EFFECT OF SELECTED FIRM CHARACTERISTICS ON FINANCIAL DISTRESS OF LARGE SUPERMARKETS IN NAIROBI CITY COUNTY, KENYA

BY

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MASTER OF SCIENCE IN COMMERCE

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

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I do hereby confirm that I have examined the master's dissertation of

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And have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed.

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ABSTRACT

Supermarkets serve as a vital link between producers and consumers, ensuring the efficient distribution of a wide range of goods and services across the country. Despite the critical importance of the supermarket industry, large supermarket chains in Nairobi City County have been grappling with significant financial stability challenges. The study aimed to determine the effect of selected firm characteristics on financial distress of large supermarkets in Nairobi City County. The specific objectives include; to establish the effect of firm size on financial distress of large supermarkets in Nairobi City County. To determine the effect of leverage on financial distress of large supermarkets in Nairobi City County. To examine the effect of liquidity on financial distress of large supermarkets in Nairobi City County. The study was informed by three theories that include; signaling theory, agency theory and the liquidity preference theory. The study used explanatory research design. The study focused on seven large supermarkets that include Naivas, QuickMart, Cleanshelf, Eastmatt, Carrefour, Mathai Supermarket and Chandarana Foodplus financial records for a period of 7 years (2017-2023) were obtained from the websites of the seven supermarkets and their annual reports, which are maintained by the Retail Trade Association of Kenya (RETRAK). The study collected secondary panel data from 2017-2023 for 7 large supermarkets in Nairobi using a data collection checklist. It analyzed the data using descriptive statistics and panel regression to examine the effects of firm size, leverage, and liquidity on financial distress. Diagnostic tests like multicollinearity, normality, heteroscedasticity, stationarity, autocorrelation, and Hausman test were conducted. The findings were presented using tables and discussed in light of existing literature, highlighting implications for theory and practice. The study found that firm size had a moderate negative correlation ($r=-0.440$, $p=0.002$) with financial distress. The panel regression analysis also found that firm size had a significant negative effect ($\beta=-1.3214$, $p=0.015$) on financial distress of large supermarkets in Nairobi City County. The study also found that leverage had a moderate positive correlation ($r=0.377$, $p=0.008$) with financial distress. The panel regression results further showed that leverage had a significant positive effect ($\beta=0.6206$, $p=0.035$) on financial distress of large supermarkets. The study also found that liquidity had a strong negative correlation ($r=-0.512$, $p=0.000$) with financial distress. The panel regression analysis additionally revealed that liquidity had a significant negative effect ($\beta=-2.7411$, $p=0.000$) on financial distress of large supermarkets in Nairobi City County. The study concluded that firm size has a negative and significant effect on financial distress among large supermarkets in Nairobi City County, implying that larger supermarkets are less likely to experience financial distress. Leverage was found to have a positive and significant effect on financial distress, suggesting that highly leveraged supermarkets are more susceptible to financial challenges. Liquidity was shown to have a negative and significant effect on financial distress, indicating that supermarkets with strong liquidity positions are better equipped to handle unexpected financial hurdles. These study shows the crucial role of effective financial management in promoting the stability and long-term sustainability of the supermarket sector in Nairobi City County.

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DEDICATION

This thesis is dedicated to my beloved family for their love and encouragement in all my endeavors.

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ACRONYMS AND ABBREVIATIONS

APD	Advance Payment Discount
BPOF	Buyer-backed Purchase Order Financing
CBD	Central business district
CR	Current ratio
CSR	Corporate social responsibility
FDR	Financial distress
GDP	Gross domestic product
GTC	Good-Til-Cancelled
PCSE	Panel Corrected the Standard Error
SME	Small and medium-sized enterprise
VAR	Value at risk

DEFINITION OF TERMS

Financial distress: Financial distress refers to the inability of a company to meet its financial obligations as they become due, and it is often a precursor to bankruptcy (Altman, 2018).

Firm size: is the measure of a company's total assets or sales volume, and it is often used as a proxy for the company's operational and financial capacity (Sudrajat & Daud, 2020).

Leverage: refers to the degree to which a company uses debt to finance its operations, and it is measured by financial ratios such as debt-to-assets ratio (Kithandi & Katua, 2019).

Liquidity: refers to the ability of a company to meet its short-term financial obligations as they become due, and it is measured by financial ratios such as current ratio and quick ratio (Onyekwelu et al., 2018).

Supermarkets: refer to a group of retail stores that are owned and operated by a single company, and which share a brand identity, marketing strategy, and centralized management (Simanjuntak & Hutabarat, 2019).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Financial distress has become a major concern due to Kenya's retail sector's rapid growth, especially the establishment of large supermarket chains in urban areas (Kamau et al., 2019). These big-box stores are essential to the economy because they boost consumer spending, employment, and supply chain dynamics. Their financial stability has been challenged, nevertheless, by growing competition, shifting consumer preferences, and shifting market dynamics (Gatutha & Namusonge, 2020). Many reasons, including rapid urbanization, an expanding middle class with diverse consumption habits, and heightened rivalry thanks to market liberalization, have contributed to the rapid expansion of chain shops in Kenya (Shajema, 2018). Kenyan supermarkets carry several food and nonfood goods from both local and international manufacturers. Nairobi is home to the majority of the industry's top players.

Financial distress refers to a situation where a company faces difficulties in meeting its financial obligations, such as paying debts or covering operating expenses (Isayas, 2021). Financial distress is a condition that can lead to bankruptcy, liquidation, or significant organizational restructuring if not addressed promptly (Agarwal et al., 2020). Firm characteristics, on the other hand, are the inherent attributes or qualities of a company that influence its financial performance and overall health (Dioha et al., 2018).

The relationship between firm characteristics and financial distress has been extensively investigated in the literature. Researchers have examined how various firm-specific factors play a crucial role in determining a company's likelihood of experiencing financial distress. Firm characteristics refer to the inherent attributes or qualities of a company that can influence its financial performance and overall health (Dioha et al., 2018). The existing body

of research highlights the significance of considering a range of these firm-specific factors when examining the drivers of financial distress within organizations.

Studies have found that a firm's characteristics can have a substantial impact on its susceptibility to financial distress. Certain attributes, such as the company's size, its capital structure, market position, operational efficiency, and management practices, can all contribute to its financial stability or instability (Nenu et al., 2018). For instance, larger firms often have better access to resources, economies of scale, and greater resilience to financial shocks, which can reduce their risk of experiencing financial distress (Omar et al., 2020). Conversely, firms that are heavily reliant on debt financing or have poor operational efficiency are more vulnerable to financial difficulties, as they are more exposed to economic downturns and face higher interest expenses (Simanjuntak & Hutabarat, 2019).

In addition, firm characteristics play a significant role in determining a company's susceptibility to financial distress. Research has shown that factors such as firm size, leverage, profitability, liquidity, and growth opportunities are closely associated with the likelihood of financial distress (Altman et al., 2017). Larger firms tend to be more resilient to financial distress due to their greater access to resources and diversification of risks (Tinoco & Wilson, 2013). Conversely, higher leverage ratios increase the probability of financial distress as firms struggle to meet debt obligations (Atheru, 2023). Profitability serves as a buffer against financial distress, with more profitable firms being less likely to experience financial difficulties (Grüner & Raastad, 2018). Liquidity is another critical factor, as firms with higher liquidity ratios are better positioned to meet short-term obligations and weather financial storms (Moridu & Abidin, 2023).

From a global perspective, in New York, retail performance significantly influences a company's level of financial distress (Vintilă et al., 2019). Poor-performing retailers face higher borrowing costs and difficulties in achieving their financial goals, leading to increased financial

distress risk (Sesa & Hasnawati, 2023). In addition, employees in financially distressed stores may experience lower morale and productivity due to the heightened stress and job insecurity associated with potential bankruptcy (Khaliq, 2014). In Minnesota, USA economic climate change and management failure as the most common causes of business losses and the role of macroeconomic factors, such as inflation and recession, in contributing to financial distress and bankruptcy (Miller, 2020). Further, the importance of evaluating the risk of deep debt in financially troubled supermarkets when making investment decisions in Sri Lanka (Madhushani & Kawshala, 2018).

In the regional perspective, companies in the region have succumbed to corporate failure, bankruptcy, or liquidation due to financial distress (Vengesai & Kwenda, 2018). To mitigate the negative impact of financial distress on operations, retailers in South Africa have leveraged their close relationships with suppliers to monitor their supply base and gather information on early warning signs of financial distress (Breytenbach et al., 2020). In addition, retail stores in the region have taken corrective actions, such as providing training, preferential payment terms and financial assistance to their suppliers, to ensure supply continuity and supplier sustainability (Susanti et al., 2020). In Nigeria, profitability, leverage and liquidity as major determinants of financial distress, with profitability and leverage having positive and negative effects on the degree of financial difficulty, respectively (Nguyen & Nguyen, 2020). Similarly, firm size, liquidity, performance, and dividends were associated with financial distress in Ethiopia, influencing a business's growth, liquidity levels, and vulnerability to liquidity risk (Isaya, 2021).

From a local perspective, supermarkets in Nairobi have been grappling with financial distress, leading to the closure of several prominent outlets across the city and the country (Matayo & Muturi, 2018). Financial distress, characterized by a company's struggle to meet its current and future financial commitments, affects both developed and developing economies

during economic upswings and downswings (Keter, 2018). The severity of financial distress during a recession can be particularly severe, potentially leading to business failure. Uncertainty or variation in a company's returns poses a threat to its long-term financial health and existence, contributing to financial distress (Onsongo et al., 2020; Muriithi & Waweru, 2017). Financial distress is a significant issue for businesses of all sizes and locations in Kenya (Walela et al., 2022). The choice to focus on leverage, liquidity, and firm size in this study stems from their demonstrated impact on a company's financial health (Omar et al., 2020). Despite their crucial role in business viability and sustainability, these characteristics have not been extensively studied in the context of Nairobi's supermarkets, highlighting the need for further research to inform policy formulation and managerial decision-making.

1.1.1 Financial Distress

A company that is facing financial distress is unable to fulfill its financial obligations to creditors, which can lead to bankruptcy or liquidation if the situation persists (Leeds, 2019). Bankruptcy is the most common criterion used to determine whether a company is in financial distress, and it is a legal event that is heavily influenced by the actions of creditors, particularly bankers (Dörr et al., 2022). Financial distress refers to severe liquidity problems that require significant rescaling of the entity (Ochieng, 2018). Indicators of financial distress include declining performance, failure, insolvency, and default, with the latter two being rooted in liquidity issues (Zhou et al., 2022). A firm may be in financial distress without officially defaulting; nonetheless, this is often characterized by a decline in performance and value (Li et al., 2021).

Persistent cash shortages, diminishing margins and profits, dropping revenue, extended payment days, and noncompliance with legal and contractual constraints are all signs of financial difficulty, which has a detrimental impact on an organization's performance (Efuntade & Akinola, 2020). Prediction of financial distress is crucial for implementing appropriate

mitigation measures and rescuing a company before it faces destructive consequences. While bankruptcy probability is a factor, assessing expected losses from financial distress takes precedence (Eyigege, 2018). The consequences of corporate financial distress became apparent in the US during the 1970s and continued through recessions, post-dotcom, and the economic crisis period of 1980-2003 (Altman et al., 2019).

Financial distress prediction (FDP) is a promising approach to minimize financial losses. Companies are more likely to fail when they are under financial difficulties, which may cause cash flow constraints and operational bankruptcy (Tang et al., 2020). Due to mismanagement of macroeconomic conditions, it puts businesses at danger of systematic failures (Habib et al., 2020). When businesses raise their trade payables to offset financial difficulty, sales and profit growth deteriorate by at least 11% and 21%, respectively (Molina & Preve, 2012). A financial crisis in a corporation is marked by a precipitous fall in financial performance, which may cause financial and economic suffering (Lohe & Calabro, 2017). Financial distress has negative impacts on economic growth, employment, and tax compliance (Masinde, 2017). Therefore, FDP is critical to developing appropriate mitigation measures and preventing such negative consequences.

The onset of financial distress in a company is often attributed to a series of errors in decision-making and weaknesses within the management team (Liahmad et al., 2021). Factors such as high levels of debt, operational losses, and difficulty in generating cash flows are among the internal factors that contribute to a company's financial distress. In addition, the company's strategy is also a critical factor that influences the occurrence of financial distress (Hadjaat et al., 2021). Financial distress can also arise from external factors that have a direct or indirect impact on the company, such as rising interest rates, which may further exacerbate the company's liquidity problems (Habib et al., 2020).

The indebtedness of a corporation and its inability to meet its short-term commitments on time are both indicators of financial difficulty (Liahmad et al., 2021). Companies' short-term debts are directly linked to their liquidity, or capacity to pay off short-term obligations. The liquidity ratio is a popular metric for gauging a company's capacity to fulfil its immediate debts. For the case when a business is persistently unable to meet its obligations, it may indicate a lack of liquidity. Further, sustained illiquidity can eventually lead to financial distress, making it essential for companies to manage their liquidity carefully (Kisman & Krisandi, 2019).

1.1.2 Firm Characteristics

The risk of financial distress in a company can be primarily influenced by three key areas: financial factors, non-financial factors, and macro-economic conditions (Vodwal et al., 2019). In the context of supermarkets, non-financial characteristics like the variety of products offered, supplier relationships, and customer service quality can significantly impact a store's financial stability (Sui et al., 2019). Among the financial determinants, liquidity, firm size, leverage, and investment are crucial indicators of a company's overall fiscal health (Pattiruhu & Paais, 2020). Liquidity, which is the ability to quickly convert assets into cash at a low cost, holds a special place in ensuring financial stability (Diyanto, 2020). A continual inability to meet short-term obligations indicates a mounting risk of entering into financial distress (Kisman & Krisandi, 2019).

Firm size also plays a vital role. Larger supermarkets often have more straightforward access to external financing at favorable rates due to their ability to negotiate better terms. This gives them a better chance of surviving financial downturns, thanks to their reserve funds (Omar et al., 2020). However, larger stores may also be more susceptible to financial distress, as size has been shown to intensify the relationship between liquidity ratios and financial

problems (Heniwati & Essen, 2020). Leverage, or the strategy of using borrowed funds to finance business operations, has a dual role.

While it can boost profits if the revenue generated by the borrowed funds exceeds the cost, it also amplifies the risk of losses and, consequently, financial distress (Octavia et al., 2021). Effective leverage management is therefore crucial for long-term business success (Akhalumeh & Ogunkuade, 2021). Financial ratios, particularly the liquidity ratio, serve as essential indicators of a firm's ability to meet short-term financial commitments. The current ratio, which gauges a company's current assets against its liabilities, is widely used for this purpose (Oktasari, 2020). A higher current ratio is usually indicative of a lower chance of financial distress, making it an important metric for assessing financial health (Hertina, 2021).

The study focused on three firm characteristics: firm size, leverage and liquidity, among other factors that can affect financial distress. It is commonly acknowledged that a firm's financial stability and well-being are significantly influenced by these three factors (Pattiruhu & Paais, 2020). Firm size is important because larger companies can potentially mitigate financial distress because they have better access to outside financing and resources (Omar et al., 2020). Firm size does, however, also have the complex effect of strengthening the correlation between liquidity ratios and financial issues (Heniwati & Essen, 2020). The amount of debt financing, or leverage, can have two negative effects: while it can increase profits, too much leverage also raises the possibility of losses and financial trouble (Akhalumeh & Ogunkuade, 2021). The capacity to meet short-term obligations is known as liquidity, and it is especially important for financial stability because a persistent lack of it can signal impending financial distress (Diyanto, 2020; Kisman & Krisandi, 2019). Financial ratios are frequently used as gauges of a company's liquidity and capacity to fulfill short-term obligations, particularly the current ratio (Oktasari, 2020).

1.1.3 Supermarkets in Nairobi City County

Nairobi, the capital city of Kenya, is home to a diverse range of supermarkets catering to the needs of its vibrant population. These supermarkets vary in size, from large national and international chains to smaller neighborhood stores. The Retail Trade Association of Kenya (RETRAK) reports that the supermarket industry in Nairobi has experienced significant growth in recent years, driven by factors such as urbanization, changing consumer preferences, and the rise of a burgeoning middle class (RETRAK, 2021). This growth has led to intense competition among supermarket chains, each striving to offer a wide array of products, competitive pricing, and exceptional customer service.

Large supermarkets play a pivotal role in Nairobi's retail landscape, often operating as national or international chains with multiple branches across the city. According to the Kenya National Bureau of Statistics (KNBS), Naivas, QuickMart, Cleanshelf, Eastmatt, Carrefour, Mathai Supermarket and Chandarana Foodplus are among the largest supermarket chains in Nairobi (KNBS, 2022). These supermarkets are characterized by their extensive retail space, offering a diverse range of products from fresh produce and groceries to household items and electronics. They have embraced modern retail formats, incorporating elements such as organized product displays, advanced checkout systems, and digital platforms to enhance the shopping experience and streamline operations (Kadenyeka & Mwasiaji, 2023).

The study focused on these five large supermarkets in Nairobi City County for several reasons. Firstly, as prominent players in the industry, they are likely to have a significant impact on the local economy and consumer market (Mwaura, 2017). Secondly, their well-established nature and extensive operations provide a comprehensive representation of the challenges and opportunities faced by large supermarket chains in the region (Gatutha & Namusonge, 2020). Lastly, their diverse product offerings, varying operational strategies, and customer bases allow

for a comprehensive analysis of the factors contributing to financial distress (Agarwal et al., 2020).

1.2 Statement of the Problem

The supermarket industry in Nairobi City County has experienced significant growth in recent years, driven by factors such as urbanization, changing consumer preferences, and the rise of a burgeoning middle class (RETRAK, 2021). Large supermarkets, including Naivas, QuickMart, Cleanshelf, Eastmatt, and Carrefour, have played a pivotal role in shaping the retail landscape of the city (KNBS, 2022). While this growth has brought about increased competition and a diverse range of products and services for consumers, it has also raised concerns about the financial stability and well-being of these supermarket chains. The ideal situation would be for these large supermarkets to maintain a strong financial position, ensuring their long-term sustainability and ability to meet their financial obligations, while continuing to serve the needs of the local community (Gatutha & Namusonge, 2020). However, the reality is that some of these supermarket chains, for instance, Uchumi and Nakumatt Supermarket, have faced financial distress, this has led to the closure of their outlets in the country, raising concerns about the factors contributing to their financial distress (Matayo & Muturi, 2018).

The root causes of financial distress in the supermarket industry can be attributed to various factors, including firm characteristics such as firm size, leverage and liquidity (Omar et al., 2020). Firm size plays a crucial role, as larger supermarkets often have better access to external financing and resources, potentially mitigating the risk of financial distress (Wangsih et al., 2021). However, larger firms may also be more susceptible to financial distress due to the amplified relationship between liquidity ratios and financial problems. Leverage, or the use of debt financing, can be a double-edged sword; while it can boost profits, excessive leverage also increases the risk of losses and financial distress (Akhalumeh & Ogunkuade, 2021). Liquidity, the ability to meet short-term obligations, is particularly critical, as a persistent lack

of liquidity can signal impending financial distress (Diyanto, 2020). These firm characteristics, along with other factors such as management decisions, industry trends, and macroeconomic conditions, can contribute to the financial instability of supermarket chains in Nairobi City County (Liahmad et al., 2021).

While the growth and expansion of large supermarkets in Nairobi City County have brought about economic benefits and increased consumer choices, the reality is that some of these supermarket chains have faced financial distress, leading to the closure of outlets and raising concerns about their long-term sustainability (Kangogo, 2021). This reality deviates from the ideal situation where these supermarkets maintain a strong financial position, meet their obligations, and continue to serve the local community (Mwaura, 2017). The analysis of firm characteristics, such as firm size, leverage, and liquidity, provides insights into the potential root causes of this financial instability (Omar et al., 2020). While firm size can provide advantages in terms of access to resources and financing (Wangsih et al., 2021), excessive leverage and liquidity issues can increase the risk of financial distress (Octavia et al., 2021). Moreover, other factors such as management decisions, industry trends, and macroeconomic conditions can exacerbate the financial challenges faced by these supermarket chains (Sui et al., 2019). The study aimed to determine the effect of selected firm characteristics on financial distress of large supermarkets in Nairobi city county.

1.3 Objectives of the Study

This study was guided by both general and specific objectives.

1.3.1 General Objective for the Study

To determine the effect of selected firm characteristics on financial distress of large supermarkets in Nairobi city county.

1.3.2 Specific Objectives

i. To establish the effect of firm size on financial distress of large supermarkets in Nairobi City County

ii. To determine the effect of leverage on financial distress of large supermarkets in Nairobi City County.

iii. To examine the effect of liquidity on financial distress of large supermarkets in Nairobi City County.

1.4 Research Hypothesis

i. **H_{01}:** There is no significant effect of firm size on the financial distress of large supermarkets in Nairobi City County.

ii. **H_{02}:** Leverage has no significant effect on the financial distress of large supermarkets in Nairobi City County.

iii. **H_{03}:** Liquidity has no significant effect on the financial distress of large supermarkets in Nairobi City County.

1.5 Significance of the Study

1.5.1 Managers of the Chain's Stores

The research was helpful to managers of supermarkets; predicting financial distress is essential for all stakeholders, as it enables better decision-making when firms are being evaluated. In recent years, losses at supermarkets have increased, making it more difficult to estimate how much those losses amount to. This is because large supermarkets are experiencing losses due to financial difficulties. As a consequence of this, management can use an accurate model that forecasts the company's eventual bankruptcy to take preventative action.

1.5.2 Policymakers

The findings of the study were important to policymakers all over the world, including the government of Kenya. The study may provide governments with assistance in formulating policies that provided subsidies for goods, lower taxes on goods and services, lower interest rates for banks to increase borrowing, and taxing foreign products to raise prices and make domestic products more appealing. All of these policies are intended to make domestic products more appealing to consumers.

1.5.3 Scholars

This study could be helpful to academics because it could lay the groundwork for further investigation into the factors that influence the financial distress of supermarkets. To determine the various factors that contribute to the financial precariousness of supermarkets in Nairobi County, additional research utilizing a wider variety of variables could be carried out. This study also served as a helpful source of reference material for researchers who are interested in examining other aspects of retail supermarkets and financial distress.

1.6 Scope of the Study

The research focuses on understanding the factors contributing to the financial distress of large supermarkets in Nairobi County, Kenya, where there is a high concentration of such stores. The study attempts to ascertain the effect of profitability, leverage, and liquidity on financial hardship in these chain businesses. A descriptive study approach was used to explore these aspects. The study was geographically confined to Nairobi City County, Kenya, due to its high concentration of supermarkets and the relevance to the study objectives. The study relied on secondary data spanning from January 2017 to December 2023. This time frame is chosen to provide a robust set of data for a meaningful analysis. The research activities are scheduled to take place from September 2023 to November 2024.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter provides a theoretical review, which includes Signaling Theory, Agency Theory and the liquidity preference theory. The chapter also includes empirical reviews of firm size, leverage and liquidity. The chapter also present the knowledge gap and conceptual framework.

2.2 Theoretical Literature

Three important financial economics ideas are combined into the study's theoretical framework: The theories of liquidity preference theory, agency and signaling.

2.2.1 Signaling Theory

Signaling Theory, introduced by Michael Spence in his 1973 paper titled "Job Market Signaling," focuses on situations where information is asymmetric between two parties (Spence, 1978). The theory proposes that individuals with private information, such as their competence or education level, have an incentive to signal this information to others. Akerlof George (1970) extended this concept extending it to markets with information asymmetry in his 1970 work, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism, such as the used car market. Signaling Theory operates under several key assumptions:

The theory assumes that one party has more information than the other, creating a disparity in knowledge. Signaling is effective when the signal is costly or difficult to fake. For example, acquiring education or certifications can be costly signals of an individual's qualifications (Bangerter et al., 2012). Both the sender (signaler) and receiver (recipient) are rational actors who seek to maximize their utility or benefit (Gartzke et al., 2017). The theory assumes that the interests of the sender and receiver may not align perfectly, creating a need for signals to facilitate cooperation or transaction. In economic contexts, the theory often

assumes a competitive market where participants seek ways to distinguish themselves from others (Akerlof George, 1970). While Signaling Theory has provided valuable insights, it is not without its limitations. One major critique is that it can oversimplify human behavior and interactions. Critics argue that in real-world scenarios, individuals may not always act rationally, and the cost of signals may not accurately reflect their true abilities or qualities (Pan et al., 2006).

In the context of the first objective, which aims to assess the impact of company characteristics on the financial distress of large supermarkets in Nairobi City County, Signaling Theory provides significant consideration. While assessing the size, leverage, and liquidity of the company, the theory suggests that these characteristics may serve as signals to stakeholders, including investors and creditors.

2.2.2 Agency Theory

Agency Theory, a fundamental concept in economics and organizational theory, has been advanced by several proponents, including Michael Jensen and William Meckling. The theory centers on the principal-agent relationship within organizations. According to Jensen and Meckling (1976), Agency Theory posits that when one party, known as the principal, delegates decision-making authority to another party, referred to as the agent, there is a potential conflict of interest. The agent may not always act in the best interests of the principal, leading to what is commonly referred to as the "agency problem."

Agency Theory relies on a set of key assumptions: it assumes that individuals, both principals and agents, are primarily motivated by self-interest (Hill & Jones, 1992). They seek to maximize their own utility or well-being. The theory acknowledges that there is often an information gap between principals and agents. Agents may possess information not accessible to principals, creating the potential for opportunistic behavior. Agency Theory assumes that

individuals are risk-averse. Agents may be hesitant to take risks that could impact their well-being. It posits that agents may not exert their full effort unless appropriately incentivized by principals. This imbalance between effort and rewards can be a source of agency problems (Glinkowska & Kaczmarek, 2015).

One of the primary weaknesses of Agency Theory is its oversimplified view of human behavior. Critics argue that it portrays individuals as purely self-interested and fails to account for the complexity of human motivations, which can include ethical considerations, social norms, and long-term relationships (Eisenhardt, 1989). Additionally, the theory assumes that contracts and incentives alone can mitigate agency problems, overlooking the role of trust and interpersonal relationships in addressing conflicts (Klein, 2002). Furthermore, Agency Theory is often criticized for its narrow focus on financial measures of performance, neglecting non-financial factors that can be equally important (Eisenhardt, 1989).

The second objective, which explores the effect of leverage on financial distress of in large supermarkets in Nairobi City County, can be directly related to Agency Theory. Leverage involves the use of debt financing, and it represents a classic agency problem. High levels of leverage can incentivize agents (management) to take excessive risks to maximize their interests, potentially leading to financial distress for the principal (shareholders).

2.2.3 Liquidity Preference Theory

The Liquidity Preference Theory, developed by John Maynard Keynes in 1936, provides a framework for understanding the demand for money and the determination of interest rates. According to this theory, individuals and institutions demand money for three main reasons: the transaction motive, the precautionary motive, and the speculative motive (Keynes, 1936).

The theory posits that interest rates are set by the dynamic between the money supply and the demand for it. The demand for money, in turn, is predicated upon people's inclination

to own liquid assets or the ability to access their money easily (Mishkin, 2010). Keynes suggested that individuals have a preference for liquidity, which leads them to hold a portion of their wealth in cash or cash-equivalents (Ogiriki & Andabai, 2014). The interest rate should be set such that it strikes a balance between the supply and demand for currency. Higher demand for money relative to supply will lead to higher interest rates, and vice versa (Mishkin, 2010).

While the Liquidity Preference Theory highlights the importance of liquidity in determining interest rates, it faces certain limitations when examining the intricacies of contemporary financial markets. The theory's reliance on the division between monetary and non-monetary assets oversimplifies the complex and diverse characteristics of asset liquidity (Beggs et al., 2019). In addition, the theory's linear depiction of the relationship between liquidity preference and interest rates is an oversimplification, as real-world scenarios often show a non-linear interplay of these factors influenced by numerous economic variables (Bernanke, 2006). Furthermore, the theory fails to account for the impact of technological progress and financial innovation, which have evolved significantly since Keynes' time, altering the dynamics of liquidity management in modern financial systems (Mierzejewski, 2006).

In the context of the current study, the Liquidity Preference Theory is relevant to the variable examining the effect of liquidity on financial distress of large supermarkets in Nairobi City County. The demand for money is influenced by individuals' desire for liquidity or the ability to access their money easily. Interest rates, which act as a check on the supply and demand for currency, are influenced by this inclination toward liquidity. The interest rate spread, or the gap between the interest rate that banks earn on deposits and the interest rate that they charge on loans, is affected by this liquidity risk. In times of significant liquidity risk, banks may need to impose a greater interest rate spread on their customers (Mishkin & Eakins,

2006). Therefore, the Liquidity Preference Theory informs the variable of the study and is suitable to be used in this context.

2.3 Empirical Review

This research concentrated on specific objectives which includes firm size, leverage and liquidity.

2.3.1 Firm Size and Financial Distress

Walela et al. (2022) conducted a research study to examine the influence of firm size on the link between financial risk and financial hardship among Nairobi Stock Exchange businesses. A quantitative method and a time series cross-sectional design were used in the investigation. The study's sample consists of all 66 Kenyan companies that were listed on the Nairobi Securities Exchange in 2018. Secondary data served as the study's main information source. Descriptive and inferential statistics were used to examine the data, particularly the Binary Logistic Regression model. Among companies registered on the Nairobi Securities Exchange (NSE) in Kenya, the research found that, in fact, a company's size did affect the relationship between financial risk and financial hardship.

Sudrajat and Daud (2020) explored how capital structure affected Indonesian manufacturing businesses' financial results. Data from 55 manufacturing sector listed businesses on the Indonesia Stock Exchange were examined by the research using a panel data analysis using a random effect model. The information was collected between 2018 and 2022, which is a 5-year period. According to return on assets (ROA) and market-to-book value (MBV), there is no relationship between a company's size and its financial success. The study's conclusions show that the financial performance of Indonesian manufacturing companies is unaffected by company size. This finding supports earlier studies that found no meaningful relationship between a company's size and financial success.

Gichaiya et al. (2019) conducted a research study to examine the effect of business risk on financial distress (FD) in Kenya, accounting for company size's moderating effect. The study used a correlational technique in a quantitative research design, with a focus on all non-financial enterprises registered on the Nairobi Securities Exchange (NSE) between 2006 and 2015. Daily stock prices, stock market indexes, and audited financial statements provided secondary data for the research. Hierarchical panel regression analysis was performed as part of the data analysis. Corporate risk and FD showed a significant and positive link, according to the research. FD is significantly positively impacted by unsystematic risk, which is defined as the particular hazards related to business and financial aspects (probably referring to a financial measure). On the other hand, market risk, which represents systematic risk, has a negligible beneficial impact. The relationship between unsystematic risk and company size and corporate risk and firm size interacts positively but statistically insignificantly with FD. Conversely, the market risk multiplied by company size interaction term has a negative and negligible correlation with FD.

Panda and Nayak (2019) conducted research to support the claim that businesses aiming for long-term success must limit the size of their organization. The study employs a qualitative methodology, scrutinizing multiple instances and case studies to bolster its argument. The study reveals that companies that are actively pursuing sustainable performance generally have a smaller scale. The reason for this is that smaller companies possess a greater capacity to cultivate trust, collaboration, openness, and empathy, all of which are crucial for attaining long-lasting success. These attributes are more challenging to attain in larger corporations, which frequently exhibit greater levels of bureaucracy and impersonality. The study suggests that firms aiming to attain sustainable performance should prioritize limiting their scale.

Rianti and Yadiati (2018) carried out a research study to analyze the effect of business size on financial distress in Indonesian Stock Exchange-listed agriculture enterprises between

2012 and 2014. A correlational technique was used in a quantitative study design. Eighteen agricultural enterprises that are listed on the Indonesia Stock Exchange were chosen using a purposive selection technique. From 2012 to 2014, secondary data was gathered from business financial statements and the Indonesian Capital Market Directory (ICMD). Multiple regression analysis was used in the data analysis. The multiple regression analysis's findings indicated that there is a little but favorable relationship between business size and financial hardship. This indicates that, while the association is not statistically significant, bigger agricultural enterprises are more likely than smaller ones to face financial trouble. The study concluded that firm size is not a significant predictor of financial distress in agricultural companies.

Ahmed et al. (2023) conducted research to assess the impact of business size on the relationship between profitability and capital structure. A panel data set comprising 156 manufacturing companies listed on the Tehran Stock Exchange (TSE) between 2011 and 2019 was used in the research, which employed a quantitative methodology. To assess the data, the fixed-effects regression approach was used. The results show that choices on capital structure have a detrimental effect on profitability. However, a company's level of profitability and scale have a favorable correlation. Further, the study found that the size of a firm has a significant influence on improving the association between capital structure choices and organizational profitability.

Muhindi and Ngaba (2018) sought to study the influence of firm emphasis on Kenyan commercial banks' financial performance in their study. In the research, a descriptive survey method was used. The study's findings indicate that among Kenyan commercial banks, business size and financial performance are positively correlated. The findings of the study indicate that a company's size has a significant influence on its financial performance. Larger financial institutions have more access to a broader variety of resources, such as capital and deposits, allowing them to efficiently leverage these assets to boost profitability.

Khan et al. (2022) examine the relationship between the company's worth and its scale, the nature of its investment opportunities, and its capital structure. An explanatory research approach was used in the study, and secondary data in the form of financial statement data from banking sector businesses listed throughout the study period on the Pakistani Stock Exchange were used of ten years, from 2010 to 2019. A purposive sampling method was employed to choose 27 companies for the sample. The data underwent analysis utilizing the AMOS software and the path analysis methodology. The study found that a company's worth was significantly and favorably impacted by its size and the variety of investment options it offers. On the other hand, the value of the company was not significantly impacted by the capital structure. The study also found that there is no discernible relationship between capital structure and business value, implying that managers possess greater leeway in formulating their capital structures.

Laurena and Ramantha (2022) studied the relationship between firm size and different the study examined institutional ownership factors, liquidity ratios, and leverage ratios in manufacturing firms that are listed for public trading on the Indonesia Stock Exchange. Multinomial logistic regression analysis and a quantitative approach were used in the investigation. Institutional ownership, liquidity ratios, and leverage ratios do not statistically significantly affect the probability of financial crises, according to the study's findings. The association between the liquidity ratio and the probability of financial troubles may be mitigated by the firm's size, however. The influence of liquidity ratios on financial stress is greater for small businesses than for bigger businesses. The findings of the research show that the frequency of financial distress among manufacturing companies that are listed on the Indonesia Stock Exchange is not significantly influenced by financial indicators or excellent corporate governance.

Rochman and Sasongko (2022) conducted a study to examine the impact of business size, liquidity, and leverage on the frequency of financial crises. Multiple linear regression

analysis was used in the research along with a quantitative methodology. According to the study's findings, the likelihood of financial hardship among businesses listed on the Indonesia Stock Exchange between 2018 and 2021 that operate in the transportation subsector is significantly influenced by the degree of debt. The research results further indicate that there is no appreciable correlation between the dimensions of business size and liquidity and the likelihood of financial distress among publicly listed transportation sub-sector companies on the Indonesia Stock Exchange between 2018 and 2021.

Kusuma et al. (2021) determine the relationship between firm size and sales growth, specifically examining the direct and indirect effects through capital structure. The study employs a quantitative research methodology, specifically path analysis, to examine and evaluate the proposed hypotheses. 16 consumer products businesses that were listed on the Indonesia Stock Exchange between 2016 and 2018 make up the sample. According to the study's results, a company's financial structure may significantly and favorably influence sales growth based on its size. Evidence supporting the resource-based perspective theory and the trade-off hypothesis is presented in the research. Big corporations possess greater financial resources to allocate towards pursuing growth prospects, and they also present lower levels of risk for lenders. This grants them the opportunity to obtain capital at a lower cost, which they can utilize to fund their expansion.

2.3.2 Leverage and Financial Distress

Wangsih et al. (2021) studied financial distress in the retail trade sub-sector among businesses listed on the Indonesia Stock Exchange from 2016 to 2020. There were 27 businesses in the study's population, and researchers utilized a purposive selection method to pick 17 of them for their study. Logistic regression analysis was performed in the research, and the data was analyzed using SPSS. According to the data, the size of a company has a negative impact on financial hardship, whereas leverage has a good impact. In contrast, increased sales were shown

to have no bearing on monetary stress. As a result, the research found that leverage and business size increase financial hardship, but sales growth had no effect on financial distress.

Cheng and Tzeng (2014) conducted a study to calculate the effect of leverage on company market values and investigate the role those contextual variables play in this connection. The least square dummy variable (LSDV) model is used in the research to quantify the impact of leverage on firm market values. Sixty-five Taiwan Stock Exchange (TSE) businesses that went public between 2000 and 2009 make up the sample. Leverage increases company market values until a business issue enough debt to reach its ideal capital structure, the research finds. The study found that better financial soundness, more growth potential, and higher corporation tax rates are associated with a bigger positive impact of leverage on company value.

Kithandi and Katua (2019) conducted a study to ascertain how debt-to-equity ratios, interest coverage ratios, and debt ratios affect the financial performance of energy and petroleum sector businesses listed on the Nairobi Securities Exchange. The five energy and petroleum sector businesses listed on the Nairobi Securities Exchange provided secondary data, which were gathered by census sampling in a quantitative research methodology. In an explanatory study approach, quantitative secondary data was analyzed using the Statistical Package for the Social Sciences (SPSS). The research included measures of central tendency and dispersion to characterize the data, and a multiple regression equation was then conducted to ascertain the correlation between the variables. Results of the analysis of the data were presented in tables, charts, and graphs using descriptive statistics. Financial leverage and the financial performance of companies in the petroleum and energy sectors that are listed on the Nairobi Securities Exchange are negatively correlated, according the study's results. The debt-to-equity ratio and return on assets both rose as they were measured. The financial performance of this industry seems to be negatively impacted by financial debt, according to this.

Dianty (2021) conducted a research study to examine the effect of leverage on earnings manipulation in manufacturing firms that are listed on the Indonesian stock market and operate in the basic industrial sector and chemicals. The research selects a sample of six businesses using a purposive selection approach from a population of sixty-three manufacturing firms that are listed on the Indonesian stock market and in the basic industrial sector. The study employed classical assumptions testing and linear regression analysis for data analysis. Partially supporting the idea that leverage has no effect on earnings management is the study. The results of the research show that leverage has little effect on how profits are managed by basic industrial manufacturing firms and chemicals listed on the Indonesian stock market.

Musah and Kong (2019) studied how non-financial companies listed on the Ghana Stock Exchange (GSE) do financially and how much leverage they have. Panel data from 15 non-financial companies listed on the GSE between 2008 and 2017 that were audited and released as annual reports were utilized in the research. Leverage was determined by dividing the total debt-to-equity ratio by the total return on assets (ROA), equity (ROE), and capital employed (ROCE). To determine how leverage and financial performance are correlated in two dimensions, a Pearson Product-Moment Correlation Coefficient test was used. The study found that leverage had a significantly negative relationship with ROA but a marginally positive relationship with ROE and ROCE.

Mukras (2019) conducted a study to investigate the connection between financial leverage and Kenyan listed companies' financial results. The research uses several panel methodologies and yearly data from 2007 to 2011. The research found that financial leverage significantly and negatively affects return on assets (ROA) and Tobin's Q, two metrics used to analyze financial performance. On the other hand, return on equity (ROE) is negatively but negligibly impacted by financial leverage. In addition, it has been discovered that ownership concentration significantly and negatively affects financial performance as shown by Tobin's

Q. On the other hand, it is discovered that asset tangibility significantly and favorably affects financial performance as determined by ROE and Tobin's Q. The study finds that ownership concentration and financial leverage are significant factors influencing the financial performance of Kenyan listed companies.

Alexander and Beegam (2020) conducted a study to determine the presence of a leverage effect in the Indian Nifty futures market. To capture the leverage effect, the study employs an EGARCH model. The EGARCH model is a GARCH model variant that allows for asymmetric volatility, implying that volatility is more impacted by negative shocks than by positive ones. Using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests, the stationarity of the log futures returns is first examined. The mean of the returns is modeled using an ARMA model once the stationarity of the data has been verified. Following that, the EGARCH model is estimated using the residuals of the ARMA model. As to the research, the Nifty futures returns data are well-fitted by the EGARCH model.

Wahyudi (2020) conducted a study to examine the impact of profitability, sales growth, and leverage on the value of the company. The impact of leverage, profitability, and sales growth on a firm's value is investigated using a multiple regression analysis in this research. Thirteen manufacturing businesses in the consumer products industry sub-sector that were publicly listed on the Indonesia Stock Exchange (BEI) between 2016 and 2018 make up the sample. There were forty-three in all. The study found that a company's worth is significantly and favorably impacted by the usage of leverage. The study also showed that profitability and sales growth lack a substantial impact on firm value. The study's findings indicate that the use of leverage has a notable and beneficial impact on the overall value of companies operating in the consumer goods sector in Indonesia.

Sporta et al. (2017) conduced a research study on the impact of financial leverage as a component of financial distress on the financial performance of Kenyan commercial banks.

Financial statements from 38 commercial banks founded between 2005 and 2015 were surveyed to compile secondary data. The research included both descriptive and analytical approaches. The research found a favorable relationship between the debt-equity ratio and ROA, ROE, and ROE. On the other hand, the research showed that commercial banks in Kenya suffered from poor financial results due to the stress caused by excessive leverage. Management was urged to maximize profits and other forms of wealth creation for shareholders, as advocated by the study. The research also concluded that businesses should keep their debt levels at an optimum level to maximize their asset utilization and mitigate the detrimental effects of economic uncertainty on their bottom line.

Octavia, Abdu and Ginting (2021) conducted a research study to investigate the impact of cash flow and debt on food and drink producers' struggles with the bottom line using secondary data and quantitative methods. The study analyzed 102 financial statements from 17 between 2015 and 2020 in the food and drink industry's sub-sector. The study's results demonstrated the substantial role that liquidity and leverage play in causing and alleviating financial hardship. From 2015 to 2020, researchers looked at businesses in the food and beverage industry and found that those with a current ratio of 1.05 or higher were in a better financial position. Companies with individuals with low debt-to-equity ratios are less likely to go through financial hardship since they are able to repay indebtedness without diluting shareholder value as much as those with a higher ratio are compromising the interests of capital owners.

Atheru (2023) conducted research on the effect of efficiency, leverage, and profitability on the financial difficulties faced by Kenya's state-owned businesses and firms. This investigation made use of a quantitative, explanatory methodology. The research included 25 commercial and manufacturing Kenyan State Corporations. All 25 State Corporations were surveyed for the research. The secondary data used for the study came from audited state

company accounts for the years 2015–2020. Binary logistic regression was used for data analysis. Financial hardship was shown to be significantly affected by profitability and efficiency, but by leverage, the impact was minimal. The research also found that the association between efficiency and financial hardship was strongly mitigated by business size. The research found that among the many elements impacting financial hardship in Kenya's commercial and manufacturing state corporations, firm size, efficiency, and profitability had a significant role.

Wainaina (2014) conducted descriptive cross-sectional research into how much debt the top one hundred small and medium-sized enterprises (SMEs) in Kenya are carrying, and how that affects their bottom line. Using SPSS, we studied data from 30 randomly chosen SMEs (V.20.0). Financial performance was shown to be most affected by liquidity and leverage, whereas business size was least affected the least. In addition, the researchers determined that a combination of power, liquidity, and fit size could account for shifts in SME financial performance. The study found that leverage has a significant impact on economic performance, and it found a positive association between leverage (the debt-equity ratio) and the financial performance of small and medium-sized enterprises (SMEs) in Kenya.

Aloshaibat (2021) performed research to see how publicly listed financial enterprises in Jordan fared while using financial leverage. Through the use of descriptive statistics and basic regression analysis, we looked at the connection between financial leverage (the liability-to-equity ratio) and financial performance (ROE and ROA). The research population consisted of publicly traded firms with shares on the Amman Financial Market from 2015 to 2019. The study sample consisted of 25 companies in total. According to the study, financial leverage has a positive and significant effect on ROE but has no effect on ROA. This implies that while financial leverage can assist Jordanian public shareholding financial companies in generating higher returns for shareholders, it does not always result in higher overall profitability.

Enekwe et al. (2014) studied a look at how non-financial firms traded on the Tokyo stock market fared when they used financial leverage. The research gathered information from 263 automotive and industrial producer businesses listed on the Tokyo stock market between 2001 and 2021. The impact of leverage on financial performance was estimated using the generalized method of moments (GMM), which is able to solve the difficulties of endogeneity and autocorrelation. There was a positive and statistically significant relationship between the equity multiplier and ROA, ROE, and EPS, as the research found. Positive and statistically significant effects on ROA, ROE, EPS, and Tobin's Q were also seen for the interest coverage ratio. A negative and statistically significant influence on ROE, EPS, and Tobin's Q is seen when the degree of financial leverage and debt to earnings before interest, taxes, depreciation, and amortization (EBITDA) are included in the analysis. Study also shows that Tobin's Q, return on equity, earnings per share, and return on assets are all negatively impacted by a company's capitalization ratio.

2.3.3 Liquidity and Financial Distress

Dianova and Nahumury (2019) undertook a research investigation to ascertain financial stress as a function of liquidity, debt, sales growth, and sound management practices. This study used a purposive sampling strategy to collect data from 55 different industries outside of construction and telecommunications. Partial Least Square (PLS) was used as the method for analyzing the data. Financial difficulty was shown to be unrelated to liquidity, leverage, sales growth, and sound corporate practices, according to the study's findings. These results went against expectations and might be the result of the study's shortcomings. Based on the findings, investors shouldn't place all of their faith on things like liquidity, leverage, sales growth, and sound corporate governance. when making investment decisions, as these factors do not necessarily predict financial distress. Instead, the study recommended that investors consider additional variables and conduct more comprehensive analysis before investing their capital.

Onyekwelu et al. (2018) performed an empirical study to learn how liquidity affects the profitability of Nigeria's deposit money institutions. Secondary data analysis was used for this study's ten-year investigation of financial information from five Nigerian deposit money institutions (2007-2016). The information was statistically examined using multiple regression analysis. A favorable and statistically significant effect of liquidity on banks' profitability measures and return on capital employed was found in the research. The research revealed that the financial success of Nigeria's deposit money institutions is strongly influenced by their liquidity. Specifically, the analysis suggests that banks prioritize investments in human capital development by fostering employee competence and performance.

Diyanto (2020) researched the connection between financial difficulties and liquidity, leverage, and profitability at Riau province's industrial firms. The researchers used a purposive sampling technique to choose a group of 129 struggling manufacturers from the province. Multiple linear regression analysis was performed on the gathered data. Three key metrics—current ratio, debt-to-equity, and return on assets—were found to be significant factors contributing to financial distress. Accordingly, the study concluded that manufacturing companies in Riau province should prioritize monitoring and improving their liquidity, leverage, and profitability ratios to avoid financial distress.

Oktaria et al. (2021) conducted a research study to examine the correlation between financial distress and liquidity, business size, and leverage in the mining industry. The study employs a quantitative methodology, utilizing multiple regression analysis. The sample comprises 22 mining companies, and the research period spans from 2017 to 2019. The study's findings indicate that liquidity and leverage have no substantial impact on financial distress. However, the magnitude of a business's size has a notable and favorable impact on the occurrence of financial distress. Therefore, larger mining companies are at a higher risk of

encountering financial difficulties. The study's findings indicate that liquidity and leverage do not serve as significant indicators of financial distress within the mining industry.

Bwacha and Xi (2018) conducted a study to determine the long-term impact of liquidity on profitability in the banking sector across multiple geographical regions. Using data collected between 2008 and 2017, this quantitative analysis examines 50 different banks throughout North America, Europe, and Asia. Two profitability measures, return on equity (ROE) and return on assets (ROA), and three liquidity ratios, loan to deposit ratio (LDR), deposit to asset ratio (DAR), and cash and cash equivalents to deposit ratio (CDR), are used in the research. In order to find out how liquidity and profitability relate to each other, the research tests six different hypotheses. According to the results, out of all the hypotheses tested, only DAR significantly affects profitability as evaluated by ROE. The lack of a major effect of DAR on ROA was attributed to the fact that banks maintained large levels of liquid assets after the crisis. The high interest charged on deposits, liquid asset holdings, and lending rates meant that neither LDR nor CDR had any discernible effect on ROE or ROA. Liquidity does not significantly affect banks profitability, according to the research.

Sukenti (2022) looked at how liquidity and profitability affect financial management. This study makes use of library research techniques by drawing on information found in academic databases online, including Google Scholar, Mendeley, and others. According to the research, financial performance is directly related to the amount of liquidity. The study also found that financial performance is affected by profitability. Furthermore, the study found that the frequency of financial problems is affected by the accessibility of liquid assets. In addition, the study found that the frequency of financial difficulties is related to the degree of profitability. In addition, the research proved that financial performance affects financial hardship. According to the findings, liquidity and profitability have a major role in a company's financial health and success.

Rudhani and Balaj (2019) looked at how liquidity risk affected the efficiency of Kosovo's banks. The correlation between liquidity risk and the efficiency of Kosovo's banking sector is investigated using a linear regression model in this research. The data comes from six years' worth of financial statements filed by banks traded on the Kosovo Securities Exchange. The research makes use of two liquidity risk indicators, L2 (the bank's capacity to satisfy a large demand for liquidity in the near future) and L3 (the bank's capacity to manage liquidity risk when non-liquid assets are present). For this analysis, we used ROA and ROE, or return on assets and equity, as our performance metrics. According to the results, there is a strong correlation between liquidity risk and the success of Kosovo's banks. Banks that face a larger risk of liquidity often do better.

Pursuing (2022) conducted a research study to examine the influence of liquidity on the profitability of specific IT companies. The study employs a quantitative research methodology, specifically path analysis, to examine the hypothesis that liquidity has a favorable impact on profitability. The sample comprises 16 companies from the consumer goods sector that were listed on the Indonesia Stock Exchange from 2016 to 2018. The study findings indicate that liquidity has a substantial and favorable impact on profitability. Therefore, companies with greater liquidity are more prone to achieving higher levels of profitability. The study's findings indicate that liquidity significantly affects the profitability of IT companies

Afiezan et al. (2021) conducted a study looking at the connection between Financial Distress and Operating Cash Flow, Liquidity, Leverage, and Profitability in Mining Sector Companies Listed on the Indonesia Stock Exchange from 2015 to 2019. The study used descriptive statistics as the primary research strategy. Seven businesses operating in the mining industry's sub-sector served as the sample for this study. Multiple linear regressions were used to analyze the data. Financial distress in mining businesses listed on the Indonesia Stock

Exchange between 2015 and 2019 was shown to be significantly correlated with operating cash flow, liquidity, leverage, and profitability, according to an f-test. The t-test, however, shows that the only two factors that significantly affect Financial Distress Were Operating Cash Flow and Profitability, whereas Liquidity and Leverage have no influence. The research found that, for mining businesses listed on the Indonesia Stock Exchange between 2015 and 2019, Operating Cash Flow and Profitability were the most important indicators of Financial Distress, whereas Liquidity and Leverage were not. 98% of the variance in Financial Distress may be attributed to shifts in Operating Cash Flow, Liquidity, Leverage, and Profitability.

2.4 Research Gap

Empirical review of studies on the effect of firm characteristics on financial distress of large supermarkets in Nairobi City County, Kenya. The existing studies revealed various gaps encompassing conceptual, contextual, and methodological aspects. These empirical studies have been summarized in Table 1, highlighting areas that require further investigation to advance our understanding of financial distress in chain stores.

TABLE 1

Summary of Literature Review and Research Gaps

Author(s) & Year	Area of Focus	Findings	Research Gap and Focus of this Study
Walela, Omagwa and Muathe (2022)	Influence of firm size on financial risk and hardship among Nairobi Stock Exchange businesses.	Size of a business reduces the connection between financial risk and financial hardship for firms on the Nairobi Securities Exchange (NSE) in Kenya.	While the previous study focused on financial risk and hardship, this study looked into the underlying factors and processes related to financial distress in large supermarkets. Therefore, presenting a conceptual gap
Ahmed et al. (2023)	Influence of firm size on capital structure and profitability in manufacturing firms on Tehran Stock Exchange.	Firm size has a positive influence on the relationship between capital structure choices and organizational profitability.	This study examined whether larger large supermarkets are better equipped to manage financial distress and whether specific capital structure choices influence their financial stability.
Muhindi and Ngaba (2018)	Influence of firm size on financial performance of Kenyan commercial banks.	Positive relationship between firm size and financial success among Kenyan commercial banks.	Examine how firm size affects financial distress for large supermarkets in Nairobi City County.
Laurena and Ramantha (2022)	Relationship between firm size and various factors in publicly traded manufacturing enterprises on Indonesia Stock Exchange.	Firm size reduces the relationship between liquidity ratio and financial difficulties in manufacturing enterprises.	The previous study assesses the impact of firm size on financial distress in large supermarkets in Nairobi City County. The focus was on understanding whether larger large supermarkets are more resilient to financial distress and how their resources are utilized to mitigate such situations. Thus, present a contextual gap, since the study was done in Indonesia

			while the current study was done in Kenya.
Rochman and Sasongko (2022)	Influence of firm size, liquidity, and leverage on financial crises in transportation sector firms on Indonesia Stock Exchange.	Leverage substantially impacts financial distress among transportation sector firms, while firm size and liquidity have no discernible influence.	Investigate how firm size, leverage, and liquidity influence financial distress in large supermarkets in Nairobi City County.
Wangsih, Yanti, Yohana, Kalbuana and Cahyadi (2021)	Impact of company size and leverage on financial hardship in the retail trade sub-sector on Indonesia Stock Exchange.	Company size has a negative impact, while leverage has a positive impact on financial hardship.	Analyze the effect of firm size and leverage on financial distress in large supermarkets in Nairobi City County.
Sporta, Ngugi, Ngumi and Nanjala (2017)	How commercial banks in Kenya use financial leverage to improve their performance.	Favorable relationship between debt-equity ratio and profitability but poor financial results due to excessive leverage.	Examine the role of leverage in financial distress for large supermarkets in Nairobi City County.
Octavia, Abdu and Ginting (2021)	Impact of cash flow and debt on struggles of food and drink producers.	Liquidity and low debt-to-equity ratios are associated with better financial positions.	Investigate the role of liquidity and leverage in financial distress for large supermarkets in Nairobi City County.
Wainaina (2014)	The debt levels and their effects on the financial performance of SMEs in Kenya.	Liquidity and leverage have significant effects on financial performance.	The study used collected primary data while the current study collected secondary data from secondary sources and thus present a methodological gap.
Dianova and Nahumury (2019)	Factors influencing financial stress in various industries outside construction and telecommunications.	Liquidity, leverage, sales growth, and corporate practices do not predict financial distress.	the geographical scope of the study was on construction and telecommunications industry while the current study was based in retail sector thus present a contextual gap.

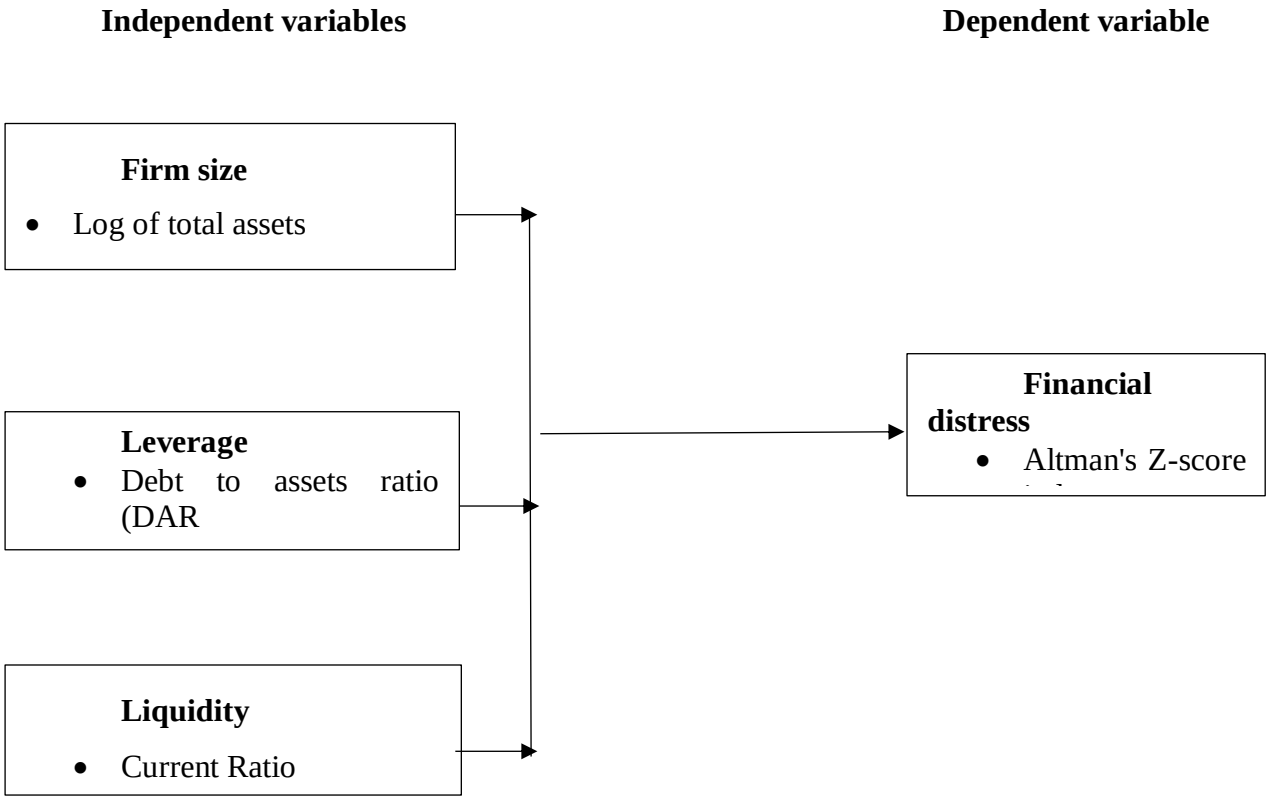
Onyekwelu, Chukwuani, and Onyeka (2018)	The effect of liquidity on the profitability of Nigeria's deposit money institutions.	Liquidity positively affects banks' profitability measures.	Investigate the relationship between liquidity and financial distress in large supermarkets in Nairobi City County.
Diyanto (2020)	Connection between financial difficulties and liquidity, leverage, and profitability in Riau province's industrial firms.	Liquidity, leverage, and profitability ratios are significant factors contributing to financial distress.	Examine the role of liquidity, leverage, and profitability in financial distress in large supermarkets in Nairobi City County.

2.5 Conceptual Framework

The conceptual framework lays forth the variables and the connection between them, whether they are independent or dependent. Financial hardship is the dependent variable, whereas firm size, leverage, and liquidity are the independent factors. The correlation between the two variables is shown in Figure 2.1.

FIGURE 1

Conceptual Framework



As shown in Figure 2.1, the Altman's Z-score index serves as a proxy for the dependent variable, which is financial distress. Liquidity, as determined by the current ratio (CR), leverage, as determined by the debt to assets ratio (DAR), and business size, as determined by the log of total assets, are the independent variables.

2.6 Operationalization of Variables

The variables of the study were measured by the indicators based on the conceptual framework as shown below.

TABLE 2

Measurement of Variables

Variable	Type	Scale	Indicators	Measure
Firm size	Independent	Ratio	Log of total assets	Log of sales
Leverage	Independent	Ratio	Debt to assets ratio (DAR	Total liabilities/Total assets
Liquidity	Independent	Ratio	Current Ratio •	Current asset/current liabilities
Financial distress	Independent	Ratio	Ratio	Altman's Z-score index

Source: Author (2023)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section elucidates the methodologies that were employed to achieve the aim of examining the impact of firm characteristics on financial distress. Specifically, the segment emphasizes the framework, diagnostic evaluations, data accumulation, and scrutiny.

3.2 Research Design

Research designs could broadly be categorized into two types: descriptive and causal. A descriptive research design aimed to provide a comprehensive understanding of a phenomenon or population by identifying variables and describing their characteristics or behaviors. On the other hand, a causal research design sought to establish cause-and-effect relationships between variables.

The study explored how various firm characteristics, such as firm size, leverage, and liquidity, influenced financial distress of large supermarkets in Nairobi City County. Given that the objective was not only to identify these characteristics but also to describe the nature and degree of their relationship with financial distress, a descriptive research design was most appropriate. Unlike causal research, which could require manipulative experimentation, a descriptive approach allowed for a more naturalistic observation of the phenomena, thereby maintaining the real-world context, which was vital for the generalization of the findings (Bhattacherjee, 2012).

The study explored how various firm characteristics, such as firm size, leverage, and liquidity, influenced financial distress of large supermarkets in Nairobi City County over the period 2017-2023. Given that the objective was not only to identify these characteristics but also to describe the nature and degree of their relationship with financial distress, a descriptive

research design using panel data was most appropriate. Panel data refers to multi-dimensional data that involves measurements over time, allowing the study to account for unobserved heterogeneity across firms and over time (Baltagi, 2005). Unlike causal research, which could require manipulative experimentation, a descriptive approach with panel data allowed for a more naturalistic observation of the phenomena, thereby maintaining the real-world context, which was vital for the generalization of the findings (Bhattacherjee, 2012).

In addition to the descriptive approach, this study incorporated explanatory research elements. While the descriptive aspect provided a snapshot of the variables and their interactions, the explanatory dimension deepened the understanding by elucidating the underlying relationships or interconnections among the variables. Specifically, it sought to determine how firm characteristics related to the financial distress of large supermarkets in Nairobi City County. The unit of analysis in this study was individual large supermarkets operating in Nairobi City County. The focus was on these firms' financial variables, such as measures of financial distress, firm size, leverage ratios, and liquidity ratios.

3.3 Target Population

The population consists of all elements, units, or individuals that fulfill the necessary criteria for a particular group that is being studied. From this group, a representative sample is selected for in-depth analysis (Greenfield & Greener, 2016). In the context of this research, the unit of analysis is large supermarkets located in Nairobi City County. According to Zhang et al. (2019), small-sized large supermarkets employ between 10 and 50 people, medium-sized large supermarkets have between 50 and 149 employees, and large-sized large supermarkets employ 150 or more individuals. The study focused on five large supermarkets (Naivas, QuickMart, Cleanshelf, Eastmatt, Carrefour, Mathai Supermarket and Chandarana Foodplus) to provide an in-depth analysis of well-established businesses, thereby providing insights into financial distress specific to Nairobi City County's major players (Appendix I). Concentrating on these

key supermarkets allows for a more targeted approach, resulting in more accurate and actionable results.

3.4 Data Collection Instruments

The process of collecting data involves gathering specific information in a standardized manner, which is crucial for conducting an analysis and providing solutions to research problems (Mugenda & Mugenda, 2010). The study gathered secondary panel data through the utilization of a data collection checklist. The seven supermarkets of considerable scale, which are not included in the Nairobi Securities Exchange, do not provide their financial statements on their respective websites. Naivas, QuickMart, Cleanshelf, Eastmatt, Carrefour, Mathai Supermarket and Chandarana Foodplus financial records for a period of 7 years (2017-2023) were obtained from the websites of the five supermarkets and their annual reports, which are maintained by the Retail Trade Association of Kenya (RETRAK). To make sure all the required data was gathered, the research used a data gathering checklist. The year, supermarket name, operational income, interest expenditure, logarithm of sales, total liabilities, total assets, current obligations, and current assets were the nine factors that made up the data gathering checklist.

3.5 Data Collection Procedure

Prior to gathering data, the researcher obtained a formal letter of data collection authorization from KCA University. In addition, the acquisition of data collection permits from the National Commission for Science, Technology, and Innovation (NACOSTI) and the necessary authorizations from the respective management of the five prominent supermarket chains, namely Naivas, QuickMart, Cleanshelf, Eastmatt, Carrefour, Mathai Supermarket and Chandarana Foodplus was pursued. The researchers subsequently accessed the official website of the Retail Trade Association of Kenya (RETRAK) in order to collect the requisite financial

data. The variables encompassed in this analysis comprise firm size, leverage and liquidity for the period spanning from 2017 to 2022.

3.6 Data Processing and Analysis

Data analysis is the procedure by which logic is applied to understand the gathered information with the aim of highlighting essential insights drawn from the research (Zikmund et al., 2010). It is a process that involves reducing and arranging data to yield results that require interpretation (Ott & Longnecker, 2015). Stata 23.0 was used for the analysis of the panel data that was gathered. This research made use of both descriptive and inferential statistics. Frequencies, means, standard deviations, and ranges of values made up the particular descriptive statistics. To examine the interrelationships of the variables pertaining to chain shops in Nairobi City County, a panel regression model was used. The specific panel regression model is:

$$Yit = \beta_0 + \beta_1 X_1 it + \beta_2 X_2 it + \beta_3 X_3 it + \mu i$$

Where;

Yit = Financial Distress for firm i at time t

X1it = Firm Size for firm i at time t

X2it = Leverage for firm i at time t

X3it = Liquidity for firm i at time t

$\beta 0$ = Constant term

$\beta 1$, $\beta 2$, $\beta 3$ = Regression coefficients

μi = error term

The panel data model considers both the cross-sectional (firm) and time dimensions, as indicated by the subscripts i and t, respectively. The firm-specific error term (μi) captures unobserved heterogeneity across firms.

3.7 Diagnostic Tests

It is essential to verify that the panel data regression assumptions are met to avoid biased, inefficient, and inconsistent estimates from the regression analysis. Therefore, the study conducted various tests to examine potential violations of these assumptions, including multicollinearity, normality, heteroscedasticity, stationarity and autocorrelation.

3.7.1 Multicollinearity Test

The phenomenon where predictor variables are correlated is known as multicollinearity, and it results in inflated unreliable estimations of individual predictor coefficients due to large standard errors and confidence intervals (Kraha et al., 2012). Variance inflation factors (VIFs) were used to identify multicollinearity in the data. If VIF values exceed 10, multicollinearity is deemed present.

3.7.2 Normality Test

To conduct accurate hypothesis tests about the model parameters, verifying the normality assumption (uit ~ N (0, σ2)) is important. Normality tests were conducted to test for skewness and normality. The test statistic determined whether the p-value is more significant than 0.05, indicating that the data is normal. If the data is found to be non-normal, non-parametric tests were performed to ensure accurate results.

3.7.3 Heteroscedasticity

To evaluate the presence of heteroscedasticity in the panel data, the Breusch-Pagan/Godfrey test was employed. The study posits a null hypothesis of homoscedastic error variance (Long

& Ervin, 2000). Should the null hypothesis be invalidated, indicating the presence of heteroscedasticity, robust standard errors were used to account for this issue.

3.7.4 Test on Stationarity

According to Van (2003), a standard time series is characterized by consistent statistical features, including mean, variance, and autocorrelation that remain constant over time. Stationarity implies that the value of the series remains unchanged at all points in time. The researcher conducted unit root tests, such as the Levin-Lin-Chu (LLC) and Im-Pesaran-Shin (IPS) tests, to determine whether the panel data exhibits stationary features. Additionally, a time series plot was used to visualize the overall series levels and variability. In the event that the data fail to display patterns, seasonality, or variance changes, indicating non-stationarity, first differencing or parameter transformations such as logs or square roots were applied to ensure that stationarity is achieved.

3.7.5 Autocorrelation Test

Autocorrelation refers to the presence of correlation between the error terms across time periods. The Wooldridge test for autocorrelation in panel data was employed to detect the presence of first-order autocorrelation. If autocorrelation is detected, robust standard errors or feasible generalized least squares (FGLS) estimation were used to address this issue.

3.7.6 Hausman Test

The Hausman test was conducted to determine whether a fixed-effects or random-effects model is more appropriate for the panel data. The null hypothesis of the Hausman test states that the random-effects model is preferred, while the alternative hypothesis favors the fixed-effects model. If the p-value is less than 0.05, the fixed-effects model is chosen; otherwise, the random-effects model is used.

3.7.7 Time Fixed Effects

Time fixed effects were included in the panel regression model to control for unobserved factors that vary over time but are constant across firms. This helps to capture the impact of macroeconomic conditions or other time-specific factors on financial distress.

3.8 Presentation of Findings

The findings of the study were presented using tables. A correlation matrix with significance levels was provided to show the relationships between the variables. The panel regression results were displayed in a table, along with the coefficients, standard errors and significance levels.

3.9 Discussion of Findings

The discussion of the findings was conducted in light of the existing literature reviewed in Chapter Two. For each finding, multiple relevant studies were cited to provide context and support for the results. The discussion aimed to compare and contrast the current study's findings with those of previous research, highlighting consistencies and inconsistencies. The implications of the findings for theory and practice were also explored, along with potential explanations for any divergent results. The discussion section aimed to provide a comprehensive and nuanced interpretation of the study's findings, drawing upon the existing body of knowledge to enrich the understanding of the relationship between firm characteristics and financial distress in Nairobi's chain stores.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

This section describes the methods used to analyses the data collected for this study, which seeks to determine the effect of various firm characteristics on financial distress in Nairobi City County chain stores. The section begins with descriptive statistics that summarize key characteristics of the variables under consideration, namely firm size, leverage and liquidity. The reliability and accuracy of the data is then tested using diagnostic tests. The findings of the linear regression analysis, which seeks to establish the relationship between firm characteristics and financial distress, are then presented. Lastly, the results of hypothesis testing are discussed, where null hypotheses are either accepted or rejected based on the specific objectives of the study.

4.2 Descriptive Statistics

The descriptive statistics section sought to provide an overview and summary of the key metrics associated with Nairobi City County large supermarkets. Measures of central tendency like mean are carefully covered, along with the frequency distribution and spread metrics like variance, standard deviation, maximum, and minimum values. According to Table 3, the dependent variable in this research, financial distress, and the independent variables, company size, leverage, and liquidity, were computed and summarized using the procedures listed below.

TABLE 3

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Financial distress	49	4.263	2.757	1.343	8.637
Firm size	49	9.916	0.600	8.489	11.473
Leverage	49	0.978	1.094	0.006	3.951
Liquidity	49	0.447	0.438	0.116	2.969

Descriptive results in Table 3 show that financial distress measured using the Altman Z-Score model had a mean value of 4.263 with a standard deviation of 2.757, indicating a moderate degree of variation as evidenced by a maximum Altman Z-Score value of 8.637 and a minimum of 1.343. This implies that there was moderate fluctuation in financial distress among large supermarkets in Nairobi City County during the study period between 2017 and 2023, as depicted by the standard deviation of 2.757. Regarding firm size, the results show that the mean firm size value for the supermarkets for the period between 2017 and 2023 was 9.916 with a standard deviation of 0.600, depicting slight variability in firm size among the supermarkets for the study period, as affirmed by a maximum firm size value of 11.473 and a minimum of 8.489. This implies that the large supermarkets in Nairobi City County for the period under study had varying levels of total assets.

Further, the descriptive results show that leverage, given as the debt-to-equity ratio, had a mean value of 0.978 and a standard deviation of 1.094, showing moderate variation in leverage among the large supermarkets in Nairobi City County for the study period under consideration. The maximum leverage was 3.951, and the minimum was 0.006. This implies that the supermarkets under consideration had different levels of debt financing relative to their equity. Moreover, the results show that liquidity, measured by the current ratio, had a mean value of 0.447 and a standard deviation of 0.438, implying that there existed moderate variation

in liquidity among large supermarkets in Nairobi City County for the study period (2017-2023), as evidenced by a maximum liquidity ratio of 2.969 and a minimum of 0.116. This suggests that the supermarkets had varying levels of short-term financial health, with some having a higher ability to meet their short-term obligations than others.

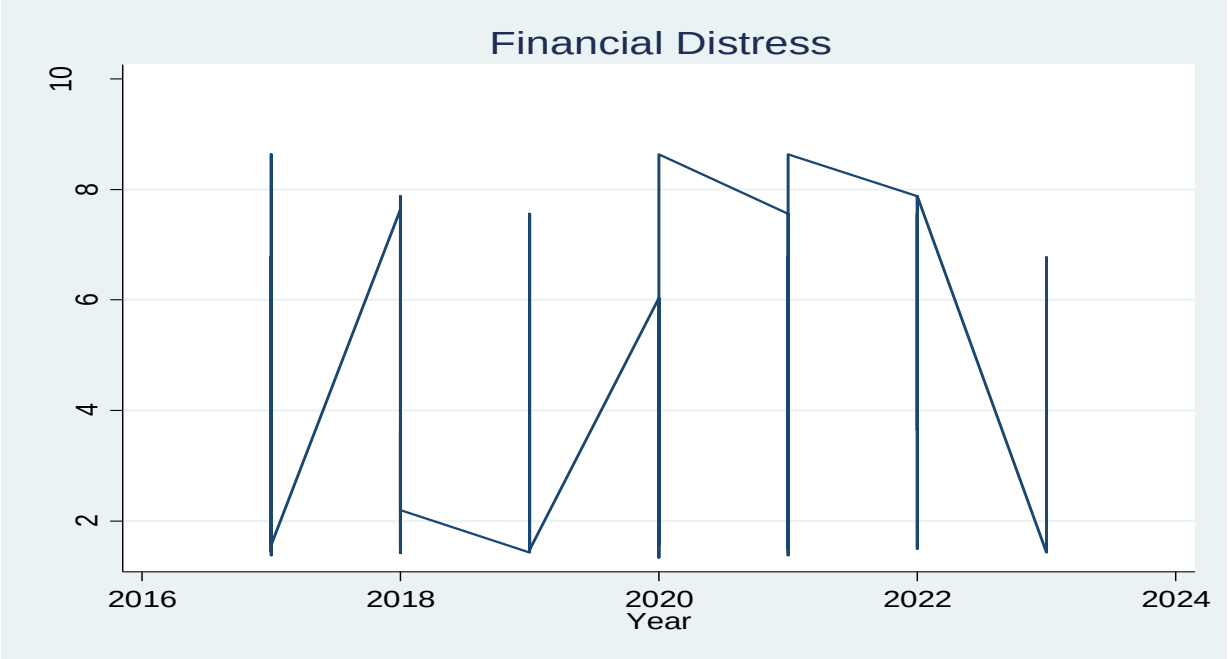
4.3 Trend Analysis

4.3.1 Trend Analysis of Financial Distress

Figure 2 presents the trend analysis of Financial Distress from 2017 to 2023. The graph illustrates the changes in Financial Distress over the given time period.

FIGURE 2

Trend Analysis of Financial Distress



The trend analysis of Financial Distress reveals significant fluctuations over the years, with periods of heightened financial challenges alternating with periods of relative improvement. The firms in the study appear to be susceptible to financial distress, and the projected trend suggests that they may continue to face financial hurdles in the near future, albeit with a slight anticipated decrease in the level of distress.

4.3.2 Trend Analysis of Firm Size

FIGURE 3

Trend Analysis of Firm Size

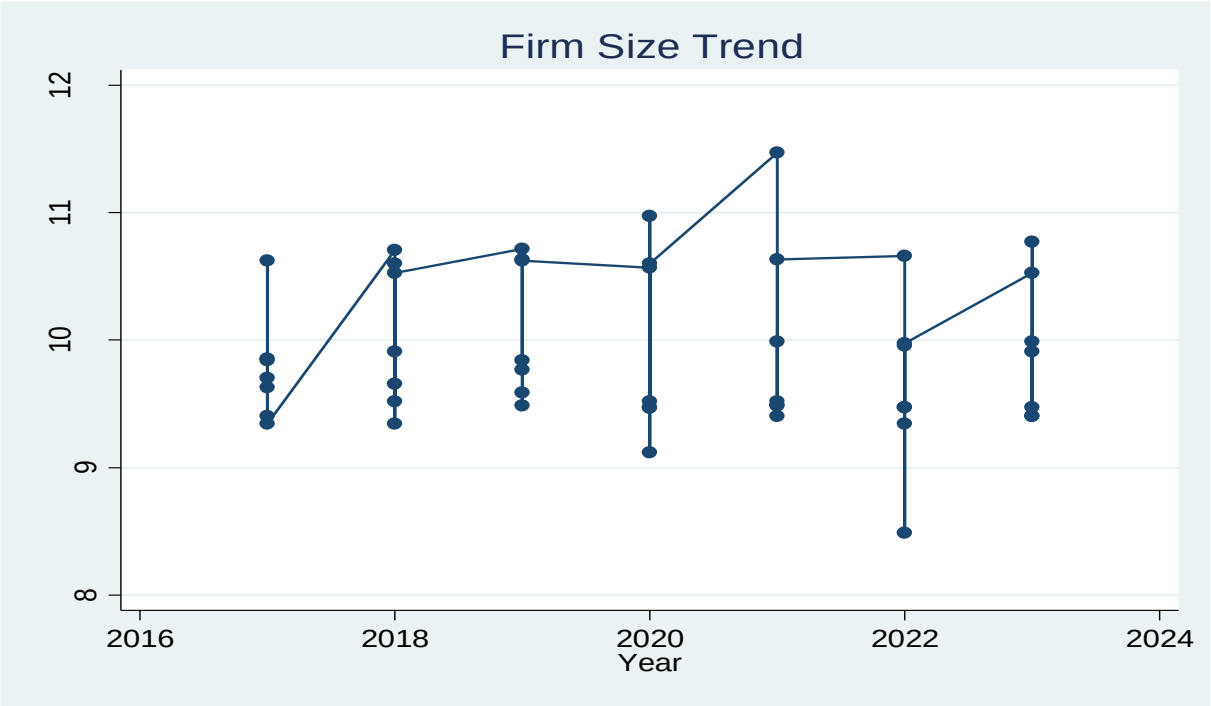


Figure 3 presents the trend analysis of Firm Size from 2016 to 2024. The graph shows a fluctuating pattern in Firm Size over the years. In 2016, Firm Size was at its lowest point. It then increased in 2018, reaching a higher level. However, from 2018 to 2020, there was a slight decrease in Firm Size. In 2020, Firm Size experienced a notable drop, reaching a level lower than that of 2016. From 2020 to 2022, Firm Size showed a significant increase, surpassing the levels observed in previous years. Finally, from 2022 to 2024, Firm Size continued to increase, reaching its highest point in 2024. Overall, despite the fluctuations, the trend line suggests an overall increase in Firm Size over the 8-year period.

4.3.3 Trend Analysis of Leverage

FIGURE 4

Trend Analysis of Leverage

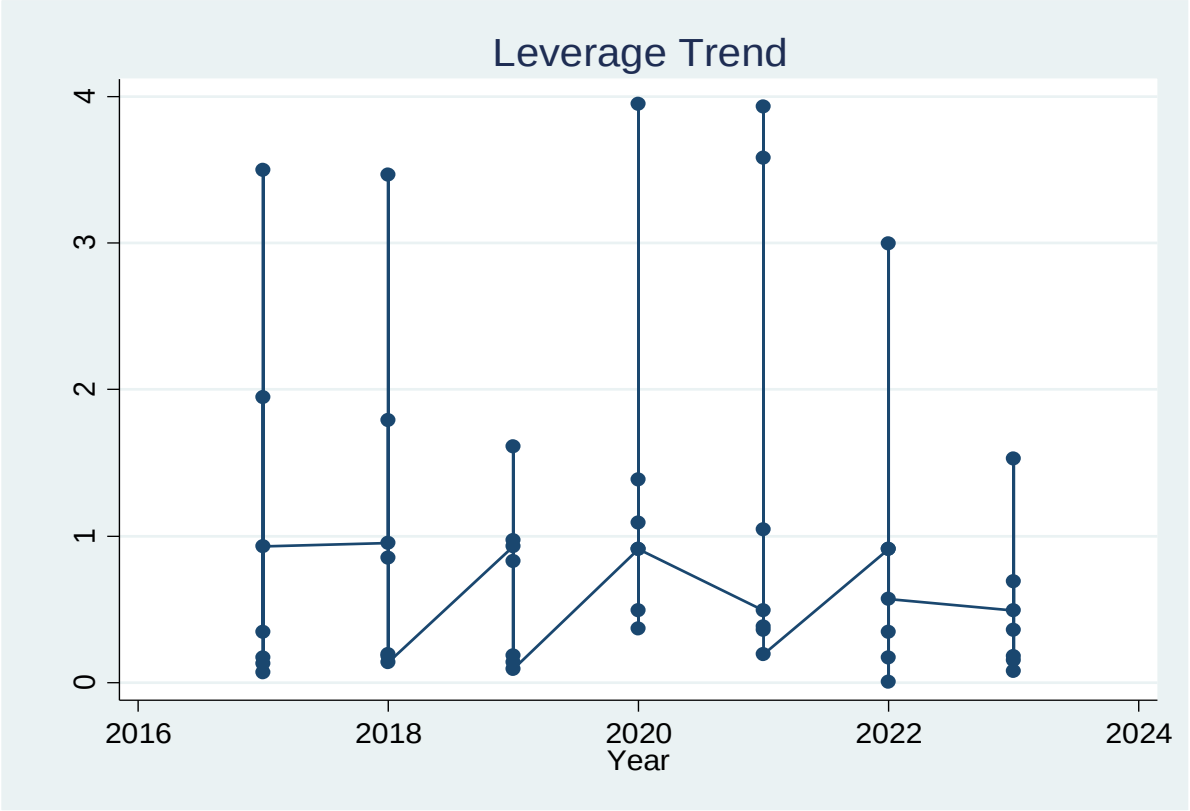


Figure 4 presents the trend analysis of Leverage from 2016 to 2024. The graph reveals a varying pattern in Leverage over the years. In 2016, Leverage was at a relatively low level. It then increased significantly in 2018, reaching a peak. However, from 2018 to 2020, Leverage experienced a sharp decline, dropping to a level lower than that of 2016. In 2020, Leverage started to increase again, showing an upward trend. From 2020 to 2022, Leverage continued to rise, reaching a level slightly higher than that of 2018. Finally, from 2022 to 2024, Leverage decreased slightly but remained at a relatively high level compared to the earlier years. Despite the fluctuations, the overall trend suggests an increase in Leverage over the 8-year period, with notable peaks and troughs along the way.

4.3.4 Trend Analysis of Liquidity

FIGURE 5

Trend Analysis of Liquidity

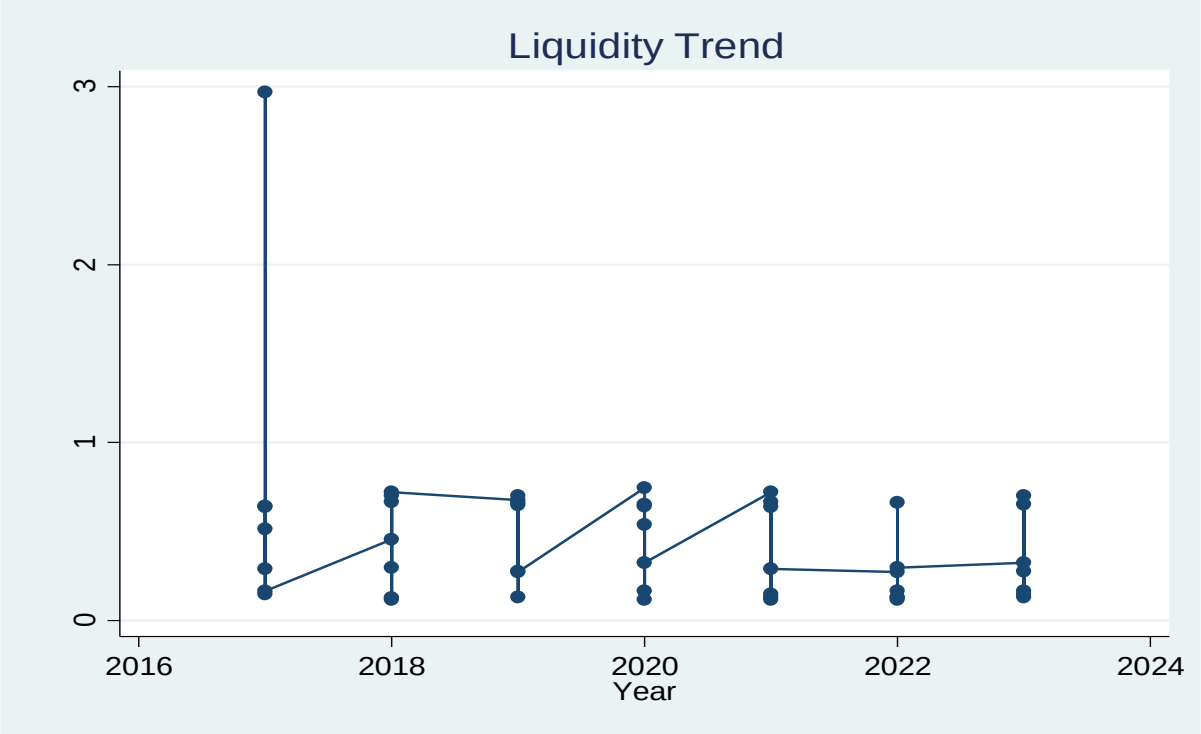


Figure 5 presents the trend analysis of Liquidity from 2016 to 2024. In 2017, Liquidity experienced a sharp decline, dropping to a level significantly lower than that of 2016. From 2018 to 2020, Liquidity showed a fluctuating trend, with periods of slight increases followed by declines, yet it remained relatively low compared to the peak in 2016. In 2020, Liquidity began to stabilize, showing minor fluctuations but maintaining a consistent level. From 2021 to 2022, Liquidity displayed slight upward and downward movements, yet remained within a narrow range. From 2022 to 2024, Liquidity continued to fluctuate but did not reach the peak.

4.4 Diagnostic Tests

Before proceeding with the regression analysis, it is essential to conduct diagnostic tests to ensure that the assumptions of the classical linear regression model are not violated. Violation of these assumptions can lead to biased and inefficient estimates, which may result in incorrect

inferences and conclusions (Gujarati & Porter, 2009). In the context of this study, several diagnostic tests were performed to assess the validity of the regression model and the robustness of the findings.

The diagnostic tests conducted in this study include tests for multicollinearity, normality, heteroskedasticity, stationarity, autocorrelation, and the Hausman test for random and fixed effects. Multicollinearity refers to the presence of high correlations among the independent variables, which can lead to unstable and unreliable estimates (Wooldridge, 2013). The normality assumption requires that the residuals follow a normal distribution, which is essential for valid inference and hypothesis testing (Brooks, 2014). Heteroskedasticity occurs when the variance of the residuals is not constant across observations, which can lead to inefficient estimates and incorrect standard errors (Greene, 2012). Non-stationarity in time series data can result in spurious regression results, where the relationships between variables are not genuine (Wooldridge, 2013). Autocorrelation refers to the presence of correlation between the residuals across observations, which can lead to inefficient estimates and incorrect standard errors (Baltagi, 2005). Finally, the Hausman test is used to determine whether a fixed effects or random effects model is more appropriate for the panel data analysis (Hausman, 1978).

The following subsections present the results of the diagnostic tests conducted in this study, along with a discussion of their implications for the validity and robustness of the regression analysis.

4.4.1 Multicollinearity Test

In the context of this study, the Variance Inflation Factor (VIF) is used to measure the extent of multicollinearity in the OLS regression analysis. The VIF provides an indicator that evaluates how much the variance of an estimated regression coefficient is inflated due to

collinearity between variables. A VIF value above 10 is usually considered high enough to warrant further investigation.

TABLE 4

Multicollinearity Test

Variable	VIF
Firm size	1.13
Liquidity	1.1
Leverage	1.04
Mean VIF	1.09

The results in Table 4 show that the VIF values for all the independent variables are well below 10, with a mean VIF of 1.09. This indicates that multicollinearity is not a concern in the regression model, as the variance of the estimated coefficients is not significantly inflated due to collinearity among the variables.

4.4.2 Normality Test

The Jarque-Bera statistic for normality was used to test for normality under the null hypothesis that the regressors' disturbance terms were normally distributed. It is important for data to be normally distributed since most parametric tests rely on normality assumptions. The Jarque-Bera statistic is based on skewness and kurtosis. A goodness-of-fit test determines whether sample data's skewness and kurtosis correspond to those of a normal distribution. The null hypothesis of the test was that the error term's constituent parts are normally distributed. If the P-value is lower than the 5% level, the investigation would reject the null hypothesis. Normality test results are presented in Table 5 below.

TABLE 5

Normality Test

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Financial Distress	49	0.385	0.000	55.03	0.07
Firm size	49	0.187	0.832	1.88	0.091
Leverage	49	0.000	0.036	15.79	0.152
Liquidity	49	0.000	0.000	50.76	0.073

Based on Table 5, the probabilities of the Jarque-Bera test statistic (represented by the adjusted chi-squared statistic and its corresponding p-value) for the variables Financial Distress, Leverage, and Liquidity have p-values greater than 0.05. Therefore, the test statistic is statistically insignificant at the 0.05 level of significance for these variables. Therefore, the study fails to reject the null hypothesis and finds that the data for these variables is approximately normally distributed.

4.4.3 Heteroskedasticity Test

The error process in cross-sectional units may exhibit heteroscedasticity, where the variance of the residuals is not constant across observations. In the context of this study on the financial distress of large supermarkets in Nairobi City County, the presence of heteroscedasticity was tested using the Breusch-Pagan test. The Breusch-Pagan test evaluates the null hypothesis that the variance of the residuals is constant (homoscedastic), against the alternative hypothesis that the variance of the residuals is not constant (heteroscedastic). A p-value less than the chosen significance level (usually 0.05) indicates the presence of heteroscedasticity. Table 6 below shows the results of Heteroskedasticity Test

TABLE 6

Heteroskedasticity Test

chi2(1)	=	7.89
Prob > chi2	=	0.144

The Breusch-Pagan test evaluates the null hypothesis that the variance of the residuals is constant (homoscedastic), against the alternative hypothesis that the variance of the residuals is not constant (heteroscedastic). The results in Table 6 show that the p-value (0.144) is greater than the chosen significance level of 0.05, indicating that the null hypothesis cannot be rejected. Thus, the study concludes that heteroscedasticity is not a concern in the regression model.

4.4.4 Stationarity Test

New econometrics research shows that many time series datasets are not stationary, contradicting previous research assumptions. According to Wooldridge (2013), when developing a regression model, a stationary dataset is required to avoid incorrect results from non-stationary series. The Fisher-type (Phillips-Perron) unit-root test was used in this study to check the series' stationarity, with a 5% significance level. Table 7 shows the results of Stationarity Test.

TABLE 7

Stationarity Test

Variables	Statistic	p-value	Comment
Financial Distress	-1.102	0.0352	Stationary
Firm size	-16.011	0.000	Stationary
Leverage	-32.064	0.000	Stationary
Liquidity	-1.924	0.0272	Stationary

The results show that the p-values for all the variables are less than the chosen significance level of 0.05. This indicates that the null hypothesis of non-stationarity is rejected, and all the

series are stationary. Thus, the study proceeded with the regression analysis without any concerns about non-stationarity.

4.4.5 Autocorrelation Test

The presence of autocorrelation suggests that the empirical models' error components are not completely independent of one another. The findings are shown in Table 8 below.

TABLE 8

Autocorrelation Test

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
F (1, 4) = 1.654
Prob > F = 0.192

The results show that the p-value (0.192) is greater than the chosen significance level of 0.05, indicating that the null hypothesis of no first-order autocorrelation cannot be rejected. Thus, the study concludes that autocorrelation is not a concern in the regression model.

4.4.6 Testing for Random and Fixed Effect using Hausman

When performing panel data analysis, one has to determine whether to run a random effects model or a fixed effects model (Baltagi, 2005). In order to make a decision on the most suitable model to use, both random and fixed effects estimate coefficients. The study used the Hausman's specification test (1978) to choose between fixed and random effect models. Table 9 shows the results of the Hausman test.

TABLE 9

Random and Fixed Effect Testing

Variable	Fixed	Random	Difference	sqrt(diag(V_b-V_B))
Firm size	-0.6332	-1.5177	0.8845	0.3433
Leverage	0.6549	0.5990	0.0559	0.1047
Liquidity	-2.5670	-2.5942	0.0272	0.1862
chi2(3)	=	7.03		
Prob>chi2	=	0.071		

The results show that the differences between the fixed and random effect coefficients are not systematic, as indicated by the small values in the "Difference" column. The chi2(3) statistic is 7.03, with a corresponding Prob>chi2 value of 0.071. Since the Prob>chi2 value of 0.071 is greater than the conventional significance level of 0.05, the study fails to reject the null hypothesis that the random effects model is appropriate. This suggests that the random effects model is preferred over the fixed effects model. The study, therefore, proceeded with the random effects model for the regression analysis.

4.5 Correlation Analysis

Correlation analysis was used to assess the level of association between firm size, leverage, liquidity, and financial distress among large supermarkets in Nairobi City County at a 5 percent significance level. The correlation coefficient is indicated in the correlation matrix, and the respective P-values were compared to the 0.05 significance level. Table 10 shows the correlation matrix.

TABLE 10

Correlation Analysis

	Financial distress	Firm size	Leverage	Liquidity
Financial distress	1.000			
Firm size	-0.440	1.000		
	0.002			
Leverage	0.377	-0.301	1.000	
	0.008	0.035		
Liquidity	-0.512	0.180	-0.100	1.000
	0.000	0.215	0.492	

The correlation analysis results presented in Table 10 shed light on the relationships between firm size, leverage, liquidity, and financial distress among large supermarkets in Nairobi City County. Firstly, the results indicate that firm size has a moderate negative association with financial distress among large supermarkets in Nairobi City County (r=-0.440, p=0.002). This implies that an increase in firm size, as measured by total assets, leads to a decrease in financial distress among the supermarkets. The p-value of 0.002 suggests that this relationship is statistically significant at the 5% level. This finding aligns with the assertions of Muhindi and Ngaba (2018), who found that firm size and financial performance are positively correlated among Kenyan commercial banks. The negative relationship between firm size and financial distress supports the notion that larger supermarkets have a higher capacity to withstand financial challenges and maintain their stability.

Secondly, the results show a moderate positive correlation between leverage and financial distress among large supermarkets in Nairobi City County (r=0.377, p=0.008). This implies that an increase in leverage, as measured by the debt-to-equity ratio, leads to an increase in financial distress among the supermarkets. The p-value of 0.008 indicates that this relationship is statistically significant at the 5% level. This finding is consistent with the trade-

off theory, which suggests that the use of excessive debt may destabilize a firm (Abubakar, 2015). High levels of leverage can increase the risk of financial distress, as firms may struggle to meet their debt obligations.

Lastly, the results reveal that liquidity has a strong negative association with financial distress among large supermarkets in Nairobi City County (r=-0.512, p=0.000). This implies that an increase in liquidity, as measured by the current ratio, leads to a decrease in financial distress among the supermarkets. The p-value of 0.000 indicates that this relationship is highly statistically significant at the 5% level. This finding is in line with the assertions of Dianova and Nahumury (2019), who found that liquidity plays a crucial role in causing and alleviating financial hardship. Supermarkets with higher liquidity levels are better positioned to meet their short-term obligations and avoid financial distress.

4.6 Analysis of Variance (ANOVA)

The section presents the Analysis of Variance (ANOVA) results for the study variables. ANOVA was conducted to examine the differences in firm size, leverage and liquidity across the supermarkets in Nairobi City County. Table 11 shows the ANOVA results for each variable.

TABLE 11

ANOVA Results

Variable		Partial SS	df	MS	F	Prob>F
Firm Size	Model	9.8434	6	1.6406	9.24	0.0000
	Residual	7.4542	42	0.1775		
	Total	17.2976	48	0.3604		
Leverage	Model	27.9856	6	4.6643	6.66	0.0001
	Residual	9.4106	42	0.7003		
	Total	57.3963	48	1.1958		
Liquidity	Model	1.3679	6	0.2280	5.22	0.0139
	Residual	7.8294	42	0.1864		
	Total	9.1973	48	0.1916		

The ANOVA results reveal significant differences across supermarkets for all three variables studied. For firm size shows more pronounced differences, with an F-statistic of 9.24 and a p-value of 0.0000, suggesting highly significant variations in firm size across the supermarkets. Leverage also exhibits significant differences, as evidenced by an F-statistic of 6.66 and a p-value of 0.0001. Lastly, liquidity shows significant variations across supermarkets, with an F-statistic of 5.22 and a p-value of 0.0139. These results indicate that there are substantial differences in firm sizes, leverage ratios and liquidity positions among the large supermarkets in Nairobi City County.

4.7 Panel Regression Analysis

The study conducted a panel regression analysis to establish the statistical significance of the relationship between firm characteristics (firm size, leverage and liquidity) and financial distress among large supermarkets in Nairobi City County. 12 shows the panel regression analysis results.

TABLE 12

Panel Regression Analysis

Financial distress	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Firm size	-1.3214	0.5432	-2.43	0.015	-2.386	-0.257
Leverage	0.6206	0.2948	2.11	0.035	0.043	1.198
Liquidity	-2.7411	0.7139	-3.84	0.000	-4.140	-1.342
_cons	17.9843	5.4451	3.3	0.001	7.312	28.657
R-square:						
within	0.4207					
between	0.7664					
overall	0.4421					

$Yit = 17.9843 - 1.3214X_{1}it + 0.6206X_{2}it - 2.7411X_{3}it$

Where:

Yit = Dependent variable (Financial Distress)

X1it = Firm Size for firm i at time t

X2it = Leverage for firm i at time t

X3it = Liquidity for firm i at time t

i = firm i

t = time

The overall R-square value of 0.4421 indicates that 44.21% of the total variation in financial distress, both within and between supermarkets, is explained by the independent variables included in the model. This overall measure provides a summary of the model's explanatory power, considering both the time-series and cross-sectional dimensions of the panel data. The within R-square value of 0.4207 suggests that 42.07% of the variation in financial distress

within individual supermarkets over time is explained by the changes in firm size, leverage, and liquidity. The between R-square value of 0.7664 indicates that 76.64% of the variation in financial distress between different supermarkets is accounted for by the differences in firm size, leverage, and liquidity across supermarkets.

These R-square values demonstrate that the selected firm characteristics (firm size, leverage, and liquidity) have a significant explanatory power for the variation in financial distress among large supermarkets in Nairobi City County. The relatively high between R-square value suggests that the differences in firm characteristics across supermarkets play a substantial role in explaining the variation in financial distress levels between supermarkets. The within R-square value, although lower than the between R-square, still indicates that changes in firm characteristics over time have a notable impact on the variation in financial distress within individual supermarkets.

The panel regression results show that firm size had a negative and significant effect on financial distress among large supermarkets in Nairobi City County (β=-1.3214, $p=0.015<0.05$). This implies that a unit increase in firm size will lead to a decrease in financial distress by 1.3214 units, holding other factors constant. This finding is consistent with the assertions of Cordeiro and Tewari (2015), who suggest that firm size is considered to have a direct correlation with financial stability due to economies of scale and better access to investment opportunities. Leverage had a positive and significant effect on financial distress among large supermarkets in Nairobi City County (β=0.6206, $p=0.035<0.05$). This implies that a unit increase in leverage will lead to an increase in financial distress by 0.6206 units, holding other factors constant. This finding is in agreement with the assertions of Wahyudi (2020), who found that firm leverage had a detrimental effect on financial performance.

Liquidity had a negative and significant effect on financial distress among large supermarkets in Nairobi City County (β=-2.7411, $p=0.000<0.05$). This implies that a unit

increase in liquidity will lead to a decrease in financial distress by 2.7411 units, holding other factors constant. This finding is consistent with the assertions of Sukenti (2022), who found that the frequency of financial problems is affected by the accessibility of liquid assets. Supermarkets with higher liquidity levels are better positioned to meet their short-term obligations and avoid financial distress.

4.8 Hypothesis Results

The hypothesis testing section covers the tests of the hypotheses emanating from the research objectives of the study. Test of hypotheses were based on the firm characteristics (firm size, leverage, and liquidity) and financial distress among large supermarkets in Nairobi City County. Panel regression analysis was followed by a test of hypotheses in which coefficients and their P-values were estimated and interpreted at a 5 percent significance level (0.05). The following null hypotheses were tested:

H_{01}: Firm size does not significantly affect the financial distress of large supermarkets in Nairobi City County.

The first objective of the study was to establish the effect of firm size on the financial distress of large supermarkets in Nairobi City County. Table 12 indicates that firm size had a coefficient of -1.3214 with a P-value of 0.015, which was less than 0.05, leading to the rejection of the null hypothesis. This implies that firm size significantly affects the financial distress of large supermarkets in Nairobi City County at a 5 percent significance level, with an increase in firm size leading to a decrease in financial distress.

H_{02}: Leverage has no significant effect on the financial distress of large supermarkets in Nairobi City County.

The second objective of the study was to determine the effect of leverage on the financial distress of large supermarkets in Nairobi City County. Table 12 indicates that leverage had a

coefficient of 0.6206 with a P-value of 0.035, which was less than 0.05, leading to the rejection of the null hypothesis. This implies that leverage significantly affects the financial distress of large supermarkets in Nairobi City County at a 5 percent significance level, with an increase in leverage leading to an increase in financial distress.

H_{03}: Liquidity has no significant effect on the financial distress of large supermarkets in Nairobi City County.

The third objective of the study was to examine the effect of liquidity on the financial distress of large supermarkets in Nairobi City County. Table 12 indicates that liquidity had a coefficient of -2.7411 with a P-value of 0.000, which was less than 0.05, leading to the rejection of the null hypothesis. This implies that liquidity significantly affects the financial distress of large supermarkets in Nairobi City County at a 5 percent significance level, with an increase in liquidity leading to a decrease in financial distress.

4.9 Discussion of the Findings

The analysis of firm characteristics and their impact on financial distress among large supermarkets in Nairobi City County provides valuable insights into the factors influencing the financial stability of these businesses. The study's findings, derived from correlation analysis, panel regression analysis, and hypothesis testing, corroborate and extend the existing literature on the relationships between firm size, leverage, liquidity, and financial distress. The empirical evidence obtained from this research contributes to a deeper understanding of the supermarket industry's dynamics and highlights the importance of effective financial management strategies. By examining the effects of these firm characteristics, this study offers practical implications for supermarket managers, investors, and policymakers seeking to mitigate the risk of financial distress and promote long-term sustainability within the sector. The following

sections discuss the key findings related to each objective, situating them within the context of relevant theoretical frameworks and prior research.

4.9.1 Effect of Firm Size on Financial Distress

The correlation analysis revealed a moderate negative association between firm size and financial distress ($r=-0.440$, $p=0.002$), indicating that an increase in firm size leads to a decrease in financial distress among large supermarkets in Nairobi City County. This finding is consistent with the assertions of Muhindi and Ngaba (2018), who found a positive correlation between firm size and financial performance among Kenyan commercial banks. The panel regression analysis further confirmed the significant negative effect of firm size on financial distress ($\beta=-1.3214$, $p=0.015<0.05$). This implies that a unit increase in firm size would lead to a decrease in financial distress by 1.3214 units, holding other factors constant. This finding aligns with the assertions of Sudrajat and Daud (2020), who suggest that firm size is directly correlated with financial stability due to economies of scale and better access to investment opportunities.

The negative relationship between firm size and financial distress can be attributed to several factors. Larger supermarkets often benefit from economies of scale, which can result in lower costs for purchasing, marketing, and distribution, reducing the risk of financial distress (Panda & Nayak, 2019). In addition, larger firms typically have a more diverse customer base and product offering, which can help mitigate the impact of localized economic downturns or shifts in consumer preferences (Kusuma et al., 2021). Smaller supermarkets, on the other hand, may be more vulnerable to such changes, increasing their risk of financial distress. Moreover, larger supermarkets may have superior access to capital markets, making it easier for them to raise funds when needed, providing a financial cushion during challenging times and reducing the likelihood of financial distress (Muhindi & Ngaba, 2018). Smaller supermarkets might find it harder to obtain financing, exacerbating their risk of financial distress.

4.9.2 Effect of Leverage on Financial Distress

The correlation analysis revealed a moderate positive correlation between leverage and financial distress ($r=0.377$, $p=0.008$), implying that an increase in leverage leads to an increase in financial distress among large supermarkets in Nairobi City County. This finding is in agreement with the trade-off theory, which suggests that the use of excessive debt may destabilize a firm (Abubakar, 2015). The panel regression analysis further confirmed the significant positive effect of leverage on financial distress ($\beta=0.6206$, $p=0.035<0.05$). This implies that a unit increase in leverage would lead to an increase in financial distress by 0.6206 units, holding other factors constant. This finding is in agreement with the assertions of Wahyudi (2020), who found that firm leverage had a detrimental effect on financial performance.

The positive relationship between leverage and financial distress can be attributed to the increased financial risk associated with higher levels of debt. Highly leveraged supermarkets may struggle to make debt payments, especially during periods of revenue or cash flow declines, leading to default or bankruptcy (Kithandi & Katua, 2019). Further, highly leveraged companies may divert a significant portion of their cash flow to debt servicing, limiting their ability to invest in operations, pursue growth opportunities, or weather unexpected setbacks (Mukras, 2019). This operational constraint can increase the risk of financial distress. However, it is important to note that the appropriate level of leverage depends on a company's industry, risk tolerance, and financial objectives. While excessive leverage can increase the risk of financial distress, a moderate level of debt financing can also provide tax benefits and potentially enhance shareholder returns (Cheng & Tzeng, 2014).

4.9.3 Effect of Liquidity on Financial Distress

The correlation analysis revealed a strong negative association between liquidity and financial distress ($r=-0.512$, $p=0.000$), implying that an increase in liquidity leads to a decrease in financial distress among large supermarkets in Nairobi City County. This finding is consistent with the assertions of Dianova and Nahumury (2019), who found that liquidity plays a crucial role in causing and alleviating financial hardship. The panel regression analysis further confirmed the significant negative effect of liquidity on financial distress ($\beta=-2.7411$, $p=0.000<0.05$). This implies that a unit increase in liquidity would lead to a decrease in financial distress by 2.7411 units, holding other factors constant. This finding is consistent with the assertions of Sukenti (2022), who found that the frequency of financial problems is affected by the accessibility of liquid assets.

The negative relationship between liquidity and financial distress can be attributed to the role of liquidity as a buffer against unexpected challenges. Supermarkets with strong liquidity positions are better prepared to handle economic downturns, supply chain disruptions, or changes in consumer behavior (Diyanto, 2020). Adequate liquidity enables supermarkets to meet their short-term obligations, such as paying suppliers, employees, and other creditors, reducing the risk of financial distress. Further, effective financial management and strategic decisions made by the supermarket's management play a significant role in maintaining liquidity. Prudent financial planning, budgeting, and risk management can help ensure that supermarkets have sufficient liquid assets to mitigate the risk of financial distress (Onyekwelu et al., 2018).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study results, conclusions, and recommendations based on the findings from Chapter 4. The implications of the study are discussed, and suggestions for further research are provided.

5.2 Summary of the Study

The primary objective of this study was to determine the effect of selected firm characteristics, namely firm size, leverage, and liquidity, on the financial distress of large supermarkets in Nairobi City County. The study employed a quantitative research approach, utilizing panel data collected from the financial statements of 49 large supermarkets in Nairobi City County over the period from 2017 to 2023. The descriptive statistics revealed moderate variation in financial distress, slight variability in firm size, moderate variation in leverage, and moderate variation in liquidity among the supermarkets during the study period. The diagnostic tests confirmed the validity of the regression model, ensuring that the assumptions of the classical linear regression model were not violated.

The correlation analysis showed a moderate negative correlation between firm size and financial distress, a weak positive correlation between leverage and financial distress, and a moderate negative correlation between liquidity and financial distress. The panel regression analysis demonstrated that firm size had a negative and significant effect on financial distress, implying that an increase in firm size leads to a decrease in financial distress. Leverage had a positive and significant effect on financial distress, indicating that an increase in leverage leads to an increase in financial distress. Liquidity had a negative and significant effect on financial distress, suggesting that an increase in liquidity leads to a decrease in financial distress. Based

on the panel regression analysis, all three null hypotheses related to the effects of firm size, leverage and liquidity on financial distress were rejected, confirming that these firm characteristics significantly influence the financial distress of large supermarkets in Nairobi City County.

5.3 Conclusion

The study's findings reveal light on the factors that contribute to financial distress among large supermarkets in Nairobi City County. The findings show that firm size is critical in mitigating financial distress, as larger supermarkets typically have more resources and economies of scale, allowing them to withstand financial challenges more effectively. However, the study emphasizes the risks associated with excessive leverage. Supermarkets with higher levels of debt financing are more vulnerable to financial distress because they may struggle to meet their debt obligations, especially during times of economic downturn or unfavorable market conditions. Further, the study emphasizes the importance of ensuring adequate liquidity. Supermarkets with higher liquidity ratios are better able to meet short-term obligations and avoid financial distress. This finding emphasizes the importance of efficient working capital management and maintaining a healthy balance of current assets and liabilities. Overall, the study helps supermarket managers, investors, and policymakers understand the critical factors that lead to financial distress in the retail industry. By taking firm size, leverage and liquidity into account, stakeholders can make more informed decisions to improve the financial stability and resilience of large supermarkets in Nairobi City County.

5.4 Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed:

i. Supermarket managers should focus on strategies that promote sustainable growth and expansion, as larger firm size is associated with a lower likelihood of financial distress. This could involve exploring opportunities for market expansion, diversification, or strategic acquisitions.

ii. Supermarkets should carefully manage their debt levels and maintain a balanced capital structure. While leverage can provide financial flexibility and potential tax benefits, excessive reliance on debt financing can increase the risk of financial distress. Supermarkets should strive to maintain an optimal debt-to-equity ratio that aligns with their risk tolerance and growth objectives.

iii. Effective working capital management should be a priority for supermarket managers. Maintaining adequate liquidity levels through efficient inventory management, accounts receivable management, and cash flow planning can enhance the supermarkets' ability to meet their short-term obligations and mitigate the risk of financial distress.

iv. Policymakers and regulatory bodies should consider implementing measures to support the growth and financial stability of the retail sector, particularly large supermarkets. This could involve initiatives such as tax incentives, access to financing, or capacity-building programs to enhance financial management practices.

5.5 Limitations of the Study

While this study contains useful information, it is important to recognize its limitations. First, the study only looked at large supermarkets in Nairobi City County, which may limit the findings' applicability to other regions or retail sectors. Second, the study used secondary data from financial statements, which may contain inaccuracies or limitations in capturing all relevant factors influencing financial distress.

In addition, the study looked only at three firm characteristics (firm size, leverage, and liquidity) as predictors of financial distress. Other factors that may influence supermarkets' financial stability include management expertise, competitive environment, and macroeconomic conditions.

5.6 Recommendation for Further Research

Based on the limitations and findings of this study, the following recommendations for further research are proposed:

i. Expand the scope of the study to include supermarkets of varying sizes and geographic locations to enhance the generalizability of the findings.
ii. Incorporate additional firm-specific and industry-specific factors that may influence financial distress, such as market share, inventory management practices, supply chain efficiency, and competitive dynamics.
iii. Conduct a comparative study across different retail sectors to identify potential industry-specific determinants of financial distress.

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APPENDICES

Appendix I: List of Supermarkets

1) Naivas
2) QuickMart
3) Cleanshelf
4) Eastmatt
5) Carrefour
6) Mathai Supermarket
7) Chandarana Foodplus

Source: Researcher (2023)

Appendix II: Data Collection Sheet

Year	Supermarket	Operating income	Interest expense	Log of sales	Total liabilities	Total Assets	Current asset/	Current liabilities
2017	Naivas							
2018	Naivas							
2019	Naivas							
2020	Naivas							
2021	Naivas							
2022	Naivas							
2023	Naivas							
2017	QuickMart							
2018	QuickMart							
2019	QuickMart							
2020	QuickMart							
2021	QuickMart							
2022	QuickMart							
2023	QuickMart							
2017	Cleanshelf							
2018	Cleanshelf							
2019	Cleanshelf							
2020	Cleanshelf							
2021	Cleanshelf							
2022	Cleanshelf							
2023	Cleanshelf							
2017	Eastmatt							
2018	Eastmatt							
2019	Eastmatt							
2020	Eastmatt							
2021	Eastmatt							
2022	Eastmatt							
2023	Eastmatt							
2017	Carrefour							
2018	Carrefour							
2019	Carrefour							
2020	Carrefour							
2021	Carrefour							
2022	Carrefour							
2023	Carrefour							
2017	Mathai Supermarket							
2018	Mathai Supermarket							
2019	Mathai Supermarket							
2020	Mathai Supermarket							
2021	Mathai Supermarket							
2022	Mathai Supermarket							
2023	Mathai Supermarket							

2017	Chandarana Foodplus					
2018	Chandarana Foodplus					
2019	Chandarana Foodplus					
2020	Chandarana Foodplus					
2021	Chandarana Foodplus					
2022	Chandarana Foodplus					
2023	Chandarana Foodplus					

Appendix III: Research Permit

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BOARD OF POSTGRADUATE STUDIES

KCAU/BPS/Sept. 23/1 — 26th September 2023

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: SARAH WAWIRA MURIITHI REG NO 15/02831

It is my distinct pleasure to introduce to you Sarah Muriithi who is a student in our institution pursuing a Master of Science in Commerce in the School of Business.

Sarah is conducting a research on a topic titled: ***"Effect of Firm Characteristics On Financial Distress of Chain Stores in Nairobi City County, Kenya"*** which is part of the requirements of the program she is pursuing. The research as well as the data procured thereof shall be used for academic purposes only.

Any assistance accorded to her is highly appreciated.

In case of further inquiry, do not hesitate to contact the undersigned.

Yours faithfully,

Dr. Jackson Ndolo
Director, Board of Post Graduate Studies

Appendix IV: NACOSTI Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 629506

Date of Issue: 31/October/2023

RESEARCH LICENSE

This is to Certify that Ms.. Sarah Murithi Wawira of KCA University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: EFFECT OF FIRM CHARACTERISTICS ON FINANCIAL DISTRESS OF CHAIN STORES IN NAIROBI CITY COUNTY, KENYA for the period ending : 31/October/2024.

License No: NACOSTI/P/23/30877

629506

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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