sampling Technique

The research employed a non-probabilistic sampling technique, specifically purposive sampling. According to Brynjolfsson (2009), purposive sampling is commonly utilized when dealing with small sample sizes and when researchers aim to select cases that provide significant information. Consequently, the researcher selected for purposive sampling, taking into account the availability of complete data for the chosen period. This approach was crucial for ensuring that the sample effectively addressed the research problem and provided meaningful insights. To maintain relevance, the sampling procedure focused exclusively on companies in the manufacturing sector that met certain standards. Specifically, it required that these companies have complete financial reports for the years 2019 to 2023. Additionally, the data used for this study was obtained from the large taxpayer branch office of the Ethiopian Revenue and Customs Authority, which offers comprehensive and pertinent data necessary for evaluating the variables involved in the research. This study of selected manufacturing sectors includes Chemical manufacturing, textile, Food and beverage, Metals, Consumer goods, plastic, glass, and match-making. This careful selection process aimed to create a representative sample capable of generating valuable information related

to the research objectives. The researcher specifically chose large taxpayer companies because of the reliability and accessibility of their data

3.5 Data Collection

The study utilized secondary data, which included financial statements such as profit and loss accounts and balance sheets from the targeted manufacturing companies. The collected data encompassed total assets, equity, retained earnings, total liabilities, net profit, log of total assets, age, and other relevant metrics. These figures were used to calculate return on assets, long-term debt, short-term debt, and equity. The dataset spans a period of five years, from 2019 to 2023

3.6 Data analysis method

This study employed panel data from twenty-one manufacturing companies covering the period from 2019 to 2023 to investigate the factors influencing the financial performance of manufacturing firms. Panel data involves aggregating observations from a cross-section of units over multiple time periods. This approach is more advantageous than relying solely on cross-sectional or time series data. One benefit of using a panel dataset is that the multiple data points increase degrees of freedom and reduce collinearity among the explanatory variables, thereby enhancing the efficiency of the economic estimates (Baltagi, 2005).

Following the regression analysis, diagnostic tests such as normality, multicollinearity, heteroskedasticity, and autocorrelation tests were performed to verify that the data met the fundamental assumptions of a linear regression model. The panel data was analyzed using descriptive statistics and multiple linear regression analysis through SPSS version 24. The descriptive statistics included the mean, minimum, standard deviation, and maximum values for each independent variable, as well as for the dependent variable of profitability.

In the regression model, it is assumed that the residuals are uncorrelated. If the errors are correlated, this indicates the presence of serial correlation, suggesting that while the coefficient estimates obtained from the Ordinary Least Squares (OLS) regression may remain unbiased, they could be inefficient. The presence of serial correlation in the regression model was evaluated using the Durbin-Watson (DW) test.

3.7 Ethical Considerations

In this study, secondary data was collected from the Ethiopian Revenue and Customs Authority's large taxpayer branch office. This source was chosen due to its reliability and the availability of comprehensive financial reports covering the necessary years for analysis. Ethical considerations were fundamental throughout this process. The researcher ensured that all data handling practices complied with legal and ethical standards, particularly those related to data privacy and confidentiality. Personal identifiers were removed or anonymized to protect the confidentiality of individual taxpayer information. The use of this secondary data not only facilitated a more efficient research process but also maintained a commitment to ethical research practices aligned with data protection regulations.

3.8 Variable Description

In this study, one dependent variable, return on assets (ROA), and four independent variables—leverage, liquidity, firm size, and age—were examined.

3.8.1 Dependent Variable: Return on Asset (ROA)

ROA, or return on assets, is an indicator of profitability calculated as net income divided by total assets. It reflects a firm's financial performance by assessing how effectively it generates profits from its assets over the course of a year. This metric indicates management's ability to leverage the company’s assets to produce profit Previous studie by Zeitun and Tian (2012), have also utilized ROA as a proxy for corporate profitability. Since ROA is based on total assets, which encompass operating assets, it serves as a comprehensive measure of a company's overall profitability. In this research

Return on assets = Net profits/Total Assets

3.8.2 Independent Variables

Leverage

Leverage refers to the level of debt in a company's capital structure. As it is directly related to the capital used by a company, it is an issue of interest to various stakeholders such as managers, shareholders, investors, and creditors. Consequently, there have been numerous research efforts to identify the influence of leverage on a company's financial performance, but a definitive conclusion on this matter remains elusive.

Liquidity

The current ratio (CR), a key indicator of a company's liquidity, reflects its ability to meet short-term debts. A higher CR indicates a greater capacity to fulfill short-term financial obligations. However, an excessively high CR may also suggest poor liquidity management, as it could indicate that the company is holding too much idle cash, which can ultimately hinder its ability to generate profits (Durrah & Rahman, 2016).

On the other hand, the debt-to-equity ratio (DER) serves as a measure of a company's solvency, illustrating the extent to which the owners' capital can cover the company's debts to external parties. A higher DER indicates a greater proportion of total debt relative to the company's equity, suggesting increased reliance on external financing, which can elevate the company's risk. Conversely, a high DER may also imply that the company has more capital available to enhance its performance and profitability.

Firm's Size

Size likely refers to the scale or the overall size of the manufacturing firms, which could be measured by metrics such as total assets, revenue, or number of employees. It was measured by the Log Total Asset of the firms

Age

Age represents the number of years the manufacturing firms have been in operation. Age, according to agency theory, financiers assess a firm's creditworthiness based on its longevity and established reputation, which reflect its historical ability to fulfill obligations promptly, as

recognized by the market. Furthermore, research conducted by Adamu (2018) indicates a positive correlation between a firm's age and its financial performance. It is computed as;

Age (AGE) = age or number of years since establishment for a firm

Table 3.1 : Summary of Variables and Measurement

Dependent Variable	Indicators	Ratio
Financial Performance	• Return on Assets	Net Income Divided by Total Assets
Independent Variables		
Leverage	• Long-term debt • Short-term debt • Equity	Debt-to-Equity Ratio = Total Debt/Total Equity
Liquidity	Cash • Cash equivalents • Receivables • Inventory	Current assets/ Current liabilities
Size	• Total Assets	**Log of total assets**
Age	• Age	

"Source: Adapted from Wainaina, J.N. (2014)with modifications."

3.9 Analytical Model

The regression model was employed to define the nature of the relationship between the dependent variable and the independent variables. The regression equation was formulated as follows: β1 – β4 are the regression coefficients representing the changes brought about by leverage, firm size, liquidity, and age on financial performance. This model assesses the extent to which each of these factors (leverage, firm size, liquidity, and Age) contributes to financial performance. The dependent variable in this analysis is financial performance, which was regressed against the independent variables (leverage, firm size, liquidity, and Age). Financial performance was quantified using Return on Assets (ROA).

$$Y = \beta 0 + \beta 1 X 1 + \beta 2 X2 + \beta 3 X3 + \beta 4 X4 \epsilon$$

Where:

Y = Financial performance

X1= Leverage

X2 = Firm Size

X3 = Liquidity

X4= Age

β0 = the constant

ϵ = error term

Chapter Four : Data Analysis, Findings, and Discussion of Results

4.1 Introduction

This chapter presents the findings of the study based on the data collected from the field. The study sought to examine the influence of firm-specific factors on the financial performance of 21 Manufacturing companies in Ethiopia. The study gathered secondary data from the selected manufacturing companies, which included financial statements such as profit and loss accounts and balance sheets. This data was utilized to calculate return on assets, long-term debt, short-term debt, and equity. The information collected spanned a period of five years, from 2019 to 2023.

4.2 Descriptive Analysis

In this section, the researcher examines the descriptive statistics, which represent the initial step of the study. Descriptive analysis focuses on presenting the results of the descriptive statistics for both the dependent and independent variables utilized in the research

Table 4.1 Descriptive analysis

	ROA	Leverage	Liquidity	Size	Age
Mean	0.0092	1.4639	-0.2291	8.6806	22.0952
St. Deviation	0.45658	6.12132	22.84280	0.44518	15.40138
observation	105	105	105	105	105

Source : Descriptive Statistics result from SPSS software.

Table 4.1, 105 observations comprise each variable, as can be seen from the table

mean value of return on asset (ROA), which is a proxy for financial performance, is 0.0092 with a Standard deviation of 0.45658. For Leverage, the mean value is 1.4639 and a standard deviation of 6.12132. For liquidity, the mean value is -2.2911 with a Standard deviation of 0.45518. For Size, the mean value is 8.8806 with a standard deviation of 0.45518 .and For Age, the mean value is 22.0952 and the standard deviation of 15.40138

4.3 Nonparametric Correlations:

To examine the factors affecting the financial performance of manufacturing companies in Ethiopia, Spearman's correlation analysis was employed. Correlation is represented numerically on a scale from -1 to +1, indicating the strength of the relationship between two variables. A correlation coefficient (r) ranging from 0.10 to 0.29 is considered weak, from 0.30 to 0.70 is viewed as medium, and values exceeding 0.70 are classified as strong. A positive correlation denotes a direct relationship, whereas a negative correlation indicates an inverse relationship.

For the variables related to leverage, liquidity, firm size, and age, each factor was averaged to compute a single variable. Following this, Spearman's correlation analysis was performed at a 95% confidence level.

Table 4.3 below indicates the correlation matrix between the factors (Leverage, Liquidity, Firm size, Age, and Financial Performance).

The correlation matrix revealed a negative and significant relationship between financial performance and leverage as well as firm size, with magnitudes of -0.220 and -0.218, respectively, at the 0.05 level. Financial performance exhibited a significant positive correlation with liquidity, showing a magnitude of 0.461 at the 0.01 level. Additionally, age had a significant negative correlation with financial performance, with a magnitude of -0.240 at the 0.05 level.

In the context of manufacturing in Ethiopia, liquidity had the most substantial impact on financial performance, followed by firm age and leverage, while firm size had the least effect on financial performance. Despite this, all the factors were considered relevant. significant (p-value <0.05)

95% confidence level and (p-value <0.01)at 99% Confidence level, with the most significant factor being Liquidity.

Table 4.2: Nonparametric Correlations Analysis

Correlations							
Spearman's rho			**ROA**	**Leverage**	**Liquidity**	**Size**	**Age**
	ROA	*Correlation Coefficient*	*1.000*	*-.220**	-.240*	*-.218**	-.240*
		Sig. (2-tailed)	*.*	*.024*	.013	*.025*	.013
		N	*105*	*105*	105	*105*	105
	Leverage	*Correlation Coefficient*	*-.220**	*1.000*	.230*	*.128*	.230*
		Sig. (2-tailed)	*.024*	*.*	.018	*.194*	.018
		N	*105*	*105*	105	*105*	105
	Liquidity	*Correlation Coefficient*	*.461***	*-.263***	-.322**	*-.266***	-.322**
		Sig. (2-tailed)	*.000*	*.007*	.001	*.006*	.001
		N	*105*	*105*	105	*105*	105
	Size	*Correlation Coefficient*	*-.218**	*.128*	.276**	*1.000*	.276**
		Sig. (2-tailed)	*.025*	*.194*	.004	*.*	.004
		N	*105*	*105*	105	*105*	105
	Age	*Correlation Coefficient*	*-.240**	*.230**	1.000	*.276***	1.000
		Sig. (2-tailed)	*.013*	*.018*	*.*	*.004*	
		N	*105*	*105*	105	*105*	105

4.4 Test for Regression Analysis Model Assumptions

4.4.1 Multicollinearity Test

Multicollinearity is an occurrence in multiple regression analysis where one predictor variable can be accurately predicted from the other predictor variables with a significant degree of precision. In such cases, the coefficient estimates of the multiple regression model may fluctuate unpredictably in response to minor adjustments in the model or the data

Multicollinearity does not reduce the overall predictive power or the reliability of the regression model within the sample data set. However, it can affect the calculations and interpretations regarding individual predictors. That is, a multiple regression model with collinear predictors can still indicate how well the entire set of predictors collectively predicts the outcome variable. But it may not provide valid results about the individual effects of each predictor or which predictors are redundant concerning the others.

In most practical scenarios, a certain level of correlation among the explanatory variables is nearly always observed. This relatively mild association between the predictors typically does not lead to a significant reduction in precision in the regression analysis

However, a problem arises when the explanatory variables are very highly correlated with each other, a condition known as severe multicollinearity. In such cases, the individual regression coefficients can become unstable, their standard errors can become inflated, and it becomes difficult to assess the unique contribution of each predictor variable to the outcome.

In this study, the existence of multicollinearity was examined by looking at the correlation matrix of the predictor variables and calculating variance inflation factors (VIFs) to quantify the degree of multicollinearity.

The variance inflation factor (VIF) quantifies the extent of multicollinearity among predictor variables by measuring the reciprocal of the complement of their intercorrelation. It is calculated using the formula $VIF = 1 / (1 - r^2)$, where r^2 represents the multiple correlation coefficient between a predictor variable and the other predictors. A VIF value exceeding 10 suggests a significant issue with multicollinearity.

Table 4.3 Coefficients

Model	Unstandardized coefficients		Standardized Coefficients Beta	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. error				Zero order	Partial	part	Tolerance	VIF
Constant	0.185	0.195		0.946	0.347					
Leverage	5.944E-6	0.002	0.000	0.004	0.997	0.007	0.000	0.000	0.923	1.084
Liquidity	0.020	0.000	0.983	45.724	0.000	0.978	0.977	0.948	0.930	1.075
size	-0.018	0.023	-0.018	-0.788	0.433	0.224	-0.079	-0.016	0.817	1.224
Age	-0.001	0.001	-0.021	-0.919	0.360	-0.007	-0.007	-0.019	0.826	1.211

Source: Coefficients from SPSS 24.

There is no strong relationship between the independent variables in the regression model. Specifically, you noted that the Variance Inflation Factors (VIFs) are all less than 10, which indicates that multicollinearity is not a major concern in this model.

When the VIFs are below 10, it suggests that the independent variables are not highly correlated with each other. This means the predictors are providing unique and non-redundant information to the regression model, and the model coefficients are not inflated or unstable due to multicollinearity.

The absence of severe multicollinearity is an important assumption for the validity and interpretability of the multiple regression analysis. With VIFs less than 10, the individual

regression coefficients can be reliably interpreted, and the unique contribution of each predictor variable to the dependent variable (ROA) can be assessed.

4.4.2 Normality Test

According to Brooks (2008) to conduct a hypothesis test about the model parameter, the normality assumption must be fulfilled. The normality assumption is that the mean of the residuals is zero. This assumption is required to conduct hypothesis testing, particularly if the sample size is small. For sufficiently large sample sizes, violation of the normality assumption is virtually inconsequential. Based on the central limit theorem, the test statistic will asymptotically follow the appropriate distribution even in the absence of error normality.

The Shapiro-Wilk test is a common and widely used statistical test to assess the normality of a distribution, including the normality of regression residuals. In this study, the normality of the data was checked with the Shapiro-Wilk.

The Shapiro-Wilk test checks the null hypothesis that the data follows a normal distribution. If the p-value from the Shapiro-Wilk test is greater than the chosen significance level 0.05, then the null hypothesis of normality is not rejected.

The hypothesis for the normality test were:

H0: Error term is normally distributed

H1: Error term is not normally distributed

Table 4.4 Test of Normality

	Kolmo gorov-Smirnov			Shapiro- Wilk		
Studentized Deleted Residual	Statstic	df	Sig.	Statstic	df	Sig.
	0.157	105	0.000	0.841	105	0.000

The normality test result shown in Table 4.4 above indicates that the Shapiro-Wilk test statistic is 0.841 with a p-value of 0.000, which is less than the 0.05 significance level. This indicates that the Studentized Deleted Residuals are not normally distributed. Since the p-value of the Shapiro-Wilk test is less than 0.05, the residuals are not normally distributed. Therefore, we accept the alternative hypothesis and use non-parametric Correlations, Spearman correlations.

4.4.3 Autocorrelation test

It is assumed that the covariance of the errors over time is zero. If the errors are correlated with one another, it would be stated that there is serial auto correlation. The coefficient estimates derived by using OLS are still unbiased, but they are inefficient, meaning that the standard errors are biased. To test this assumption in this paper a Durbin-Watson(DW) test employed.

Table 4.5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.978[a]	.957	.955	.09653	1.410

From Table 4.5 regression result, the DW result of this paper is 1.410 is close to 2, which indicates the residuals are likely independent. Values between 1.5 and 2.5 generally suggest independence.

When autocorrelation is present, the standard errors of the regression coefficients can be biased, leading to potentially misleading inferences. However, in this case, the Durbin-Watson test result indicates that the assumption of independent errors is likely satisfied, strengthening the reliability of the regression analysis.

4.4.4 Homoscedasticity (variance of the errors is constant)

In this study, as shown in Table 4.6, The White test results show a Chi-Square statistic of 18.393 with a p-value of 0.189. Since the p-value is greater than the 0.05 significance level, the null hypothesis of no heteroscedasticity cannot be rejected. This indicates that there is no evidence of heteroscedasticity in the model.

The modified Breusch-Pagan test also shows a Chi-Square statistic of 0.409 with a p-value of 0.523. Again, the p-value is greater than 0.05, so the null hypothesis of no heteroscedasticity cannot be rejected. This further confirms that there is no evidence of heteroscedasticity in the model. The Breusch-Pagan test shows a Chi-Square statistic of 1.923 with a p-value of 0.166.

With the p-value being greater than 0.05, the null hypothesis of no heteroscedasticity is not rejected. This is consistent with the findings from the White and modified Breusch-Pagan tests.

F-test for heteroscedasticity has an F-statistic of 0.402 with a p-value of 0.527. Again, the p-value is greater than 0.05, indicating that the null hypothesis of no heteroscedasticity cannot be rejected.

Therefore, the results from the various heteroscedasticity tests (White, modified Breusch-Pagan, Breusch-Pagan, and F-test) all consistently show that there is no evidence of heteroscedasticity in the regression model. The p-values are all greater than the 0.05 significance level, so the null

hypothesis of homoscedasticity (constant variance of residuals) cannot be rejected. This suggests that the assumption of homoscedasticity is likely satisfied, which is an important requirement for the validity of the regression analysis and the reliability of the model's inferences.

Table 4.6 Heteroskedasticity Test: White

F-Statistic 0.402	*Prob. F 0.527*
White test 18.933	*Prob. Chi Square 0.189*
Modified Breusch-Pagan 0.409	*Prob Chi Square 0.523*
Breusch-Pagan 1.923	*Prob Chi Square 0.166*

4.5 Regression Analysis Result

A multiple regression model was employed to investigate the relationship between the financial performance of manufacturing firms in Ethiopia and the factors of leverage, liquidity, and firm size. The analysis was performed using the statistical software package Version 24.0 to code, input, and compute the multiple regression metrics for this research. The assumptions and results are discussed and presented below

Table 4.7 ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.748	4	5.187	556.642	.000b
	Residual	.932	100	.009		
	Total	21.680	104			

The ANOVA table shows that the overall regression model is statistically significant (p-value < 0.001), meaning that the model as a whole is a good fit for the data. ($F(4,100) = 556.642$, $p < 0.001$). This strong significance indicates that at least one of the independent variables (leverage, liquidity, size, age) is significantly related to ROA. The regression sum of squares (20.748) relative to the residual sum of squares (0.932) suggests a substantial amount of variance in ROA is explained by the model.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	**.978[a]**	**.957**	**.955**	**.09653**	**1.410**

The R^2, or coefficient of determination, indicates how much the financial performance (ROA) of manufacturing firms varies with leverage, liquidity, firm size, and age. The regression model summary presents an adjusted R^2 value of 0.957, meaning that these variables account for 95.7% of the variations in the financial performance (ROA) of manufacturing companies. The remaining 4.3% can be attributed to other factors not included in this study. Additionally, the Standard Error of the Estimate is 0.09653, which is relatively low, suggesting that the model fits the data well.

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4.6 Summary of Hypothesis testing

This below section presents the findings of the research conducted to examine the relationships between various financial factors and the financial performance of manufacturing firms in Ethiopia. The following objectives were investigated, along with their associated hypotheses, p-values, and conclusions regarding their acceptance or rejection.

4.6.1 Objective 1: Effect of Leverage on Financial Performance

- Hypothesis: Leverage has a significant negative effect on financial performance.
- Rule: Reject H0 if p-value < 0.05.
- P-value: $p < 0.05$ (i.e., 0.024).
- Comments: Since the p-value is less than 0.05, the hypothesis is supported. Therefore, leverage significantly negatively affects the financial performance of manufacturing firms in Ethiopia.

4.6.2 Objective 2: Effect of Liquidity on Financial Performance

- Hypothesis: Liquidity has a significant positive effect on financial performance.
- Rule: Reject H0 if p-value < 0.05.
- P-value: $p < 0.05$ ($p < 0.001$).
- Comments: The results support the hypothesis as the p-value indicates a strong significance. Thus, liquidity has a significant positive effect on the financial performance of manufacturing firms in Ethiopia.

4.6.3 Objective 3: Effect of Size on Financial Performance

- Hypothesis: Size has a significant negative effect on financial performance.
- Rule: Reject H0 if p-value < 0.05.
- P-value: $p < 0.05$ (i.e., 0.025).
- Comments: The hypothesis is supported since the p-value is less than 0.05. Consequently, size has a significant negative effect on the financial performance of manufacturing firms in Ethiopia.

4.6.4 Objective 4: Impact of Age on Financial Performance

- Hypothesis: Age has a significant effect on financial performance.
- Rule: Reject H0 if p-value < 0.05.
- P-value: $p < 0.05$ (i.e., 0.013).
- Comments: The results support the hypothesis, demonstrating that age has a significant negative effect on the financial performance of manufacturing firms in Ethiopia.

Table 4.8 Summary of hypothesis

Objective No	Objective	Hypothesis	Rule	P-value	Comments
1	To analyze the impact of Leverage on the financial performance of the manufacturing firms in Ethiopia	Leverage has a significant negative effect on Financial performance	Reject Ho if p value <0.05	p<0.05 i.e 0.024	The results support the hypothesis; therefore, leverage has a significant negative effect on the financial performance of manufacturing firms in Ethiopia.
2	To analyze the impact of Liquidity on the Financial performance of Manufacturing firms in Ethiopia	Liquidity has a significant positive effect on financial performance	Reject Ho if p value <0.05	p<0.05(p < 0.001),	The results support the hypothesis; therefore, liquidity has a significant positive effect on the financial performance of manufacturing firms in Ethiopia.
3	To analyze the impact of the Size of the company on the Financial performance of Manufacturing firms in Ethiopia	Size has a significant negative effect on Financial performance	Reject Ho if p value <0.05	p<0.05 I.e 0.025	The results support the hypothesis; therefore, size has a significant negative effect on the financial performance of manufacturing firms in Ethiopia.
4	To analyze the impact of Age on Afirm's financial performance	Age has a negative significant Effect on Financial Performance	Reject Ho if p value <0.05	p<0.05 i.e 0.013	The results support the hypothesis; therefore, age has a significant negative effect on the financial performance of manufacturing firms in Ethiopia

In Summary, the findings suggest clear relationships between the examined factors (leverage, liquidity, size, and age) and the financial performance of manufacturing firms in Ethiopia. Specifically, leverage and size negatively impact financial performance, while liquidity presents a positive relationship. Additionally, age also negatively affects financial performance but remains significant. These insights are essential for stakeholders in the manufacturing sector to make informed financial and operational decisions.

4.7 Discussion

Leverage and ROA

The Spearman correlation coefficient between ROA and leverage is -0.220 with a p-value of 0.024. This negative correlation suggests that as leverage increases, ROA tends to decrease. However, the correlation is weak to moderate, illustrating that while a relationship exists, it is not particularly strong. This suggests that firms with higher levels of financial leverage (Leverage) tend to have lower return on assets, after controlling for the other variables in the model. This finding aligns with the theory of the pecking order. Leverage can enhance growth but poses risks, particularly if firms become overly reliant on debt, as indicated by the negative impacts observed by Ahmad et al. (2022) and Nguyen Hoang Phi Nam and Tran Thi My Tuyen (2024).and Khan .A&Dunil(2024).

In Ethiopia, Multiple studies, such as those by Tilahun Getachew (2025) and Tesfa Nega (2024), revealed that higher leverage tends to negatively impact ROA.but the result is not consistent with the research of Wainaina, J.N. (2014),Iqubal.U(2018),Mulwa.M and Weksa(2017).

Liquidity and ROA:

The correlation coefficient between ROA and liquidity is significant at 0.461 ($p < 0.001$), indicating a strong positive relationship. This finding implies that higher liquidity is associated with better financial performance, which aligns with common financial theories that suggest more liquidity can enhance a firm's ability to capitalize on opportunities and manage financial distress, and manage their operations more effectively, leading to higher profitability. These findings align

withtheresearch of Omondi,M.M,Muturi,W. (2013),Achoki G.,Kanga,S.(2016),Akenga,G.,(2015) but inverse to the research of Filipos, B. (2018) and Calistus W.et.al(2018).

Size and ROA:

The correlation between size and ROA is -0.218 with a significance level of 0.025. This indicates a weak negative correlation, meaning larger firms may slightly underperform in terms of ROA. This result warrants further exploration, as it could suggest that larger firms experience diminishing returns or increased operational challenges. This result aligns with the findings of Tailab, M.M., 2014. that size in terms of total assets had an insignificant negative relationship. With ROA while the result is not consistent with the research of Omondi, M.M. & Muturi, W. (2013),Babaloloa.y(2013) and Irungu A.M(2019).

Age and ROA:

The correlation coefficient between age and ROA is -0.240 ($p = 0.013$), indicating a statistically significant negative relationship. This suggests that older firms may be experiencing lower return on assets compared to younger firms, potentially due to established firms facing difficulties in adapting to new market conditions or innovations, or having less flexibility in their operations, leading to lower profitability. The result aligns with the research of Pervan, M., Pervan, I. & Ćurak, M., 2017.One possible explanation for the negative effect of age on financial performance could be the inertia and rigidity that can develop in older organizations, making them less agile in responding to market changes. Alternatively, younger firms may be more entrepreneurial, innovative, and able to capitalize on emerging opportunities, leading to stronger financial results.

Chapter Five: Summary, Conclusion, and Recommendations

5.1 Introduction

This chapter summarizes the key findings from the analysis of factors affecting the financial performance of manufacturing companies. The study employed various statistical tests to examine the relationship between firm-specific characteristics (leverage, liquidity, size, and age) and the return on assets (ROA) as a measure of financial performance.

5.2 Summary of Findings

The manufacturing sector is pivotal to the economies of both developed and developing nations. Yet, in Ethiopia, this sector's growth and economic impact are still in the early stages. In inconclusion, as per the regression result of this study for the explanatory variables Leverage: Firm leverage had a significant negative effect on ROA, suggesting that higher levels of financial leverage can could potentially impair financial performance. This suggests a need for firms to balance their capital structure. Liquidity. Higher levels of liquidity were also found to have a significant positive impact on ROA. Adequate liquidity may allow firms to better capitalize on investment opportunities and manage their operations more effectively, leading to improved financial performance. This suggests that effective liquidity management can significantly improve a firm's profitability. Firm Size: Larger firms tended to navigate complexities that may detract from their ROA . Firm Age: Interestingly, older firms were found to have lower ROA than younger firms, even after controlling for other factors. This suggests that older firms may face challenges in adapting to changing market conditions or have less flexibility in their operations, leading to lower profitability

5.3Conclusion

The results of this study contribute to the understanding of the factors influencing the financial performance of manufacturing companies. Firms demonstrate a significant negative relationship with ROA, indicating that increased levels of debt may be associated with declining profitability. This finding underscores the need for firms to maintain a balanced capital structure to mitigate financial risk.

Liquidity has emerged as the most significant predictor, exhibiting a strong positive correlation with ROA. Firms with higher liquidity are more likely to achieve better financial performance, highlighting the critical importance of effective liquidity management.

Moreover, the findings highlight the importance of considering firm age as a crucial factor in financial performance analysis, as older firms may face unique challenges that should be addressed through targeted initiatives and organizational adaptations Pervan, M., Pervan, I. & Ćurak, M., 2017 ,Huanghui et al. (2013)).

Overall, this study provides a comprehensive examination of the key determinants of financial performance in the manufacturing sector, offering valuable guidance for managers, policymakers, and researchers in this important industry.

5.4 Recommendations:

Leverage Management: Manufacturers should carefully manage their leverage levels and should continuously assess their use of leverage. A careful evaluation of debt levels relative to equity should be conducted, with a focus on understanding the risk and potential impact on profitability. Alternatives such as equity financing or reinvestment of profits to reduce debt levels may be considered to achieve a more favourable capital structure.

Reducing short-term debt, the Pecking Order Theory concept is that firms prefer internal financing over external financing and will utilize debt only if internal funds are insufficient. High levels of short-term debt can lead to increased financial obligations,

which may constrain a firm's operational flexibility. Reducing short-term debt allows a firm to strengthen its balance sheet, thereby improving its access to financing if needed. Research by Myers and Majluf (1984) highlights how firms prioritize their financing sources, suggesting that lower levels of short-term debt can lead to better performance by reducing the financial burden during periods of low cash flows.

- Firm Size: For larger firms, operational audits should be periodically conducted to identify inefficiencies that may arise as firms scale. Strategic initiatives aimed at enhancing operational efficiency can help mitigate the negative impacts of size

Addressing Challenges of Older Firms Older manufacturing firms should focus on enhancing their organizational flexibility and adaptability to changing market conditions. Implementing organizational restructuring, adopting innovative technologies, and fostering a culture of continuous improvement can help older firms overcome the challenges of inertia and rigidity.

Diversification and Internationalization: Manufacturers, regardless of size or age, should consider diversifying their product portfolios and exploring international markets to mitigate risks and capitalize on new growth opportunities. Expanding beyond the domestic market can help firms access larger customer bases and diverse revenue streams, improving their overall financial performance.

These recommendations provide a comprehensive set of strategies that manufacturing companies can pursue to enhance their financial performance and maintain a competitive edge in the industry. By addressing the key factors identified in the study, firms can optimize their capital structure, liquidity management, and growth strategies to drive sustainable profitability.

5.4.1 Limitation of the study

The study had limitation, primarily due to its focus on a narrowly defined group of manufacturing companies in Ethiopia. By concentrating solely on this specific subset, the research may not fully capture the diverse landscape of the manufacturing sector in the country. Consequently, the findings might be less generalizable to the entire manufacturing industry. To enhance the study's robustness and applicability, future research could benefit from broadening the sample size to include a wider array of manufacturing firms, encompassing various sizes, sectors, and geographic locations across Ethiopia. This expansion would allow for a more comprehensive understanding of the factors influencing financial performance and could yield insights that are more representative of the industry as a whole

5.4.2 Recommendation for future Research

The current study has contributed knowledge on firm-level factors and has further advanced the existing literature on financial performance. It is recommended that future research focus on specific segments within the manufacturing industry to determine whether the relationship between debt levels and profitability varies across subsectors. Additionally, researchers should investigate how different capital structures, including equity financing and hybrid models, affect the financial performance of manufacturing companies in varying economic conditions. Finally, it is important to examine the influence of external economic factors, such as interest rates and inflation, on the relationship between debt levels and financial performance

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APPENDICES

APPENDIX I Financial Data Regressed

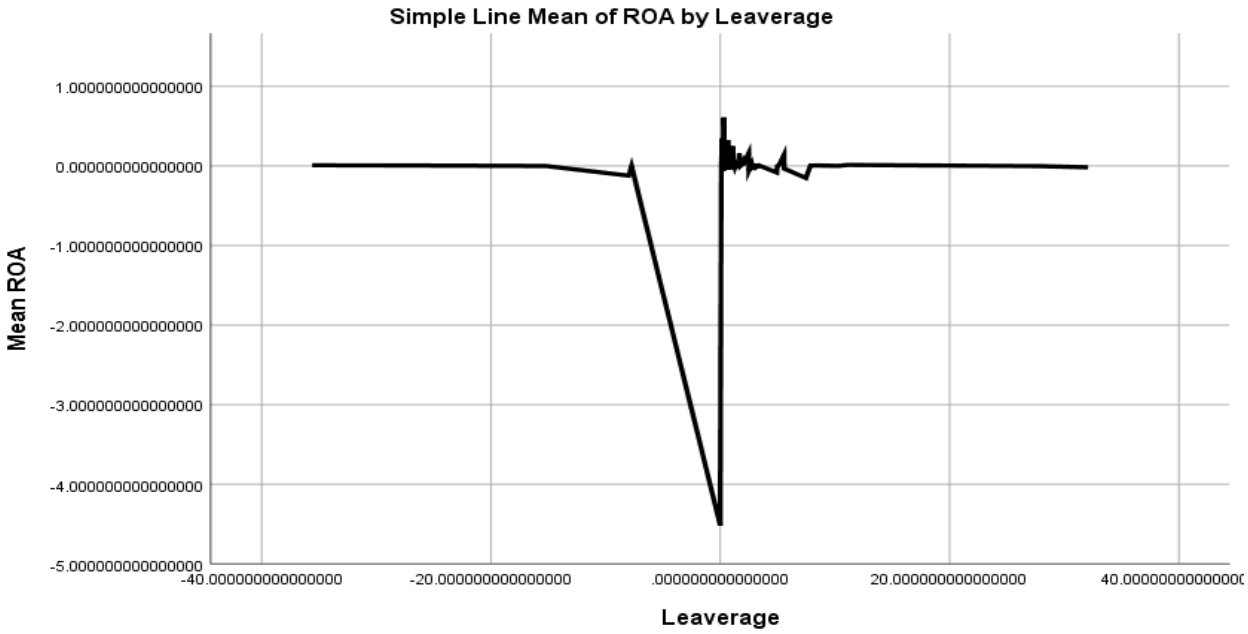
Year	Leverage	liquidity	Size	Age	ROA
2023	0.64321	0.466267	8.885612	6	0.007138
2022	0.80123	1.144665	8.546922	6	0.078803
2021	0.686201	2.516515	8.456828	6	0.129775
2020	1.662404	1.976875	8.140462	6	0.155027
2019	0.659352	1.618394	8.325152	6	0.037206
2023	1.755584	0.514545	9.424887	18	0.000823
2022	1.476578	0.779693	9.389035	18	0.000891
2021	1.11312	2.519671	8.656696	18	0.070931
2020	1.038105	4.777773	8.572407	18	0.03078
2019	1.038105	4.777773	8.572407	18	0.03078
2023	0.311128	1.279253	8.833695	11	-0.0408
2022	0.287723	0.812224	8.85003	11	-0.04165
2021	0.376397	0.943239	8.457315	11	0.009131
2020	0.434301	1.869827	8.488865	11	0.014304
2019	0.287723	0.812224	8.85003	11	-0.04165
2023	4.969882	1.059129	8.777637	15	-0.00207
2022	3.373265	1.336469	8.647304	15	0.00714
2021	3.124957	2.052767	8.608227	15	0.029847
2020	2.816986	2.46763	8.498955	15	-0.01826
2019	2.816986	2.46763	8.498955	15	-0.01826
2023	2.130099	1.067032	8.461197	11	0.057552
2022	2.086126	0.9602	8.411998	11	0.067773
2021	4.92286	0.504256	8.317709	11	-0.08322
2020	0.668378	6.172536	7.941506	11	-0.04422

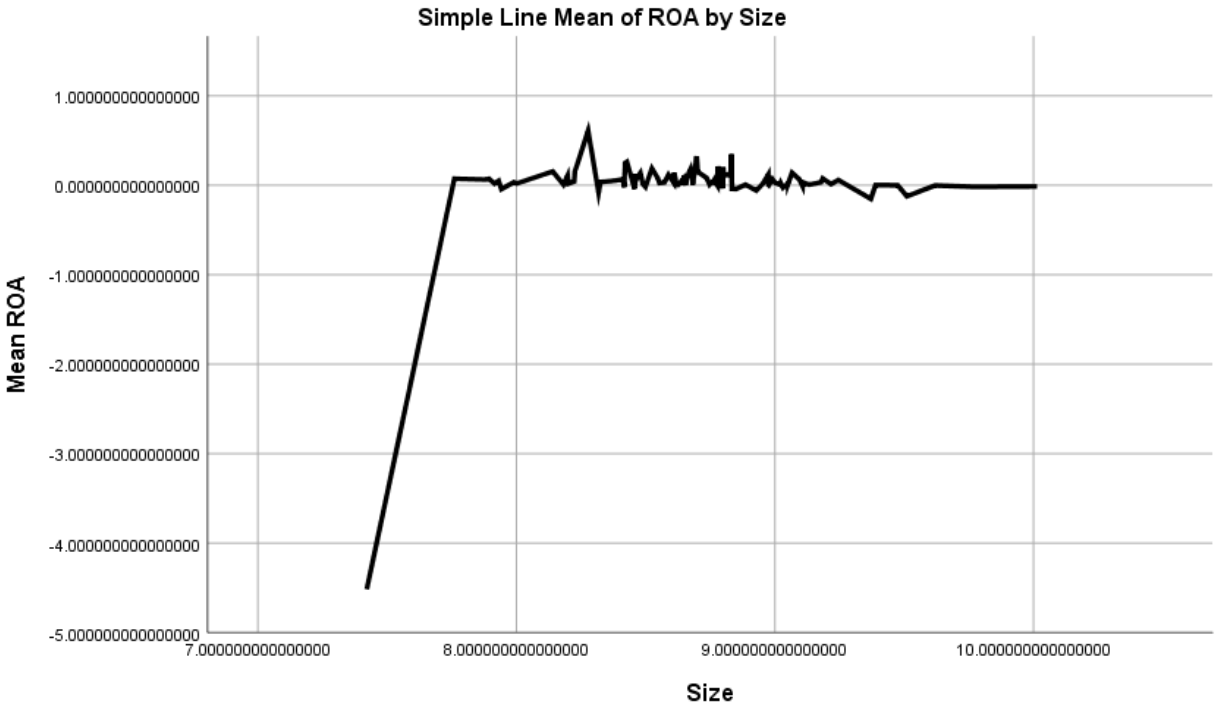
2019	0.668378	6.172536	7.941506	11	-0.04422
2023	0.184162	4.705705	8.831803	15	0.347389
2022	0.651076	2.107432	8.697014	15	0.324804
2021	0.934999	1.637256	8.479221	15	0.136211
2020	0.889821	1.85087	8.523933	15	0.187907
2019	0.453911	3.69313	8.427396	15	0.261611
2023	1.536091	1.233752	8.625541	47	0.004056
2022	1.536056	1.175612	8.617744	47	0.004911
2021	1.36024	1.344175	8.552711	47	0.025287
2020	0.99684	1.467412	8.456722	47	-0.03988
2019	0.648102	1.476736	8.41667	47	-0.0218
2023	0.399384	3.057194	9.178176	10	0.033462
2022	0.419487	2.047826	9.108334	10	0.032195
2021	2.746256	4.025653	9.000882	10	0.025475
2020	2.487247	3.628245	8.927783	10	-0.0597
2019	2.478101	3.469169	8.831628	10	0.159601
2023	0.662033	1.70501	8.389827	11	0.056336
2022	0.698064	1.595419	8.356153	11	0.043288
2021	0.362447	2.400385	8.223643	11	0.042557
2020	0.389282	2.345016	8.198061	11	0.109412
2019	0.395055	2.231453	8.226228	11	0.155669
2023	0.350634	1.986515	8.799823	15	0.201201
2022	0.397382	2.028276	8.778746	15	0.210846
2021	0.384814	1.645297	8.647513	15	0.106019
2020	0.474485	1.16595	8.615371	15	0.063381
2019	0.447884	1.235606	8.588079	15	0.117112
2023	3.14508	0.859943	10.01403	58	-0.01361
2022	32.06694	0.997055	9.770524	58	-0.0169
2021	27.75941	1.115636	9.618999	58	-0.00246
2020	11.00004	0.980687	9.216473	58	0.012595

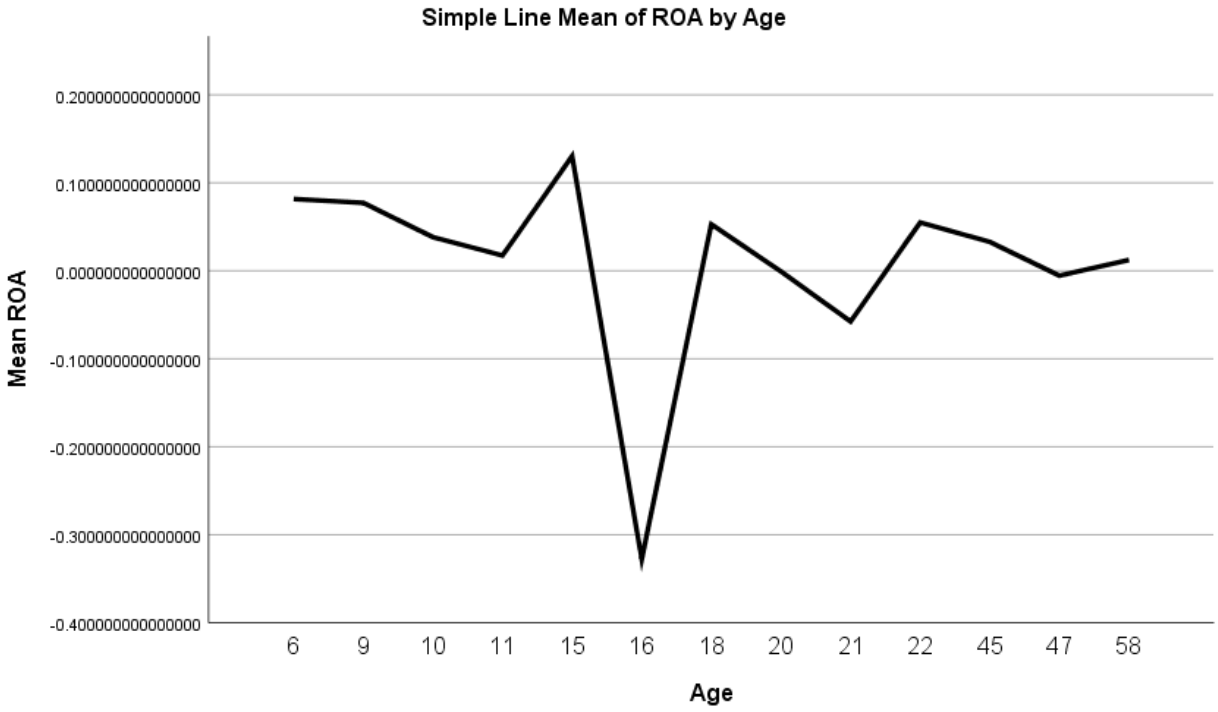
2019	8.508421	0.950021	9.132052	58	0.005803
2023	-0.004283	-231.56	7.421179	16	-4.51671
2022	0.090174	12.08964	8.200693	16	0.017968
2021	0.326731	4.057603	8.277389	16	0.609111
2020	1.064788	1.937934	8.420439	16	0.248789
2019	5.561055	1	8.609444	16	0.138497
2023	0.454106	3.517615	8.774814	9	0.011079
2022	0.400559	3.316659	8.751465	9	0.022148
2021	0.550717	2.260396	8.770253	9	0.023974
2020	0.210587	3.363926	8.673269	9	0.178746
2019	0.434092	1.934523	8.701277	9	0.150147
2023	0.713356	1.460285	9.065862	45	0.139125
2022	0.897451	1.030951	9.021924	45	0.02498
2021	0.971308	1.034493	9.030898	45	-0.02733
2020	0.795396	1.267718	9.050013	45	0.016756
2019	0.697197	0.746581	9.050133	45	0.010617
2023	-35.59193	2.047775	9.019909	20	0.008268
2022	10.34289	0.967398	8.976018	20	0.000224
2021	7.856371	1.150494	8.974319	20	0.004465
2020	5.151764	1.084641	8.95271	20	0.017067
2019	5.573106	1.048636	8.798277	20	-0.03395
2023	-7.990537	0.726353	9.510007	21	-0.12278
2022	-7.740991	1.523855	9.475061	21	-1.5E-06
2021	-15.27481	1.422977	9.466015	21	-1.2E-06
2020	7.460484	0.225941	9.370699	21	-0.15214

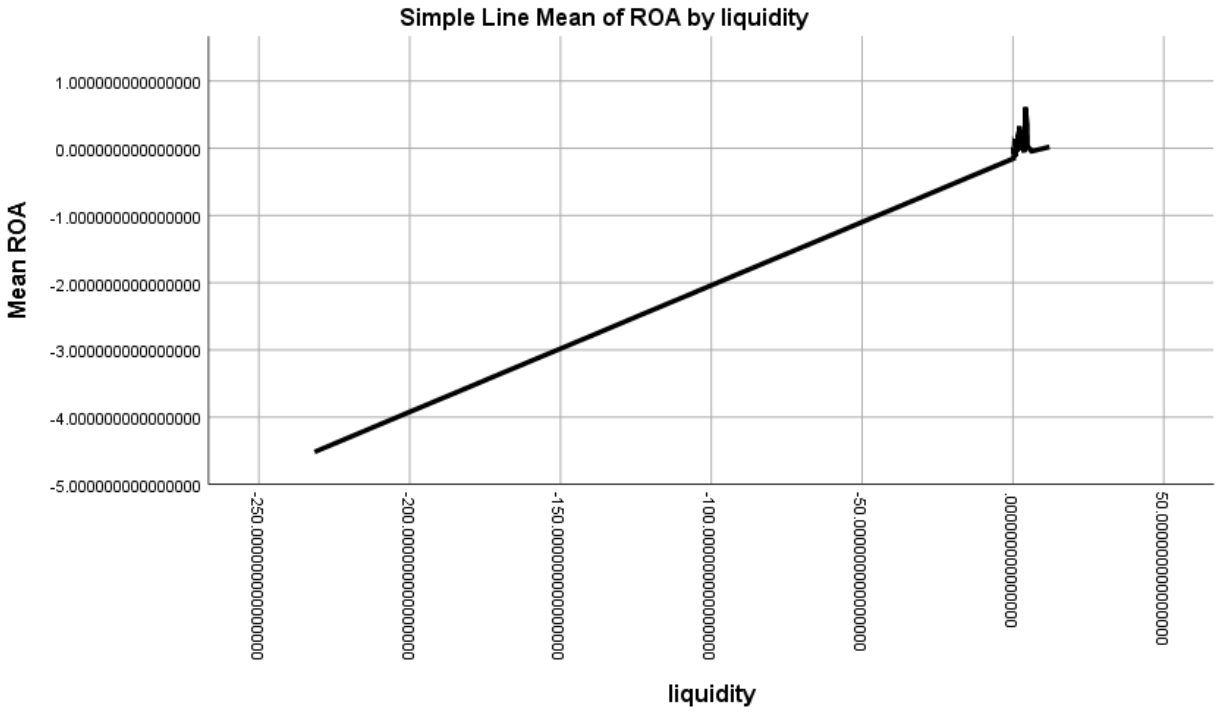
2019	1.268008	0.638646	9.107093	21	-0.01343
2023	2.010193	1.128035	7.98969	16	0.033988
2022	1.522063	1.155476	7.971594	16	0.004392
2021	1.022128	1.363819	7.930944	16	0.049914
2020	0.649572	1.738412	7.881632	16	0.06411
2019	0.393065	2.593242	7.759689	16	0.072531
2023	1.470874	1.569724	9.184594	18	0.076285
2022	0.955427	1.82115	8.989524	18	0.069886
2021	0.983303	2.153484	9.093675	18	0.068796
2020	0.70211	2.522512	8.973954	18	0.119786
2019	1.452483	2.187857	9.244896	18	0.058665
2023	3.110051	1.118513	8.181828	22	0.007515
2022	1.523841	1.372436	8.001731	22	0.020195
2021	1.096772	1.434347	7.914687	22	0.018249
2020	0.648784	2.093579	7.912594	22	0.023563
2019	0.600383	2.212053	7.894069	22	0.072797
2023	0.636512	2.168749	8.800171	22	0.111863
2022	1.091156	3.168392	8.820132	22	0.114686
2021	0.722872	2.77077	8.735788	22	0.081364
2020	0.736238	2.975229	8.645473	22	0.073621
2019	1.11312	2.519671	8.656696	22	0.02535
2023	0.275765	1.097147	8.766019	58	0.066057
2022	0.517002	1.226993	8.758761	58	0.032491
2021	0.555022	2.106239	8.746894	58	0.008435
2020	0.398621	1.500056	8.682272	58	0.007471
2019	0.393885	0.416544	8.653057	58	0.023315

APPENDIX II Scatter Plot




Simple Line Mean of ROA by Size
Mean ROA
1.000000000000000
0.000000000000000
-1.000000000000000
-2.000000000000000
-3.000000000000000
-4.000000000000000
-5.000000000000000
7.000000000000000
8.000000000000000
9.000000000000000
10.000000000000000
Size


Simple Line Mean of ROA by Age
Mean ROA
0.200000000000000
0.100000000000000
0.000000000000000
-0.100000000000000
-0.200000000000000
-0.300000000000000
-0.400000000000000
6
9
10
11
15
16
18
20
21
22
45
47
58
Age


Simple Line Mean of ROA by liquidity
Mean ROA
1.000000000000000
0.000000000000000
-1.000000000000000
-2.000000000000000
-3.000000000000000
-4.000000000000000
-5.000000000000000
-250.000000000000000
-200.000000000000000
-150.000000000000000
-100.000000000000000
-50.000000000000000
.000000000000000
50.000000000000000
liquidity