

**TAX INCENTIVES, FIRM SIZE, AND INVESTMENT DECISION OF
MANUFACTURING FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE
IN KENYA**

By

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MASTER OF SCIENCE IN COMMERCE (FINANCE AND INVESTMENTS)

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**DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
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OCTOBER 2025

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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ABSTRACT

Tax incentives, such as municipal bonds in the USA and Individual Savings Accounts in the UK, have historically provided opportunities for firms and households to channel resources into productive ventures. In Kenya, the Nairobi Chamber of Commerce and Industry (2024) reported that 68% of manufacturing enterprises faced challenges in understanding and utilizing tax incentives, particularly in compliance and interpretation. This study examined the effect of tax incentives, firm size, and investment decisions of manufacturing firms listed on the Nairobi Securities Exchange (NSE) in Kenya. The study was guided by the Neoclassical Theory of Investment, the Investment Tax Credit (ITC) Theory, the Agency Theory, and the Resource-Based View Theory. A correlational research design was adopted, using panel data from five manufacturing firms listed on the NSE: British American Tobacco Ltd, East African Breweries Ltd, Unga Group Ltd, Bamburi Cement Plc, and Carbacid Investments Plc. Secondary data covering 1995–2024 were extracted from audited financial statements and NSE reports and analyzed using STATA Version 12. Diagnostic tests, including the Shapiro–Wilk test for normality, White’s test for heteroskedasticity, Breusch–Pagan LM test for autocorrelation, and Hausman test for model specification, confirmed data reliability. Correlation results showed strong positive relationships between tax credit incentives ($r = 0.9317$), tax exemption incentives ($r = 0.9378$), and tax deferral incentives ($r = 0.9339$) with investment decisions. Firm size exhibited a moderate positive correlation ($r = 0.5853$) with investment decisions. Panel regression results revealed that tax credits and tax deferrals incentives had positive and statistically significant effects on investment decisions ($p < 0.05$), while tax exemption incentives were insignificant ($p > 0.05$). Firm size significantly moderated the relationship between tax incentives and investment decisions ($p < 0.05$). The study recommended that policymakers enhance the design and administration of tax incentives and align them with firm size differences. The study contributes valuable empirical evidence to fiscal policy and expands theoretical understanding of how firm characteristics influence investment outcomes within fiscal policy environments.

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DEDICATION

This dissertation is dedicated towards my entire family as well as to everyone who has contributed significantly to sustaining me in many ways, especially to my incredible Spouse and Parents. God's blessings upon you all.

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ACRONYMS AND ABBREVIATIONS

EPZs	Export Processing Zones
EVA	Economic Value Added
FDI	Foreign Direct Investment
FYAs	Fixed Yearly Allowances
GDP	Gross Domestic Product
IRR	Internal Rate of Return
ITC	Investment Tax Credit
KAM	Kenya Association of Manufacturers
KNBS	Kenya National Bureau of Statistics
KRA	Kenya Revenue Authority
NPV	Net Present Value
NSE	Nairobi Securities Exchange
R&D	Research and Development
RBV	Resource-Based View
ROI	Return on Investment
SMEs	Small and Medium Enterprises
STATA	Statistics/Data Analysis Software
UK	United Kingdom
USA	United States of America

OPERATIONAL DEFINITION OF TERMS

Firm Size	Firm size is a measure of the scale of a manufacturing enterprise, often operationalized through total assets, number of employees, or annual turnover. Firm size can moderate the relationship between tax incentives and investment decisions because larger firms often have more resources, better access to financing, and the capacity to leverage tax incentives more effectively compared to smaller firms (Kinyua & Okiro, 2022).
Investment Decision	Investment decision refers to the process by which manufacturing firms allocate financial resources to long-term assets or projects, aiming to achieve growth, efficiency, or profitability. In this study, investment decisions are operationalized using metrics such as Return on Investment (ROI), Net Present Value (NPV), and Economic Value Added (EVA), reflecting how firms respond to tax incentives and whether these incentives translate into actual capital investment (Muturi & Mwangi, 2021).
Tax Credits Incentive	Tax credits are reductions in a firm's tax liability provided by the government to encourage investment in specific sectors or activities. In the context of manufacturing firms, tax credits incentivize companies to invest in new machinery, technology upgrades, or expansion projects by lowering the effective cost of capital. The availability and size of tax credits can influence a firm's decision to commit resources to growth projects, thereby impacting investment decisions (Girardi, 2021).
Tax Deferrals Incentive	Tax deferrals allow firms to postpone the payment of taxes to a later period, effectively improving short-term liquidity. For manufacturing firms, this creates temporary financial flexibility, enabling them to allocate more resources toward immediate investment opportunities, such as purchasing equipment or funding research and development initiatives. The timing and duration of the deferral can significantly affect the firm's investment decision (Kariuki & Kamau, 2020).
Tax Exemptions	Tax exemptions refer to the complete or partial relief from paying certain taxes, such as corporate income tax, on specific types of income, activities, or sectors. For manufacturing firms, exemptions can improve cash flow and profitability, freeing resources for reinvestment in production capacity, innovation, or market expansion. The extent of tax exemptions may vary by firm and sector, and their predictability can influence long-term investment planning (Nguimkeu & Okou, 2021).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Investment decisions represent the dependent variable in this study and are fundamentally influenced by fiscal and policy frameworks that determine the cost and expected returns of capital allocation. Globally, firms' investment decisions are shaped by the availability and structure of tax incentives designed to promote productivity, innovation, and industrial growth. In developed economies such as the United States and the United Kingdom, tax incentives are instrumental tools for influencing investment behavior in manufacturing and service industries. Tax credits such as the Earned Income Tax Credit in the USA and the Working Tax Credit in the UK directly affect household consumption and aggregate demand, which in turn encourage firms to increase productive investments (Maffini & Devereux, 2019). Research and development (R&D) tax credits further reduce the cost of innovation, enhancing firms' willingness to commit resources to research, technological development, and expansion (Alston, 2018). These credits thus serve as catalysts for productivity-driven investment decisions.

Tax exemptions also play a vital role in shaping firm-level investment patterns. In the USA, municipal bonds exempted from federal income tax allow investors and firms to channel funds toward infrastructural and industrial projects, while in the UK, Individual Savings Accounts (ISAs) promote capital accumulation and liquidity in financial markets (Alston et al., 2018). Such exemptions enhance the attractiveness of long-term investments by lowering effective tax burdens and promoting reinvestment in high-yield sectors. Similarly, tax deferrals, such as 401(k) retirement schemes in the USA and pension arrangements in the UK, help sustain steady capital flows into industrial and manufacturing ventures by postponing tax obligations until future periods.

The moderating effect of firm size becomes evident in these contexts: large multinational corporations are more capable of exploiting the full range of tax incentives due to their robust financial systems, dedicated tax planning departments, and cross-border investment structures, whereas small and medium-sized enterprises (SMEs) often face compliance barriers and limited awareness, which restrict their effective participation in such programs (Maffini & Devereux, 2019; Alston et al., 2018).

Regionally, in Sub-Saharan Africa, tax incentives are strategically designed to stimulate investment in key sectors such as agriculture, energy, and manufacturing that drive structural transformation. For instance, Ghana's renewable energy tax credits have redirected investment decisions toward clean and sustainable technologies, reflecting policy alignment with global sustainability goals (Brown, 2021). In Nigeria, agricultural income tax exemptions have encouraged private sector participation in food production, enhancing food security and employment creation (Pushkareva, 2021; Nguimkeu & Okou, 2021). Zambia's tax deferrals granted to export-oriented manufacturers provide temporary relief from tax obligations, improving liquidity and enabling reinvestment in production expansion and export competitiveness. Within these regional frameworks, firm size significantly moderates the outcomes of tax incentives. Large corporations, with their established governance structures and access to credit, can effectively utilize fiscal incentives to increase capital formation, while SMEs struggle with limited financing, low compliance capacity, and inadequate knowledge of fiscal benefits, thus diminishing their responsiveness to tax policy changes (Okou et al., 2021).

In Kenya, tax incentives are integral to the government's industrialization and investment promotion agenda, particularly within the manufacturing sector. Tax credits, such as the Investment Tax Credit, are used to reduce taxable income through deductions on qualified capital

expenditures, thereby encouraging firms to invest in modernization, innovation, and production expansion (Kinyua & Okiro, 2022). Tax exemptions granted to export-oriented industries improve competitiveness by lowering production costs and increasing firms' participation in international markets. Similarly, tax deferrals under the turnover tax regime provide small firms with flexibility in cash flow management by allowing the postponement of tax payments, while larger firms benefit from investment allowances tied to large-scale industrial development projects (Okiro et al., 2022). Firm size continues to play a moderating role in Kenya's tax-incentive framework: large manufacturing firms are well positioned to benefit from fiscal incentives due to economies of scale and established financial systems, contributing significantly to employment creation, export growth, and technological advancement. In contrast, SMEs face persistent constraints such as limited access to credit, administrative burdens, and insufficient awareness of available tax incentive schemes, which reduce their ability to optimize investment decisions (KRA, 2024; Kinyua & Okiro, 2022).

1.1.1 Tax Incentives

Tax incentives constitute the independent variable in this study and are defined as fiscal policy mechanisms used by governments to stimulate investment, industrial expansion, and economic competitiveness. They operate by reducing the effective tax burden on firms and individuals, thereby improving the financial attractiveness of capital-intensive projects and supporting long-term growth (Andriansyah & Nam, 2021). The incentives generally take three main forms—tax credits, tax exemptions, and tax deferrals—each targeting specific dimensions of firm performance and investment behavior. These instruments are particularly vital in manufacturing sectors where capital requirements, technological adaptation, and operational costs are high. By lowering tax

obligations, governments create an enabling environment for firms to expand, innovate, and generate employment opportunities (Clark & Skrok, 2019).

Tax credits are a major construct of tax incentives and represent direct deductions from a firm's tax liability. They are designed to reward investment in strategic areas such as research and development, technological innovation, and environmental sustainability. According to Liu and Mao (2019), tax credits enhance firms' capacity to engage in innovation-driven projects by offsetting part of the costs incurred in modernization and productivity enhancement. For manufacturing firms listed on the Nairobi Securities Exchange (NSE), tax credits can encourage reinvestment in plant expansion, automation, and export diversification. The researcher included tax credits in the study because they are measurable fiscal tools that directly affect the cost-benefit analysis of investment decisions and can serve as reliable indicators of government commitment to industrial growth (Andriansyah & Nam, 2021).

Tax exemptions form another construct of tax incentives and refer to the partial or total exclusion of specific incomes, goods, or investments from taxation. They are widely used to attract investors to strategic sectors, promote import substitution, and stimulate exports (Ngure, 2018). Empirical evidence from emerging economies shows that tax exemptions reduce production costs, thereby enhancing competitiveness in both domestic and international markets (Omodero & Ogbonnaya, 2018). In Kenya, exemptions have been applied in priority manufacturing subsectors such as agro-processing, textiles, and pharmaceuticals, leading to higher firm participation and sectoral growth. Their inclusion as an objective in this study is justified by their direct influence on firm profitability, cost management, and long-term investment commitment among manufacturing firms (Kinyua & Okiro, 2022).

Tax deferrals, the third construct, allow firms to postpone tax payments to future periods, improving short-term liquidity and enabling reinvestment of available funds into productive activities. This mechanism is particularly beneficial to firms undergoing expansion or modernization, as it provides financial flexibility without altering total tax liability (Clark & Skrok, 2019). According to Liu and Mao (2019), deferrals are positively associated with investment growth in capital-intensive industries because they stabilize cash flows and reduce immediate fiscal pressure. In Kenya, the turnover tax regime offers deferral benefits that help small and medium enterprises manage cash flow, while large firms use deferred investment allowances to support industrial projects. The inclusion of tax deferrals in the study was justified by their role in enhancing firms' liquidity positions, which directly affects investment timing and project implementation.

The moderating effect of firm size is incorporated in the study to explain the differential impact of tax incentives across various categories of firms. Larger firms typically possess greater administrative capacity, financial expertise, and access to credit, allowing them to optimize the benefits of tax incentives more effectively than smaller enterprises (Ngure, 2018). Conversely, small and medium-sized enterprises often face challenges such as limited awareness, compliance burdens, and restricted access to tax advisory services, which may hinder their ability to utilize incentives fully (KRA, 2024). Including firm size as a moderating variable provides a nuanced understanding of how structural and organizational characteristics shape the relationship between tax incentives and investment decisions.

1.1.2 Investment Decisions

Globally, investment decisions are widely understood as managerial choices concerning the allocation of financial resources into projects, assets, or ventures that are expected to yield returns

and enhance firm value. Smith (2019) defines investment decisions as the evaluation and selection of opportunities based on financial performance indicators such as net present value (NPV), internal rate of return (IRR), and payback period. Lee and Kim (2021) argue that beyond financial metrics, investment decisions must also account for cash flow stability and risk-return tradeoffs, while Walker (2022) highlights return on investment (ROI), economic value added (EVA), and diversification strategies as central to shaping firm value. Collectively, these perspectives underscore the global recognition of investment decisions as balancing profitability, growth, and risk mitigation (Walker, 2022).

Regionally, investment decisions are acknowledged as a critical determinant of firm growth and sustainability, especially within developing economies. In Africa, strategic resource allocation in manufacturing firms enables improvements in competitiveness, profitability, and innovation. Research indicates that investment in process automation, equipment modernization, and research and development fosters efficiency, enhances product quality, and reduces costs, which ultimately supports industrialization and regional trade integration (Mbogoh, 2018). Thuku (2009) notes that timely and well-informed investment choices help firms adapt to changing market conditions and technological advancements, while poor allocation into outdated technologies or low-demand products undermines profitability and exposes firms to financial distress. This regional evidence emphasizes the role of investment decisions in sustaining competitiveness and supporting economic growth (Thuku, 2009).

Locally, investment decisions in Kenya have been operationalized through financial indicators that capture capital allocation efficiency and firm-level performance. Studies such as Liu and Mao (2019) have used net present value and capital expenditure ratios, while Walker (2022) emphasizes ROI and EVA as direct measures of investment effectiveness. ROI was

measured as the percentage gain or loss relative to capital invested, providing an indicator of profitability and decision-making efficiency. This study will incorporate the influence of tax incentives such as tax deferrals, which are expected to ease cash flow constraints and enhance the ability of firms to reinvest in productive activities.

1.1.3 Firm Size

Dang et al. (2018) describes firm size as the scope of an organization's assets and activities, which reflects its financial strength and operational capabilities. Lin and Wu (2019) note that firm size indicates a company's capacity to withstand market shocks and sustain competitive advantage, with larger firms often benefiting from economies of scale, diversified operations, and greater access to capital. In contrast, smaller firms may demonstrate flexibility and innovation but frequently encounter constraints in financing and market expansion (Bui, 2021). Therefore, firm size is not merely a structural characteristic but a dynamic indicator that captures the growth potential, resilience, and competitiveness of a firm within the broader economic environment.

The importance of firm size in financial and investment studies has been widely acknowledged, given its influence on decision-making, resource allocation, and overall performance outcomes. In the context of Kenya's manufacturing sector, firm size plays a central role in determining the capacity of companies to adopt advanced technologies, expand into regional markets, and access fiscal incentives such as tax deferrals. Larger firms listed at the Nairobi Securities Exchange (NSE) are generally better positioned to restructure financial strategies and benefit from tax-related incentives compared to smaller firms (Muriithi, 2020). Kariuki and Gachanja (2022) emphasize that firm size also determines the ability of manufacturing firms to attract investor confidence, given their perceived stability and risk absorption capacity. Consequently, incorporating firm size into this study provides critical insights into how the scale

of operations influences the effectiveness of fiscal policies, particularly in moderating the relationship between tax deferrals and investment decisions in the Kenyan manufacturing sector.

Firm size has been operationalized in empirical studies through a variety of indicators, including annual sales, market capitalization, number of employees, and total assets. Chen and Wang (2020) employed the natural logarithm of total assets to control for skewness and ensure comparability across firms, a method widely accepted in financial research. Bui (2021) similarly utilized workforce size and sales volume as alternative proxies for firm magnitude. This measurement is appropriate because it captures financial capacity, minimizes data distortion, and facilitates robust statistical analysis. The study will further compare firms that benefit from tax deferrals with those that do not, thereby establishing whether firm size moderates the relationship between fiscal incentives and investment behavior among manufacturing firms in Kenya.

1.1.4 Listed Manufacturing Firms in Kenya

Globally, manufacturing firms are recognized as vital contributors to industrialization, job creation, and innovation through the conversion of raw materials into finished goods using machinery, technology, and labor. In Kenya, this sector has traditionally powered employment and GDP growth, encompassing food and beverages, chemicals, tobacco, and industrial products (Ondiek & Kisaka, 2020). Kenya's manufacturing contribution to GDP has declined significantly from approximately 11.3% in 2010 to 7.3% in 2024—reflecting structural challenges, rising production costs, and diminishing competitiveness (KAM, 2024; The Global Economy, 2023). Recent data show a modest revival: share of GDP rose from 7.4% in 2021 to 7.8% in 2022, largely driven by growth in non-food sectors such as motor vehicle assembly (KNBS, 2023). Despite this, the sector remains below its historical highs and global averages of around 12% (The Global Economy, 2023).

The Nairobi Securities Exchange (NSE) lists nine manufacturing firms—Flame Tree Group, Mumias Sugar Co. Ltd., B.O.C. Kenya Ltd., British American Tobacco Kenya Ltd., Carbacid Ventures Ltd., East African Breweries Ltd., Unga Group Ltd., Eveready East Africa Ltd., and Kenya Orchards Ltd. each playing a pivotal role in fueling the sector through improved access to capital, investor visibility, and stronger governance (Mwaniki, 2019). These firms span multiple sub-sectors, delivering products from beverages and industrial gases to consumer goods and tobacco, and securing export potential alongside domestic growth.

Investment decisions among these listed manufacturers have shaped firm trajectories and broader sectoral trends. Firms such as East African Breweries Ltd. and British American Tobacco Kenya Ltd. have sustained competitiveness through consistent reinvestment in technology and capacity expansion. Meanwhile, others most notably Mumias Sugar Co. Ltd. and Eveready East Africa Ltd. have faltered due to poor governance, underinvestment, and managerial inefficiencies (Muthoni, 2021). NSE data further show that the Manufacturing and Allied Index underperformed, with a 15.3% decline in 2023, average dividend yields falling from 4.8% in 2020 to 2.6% in 2023, and P/E ratios compressing from 12.8 to 8.4 over the same period, signaling investor retreat and shrinking confidence (KAM, 2024).

1.2 Statement of the Problem

Investment decisions of manufacturing firms listed at the Nairobi Securities Exchange (NSE) in Kenya are critical to the country's industrial growth, employment creation, and export diversification. These firms are expected to drive innovation, technology adoption, and value addition, thereby contributing significantly to sustainable economic development (Kidenda, 2019). However, despite their strategic importance, many listed manufacturing firms continue to struggle with making optimal investment decisions, largely due to limited or ineffective utilization of tax

incentives designed to promote capital formation and industrial expansion (Ngure, 2018). The persistent challenge in translating fiscal incentives into productive investments has resulted in sluggish growth, reduced competitiveness, and in some cases, business failures such as the collapse of Pan Paper Mills and Webuye Paper Mills in 2009, and the manufacturing division of Uchumi Supermarkets in 2021.

Evidence from the Nairobi Chamber of Commerce and Industry (2020) shows that 68% of manufacturing enterprises face challenges in understanding and complying with tax incentive frameworks, which constrains their ability to make well-informed investment decisions (Ongeri, 2023). For NSE-listed firms, whose investment decisions depend heavily on fiscal predictability and regulatory efficiency, such barriers hinder access to essential incentives that could support technological modernization and production scaling. The Kenya Association of Manufacturers (KAM) further observes that administrative bottlenecks and restrictive eligibility conditions often prevent large firms from fully benefiting from available tax relief programs (Nyondo, 2022). Consequently, crucial investment decisions—such as adopting advanced technologies, expanding into new markets, or diversifying production—remain constrained, thereby limiting industrial competitiveness and long-term value creation (Suleiman, 2020).

Although several studies have examined tax incentives and firm performance in other contexts, the empirical evidence specific to Kenya’s manufacturing firms remains scarce. Twesige and Gasheja (2019) established that tax incentives positively affected manufacturing SMEs in Rwanda, while Obafemi and Ajayi (2021) found a similar relationship in Nigeria. However, these findings cannot be generalized to Kenya due to differences in fiscal policy structures and

institutional environments. Locally, limited research has explicitly analyzed how tax incentives influence investment decisions among NSE-listed manufacturing firms (Ondiek & Kisaka, 2020).

Furthermore, there is inadequate empirical analysis of the moderating effect of firm size on the relationship between tax incentives and investment decisions in Kenya's manufacturing sector. Firm size is an essential factor influencing how firms access, interpret, and utilize tax incentives, as large corporations often possess greater administrative capacity and financial flexibility than smaller firms. This study bridged this knowledge gap by examining the moderating effect of firm size on the relationship between tax incentives and the investment decisions of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.

1.3 Objectives of the study

1.3.1 General Objective

To determine the relationship between tax incentives and investment decision of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.

1.3.2 Specific Objectives

1. To determine the effect of tax credits incentive on investment decision of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.
2. To assess the effect of tax exemptions incentive on investment decision of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.
3. To evaluate the effect tax deferrals incentive on investment decision of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.
4. To determine the moderating effect of firm size on the relationship between tax incentives and investment decision of firms listed at the Nairobi Securities Exchange in Kenya.

1.4 Research Hypothesis

H01: Tax credits incentive has no significant effect on the investment decision of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.

H02: Tax exemptions incentive has no significant effect on the investment decision of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.

H03: Tax deferrals incentive has no significant effect on the investment decision of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.

H04: Firm size does not significantly moderate the relationship between tax incentives and the investment decision of manufacturing firms listed at the Nairobi Securities Exchange in Kenya.

1.5 Justification of the study

The profusion of tax incentives in emerging nations to attract foreign investment generates unhealthy rivalry, heightening generosity among politicians. A joint analysis by OECD, World Bank, IMF, and UN underlines the disproportionate impact on lower-income nations, worsening current revenue issues. Despite heightened incentives, some governments fail to attract investment successfully. Sub-Saharan Africa stands out for its enormous growth in incentive generosity, surpassing its worldwide peers. Research demonstrates a disturbing correlation: for every 10-percentage-point boost in business tax incentives, GDP experiences a 0.35 percent decline. This process, driven by lower tax requirements for existing enterprises, erodes the corporate tax base, aggravating budget deficits and debt burdens, thus justifies the current analysis.

1.6 Significance of the study

1.6.1 Regulators

Regulators can utilize the findings of the study to analyze the efficiency of existing tax incentive programs in boosting investment in the manufacturing sector. They will find areas of improvement

or alter policy depending on the study's conclusions. The study will inform policymaking by giving evidence-based advice on creating tax incentive programs that better correspond with the investment requirements and aspirations of manufacturing enterprises in Nairobi County.

1.6.2 Scholars

The research can contribute to the abundance of information previously available on the link between decisions concerning investments and tax benefits, notably with regard to industrial enterprises in Nairobi County, Kenya. Scholars will build upon these findings to examine relevant subjects or repeat the study in new circumstances. Scholars will participate in scholarly discussions and debates regarding the implications of tax incentives on investment behavior, economic growth, and development outcomes. This can lead to the production of new ideas, models, and approaches.

1.6.3 Manufacturing Firms

Manufacturing enterprises in NSE, Kenya, can obtain insights on how tax incentives might affect their investment decisions. This information may help them make educated choices regarding their investments, perhaps leading to enhanced profitability and growth. Armed with information about the effect of tax incentives, manufacturing businesses may strategically plan their investments to take advantage of available tax benefits, so maximizing their resources and boosting their competitiveness in the market. Understanding the consequences of tax incentives on investment decisions, manufacturing businesses may maintain compliance with tax legislation while maximizing the advantages gained from these incentives, leading to enhanced financial performance and sustainability.

1.6.4 Academicians

The research can make a contribution to the academic community providing the empirical data on the connection between the tax incentives and the investment choices of manufacturing firms. This

will add to the corpus of knowledge in the domains of taxation, finance, and economics, encouraging further study and academic conversation in this area. Findings from the study were implemented into the academic curriculum, increasing the learning experience of students studying business, economics, finance, and related areas. Case studies developed from the research can serve as important teaching aids for educators, developing a greater knowledge of tax policy and its impact on company decision-making.

1.6.5 Policy Makers

The study findings can enlighten policymakers in Nairobi County, Kenya, and abroad, about the efficiency of existing tax incentives in boosting investment among manufacturing enterprises. This research will influence the establishment and refining of tax policies targeted at supporting economic growth, job creation, and industrial development. Policymakers may utilize findings from the study to adjust tax incentive schemes to better address the unique requirements and constraints encountered by manufacturing enterprises. By matching incentives with industry objectives and market dynamics, policymakers may boost the efficacy of these programs and drive higher investment in the manufacturing sector.

1.6.6 Kenya Revenue Authority

Understanding the impact of tax incentives on investment decisions would help the KRA to forecast changes in taxpayer behavior and revenue patterns. Through aligning tax regulations with economic incentives that stimulate investment, the KRA will optimize revenue collection while maintaining a conducive environment for company growth.

1.7 Scope of the research

This study examined tax incentives, firm size, and investment decisions of manufacturing firms listed on the Nairobi Securities Exchange (NSE) in Kenya. The target population comprised the

financial statements of five manufacturing firms listed on the NSE, namely British American Tobacco Limited, East African Breweries Ltd, Unga Group Ltd, Bamburi Cement Plc, and Carbacid Investments Plc. The study covered 30 years from 1995 to 2024. The independent variables under consideration included tax credit incentives, tax exemption incentives, and tax deferral incentives, while the dependent variable was investment decisions. The study relied on secondary data covering yearly amounts of tax credit incentives, tax exemption incentives, and tax deferral incentives for the financial years 1995 to 2024. Data analysis was conducted using STATA software version 12, which provided a comprehensive set of tools for statistical modeling, forecasting, and econometric analysis. The investigation was undertaken between February 2025 and September 2025.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In addition to offering a theoretical, empirical, and conceptual framework for studying the influence of tax incentives on manufacturing enterprises' investment decisions, this research also summarizes the findings of prior relevant studies as well as a review of the existing literature.

2.2 Theoretical Review

A theory is a well-supported claim or group of assertions that aims to clarify an occurrence and is backed by evidence. An organized explanation of the links underlying occurrences is termed a hypothesis. Neoclassical Theory, Investment Tax Credit (ITC) Theory, Agency Theory and Resource-Based Theory are some of the notions that offer an overview of an occurrence.

2.2.1 Neoclassical Theory

The Neoclassical Theory, initially developed by Milton Friedman in 1957 and later expanded by Gary Becker, emphasizes rational decision-making where individuals and organizations seek to maximize utility or profit. Rooted in late 19th-century economic thought, the theory highlights the role of incentives, particularly fiscal tools like tax credits, in shaping investment behavior (Girardi, 2021). Its central proposition is that economic actors weigh costs and benefits, allocating resources efficiently to maximize returns. According to Jorgenson (1963), firms make investment decisions based on the principle of profit maximization, where capital allocation depends on the marginal productivity of investment relative to its cost, making tax incentives a vital policy instrument.

The Neoclassical Theory posits that tax incentives reduce the effective cost of capital, encouraging firms to invest in previously marginal projects (Feldstein, 2019). By lowering the user cost of capital, tax credits align with the theory's assumption of rational profit maximization,

stimulating capital formation and resource efficiency (Becker, 2023). Moreover, the theory incorporates risk considerations: tax incentives reduce perceived financial risks of capital-intensive projects, encouraging innovation and long-term investment (Hall & Lerner, 2021). Friedman's Permanent Income Hypothesis further stresses the importance of consistent and predictable incentives in maintaining stable investment flows (Girardi, 2021). Policy applications in Kenya, such as SME-targeted incentives, have enhanced technological adoption, infrastructure investment, and productivity (Kimani & Wanjiru, 2020; Waweru & Mungai, 2021).

The strength of the Neoclassical Theory lies in its clear quantitative framework linking fiscal policy to firm behavior (Hall & Jorgenson, 1967). It assumes that firms are rational actors who respond predictably to changes in the cost of capital, making it useful for analyzing the effects of investment allowances, accelerated depreciation, and tax credits on business expansion. However, critics argue the theory oversimplifies investment behavior by assuming perfect markets, rational expectations, and unrestricted capital mobility. Real-world constraints—such as policy uncertainty, bureaucratic inefficiencies, and limited access to finance—can reduce the effectiveness of tax incentives (Auerbach, 1983). Additionally, some argue incentives may lead to overinvestment or dependency, although careful policy design, including sunset clauses, can mitigate these risks (Becker, 1975).

In the context of Kenya, the Neoclassical Theory provides a useful lens for understanding how tax credit incentives influence investment decisions across various sectors. By reducing the cost of acquiring capital assets, incentives encourage firms to expand operations, adopt new technologies, and enhance productivity. The theory helps explain why well-structured tax policies attract both domestic and foreign investors by improving expected returns on capital. Consequently, it is highly relevant for policymakers seeking to evaluate the effectiveness of tax

incentives as tools for promoting industrial growth, employment, and economic development. In this study, the theory underpins the first research objective: examining the influence of tax credit incentives on investment decisions among manufacturing firms in Nairobi County, highlighting rational decision-making, risk management, and resource allocation.

2.2.2 Investment Tax Credit Theory

The Investment Tax Credit (ITC) Theory, developed during the 1960s and 1970s by economists such as Arnold Harberger and Lawrence Summers, posits that tax credits reduce the cost of capital and incentivize firms to invest in new projects, technology, and equipment (Nikituk & Korotkova, 2017). Its central proposition is that lowering effective capital costs directly influences firms' investment decisions by making productivity-enhancing activities more financially feasible. This theory highlights how fiscal incentives alter firm cost structures, making investment more attractive and sustainable, particularly in capital-intensive sectors like manufacturing (Chege, 2020; Mukami, 2019).

The ITC Theory suggests that tax exemptions and credits, such as those on imported machinery or capital gains, reduce upfront costs and encourage adoption of new technologies. Sharma and Singh (2019) found that Indian manufacturing firms increased capital investments by 15% due to such exemptions, while Wanjiru and Kimani (2021) reported a 20% rise in annual capital investment among Kenyan firms in export processing zones (EPZs). Beyond firm-level benefits, the theory links tax incentives to broader economic outcomes, including employment growth and industrial expansion. Karanja et al. (2022) observed a 12% increase in employment over five years in Kenyan firms receiving raw material tax breaks, and Andersen and Fjeldstad (2020) noted a 30% rise in sustainable technology adoption in Scandinavian countries offering renewable energy incentives.

The strength of ITC Theory lies in its clear link between fiscal policy and investment behavior, providing a practical framework for policymakers to stimulate productive investment. However, critics such as Joseph Pechman and Martin Feldstein argue that its benefits are often overstated and may distort resource allocation (Nikituk et al., 2017). Moreover, the theory assumes rational decision-making, yet inefficiencies, corruption, and policy loopholes can limit effectiveness. Waweru and Mungai (2021) found that some Kenyan manufacturers exploited tax exemptions for speculative investments rather than productive expansion, emphasizing the need for robust monitoring and accountability mechanisms (Mao, 2019).

In the Kenyan context, ITC Theory provides a valuable lens for assessing how tax exemptions influence investment decisions in manufacturing firms. By reducing capital costs, tax incentives encourage firms to adopt new technologies, expand operations, and enhance productivity. The theory also highlights the multiplier effects of such investments on employment and related industries, reinforcing its importance for economic growth. In this study, ITC Theory underpins the second research objective: evaluating the influence of tax exemptions on the investment decisions of manufacturing firms in Nairobi County, providing a framework for understanding both the benefits and potential risks of fiscal policy interventions.

2.2.3 Agency Theory

Agency Theory, developed by Jensen and Meckling, explains the relationship between principals (shareholders) and agents (managers) in firms, focusing on how incentives align or conflict with shareholder interests. In the context of manufacturing enterprises, tax deferral incentives are crucial as they provide managers with additional resources to finance capital-intensive and long-term projects (Mwangi & Kamau, 2021). By allowing firms to delay tax payments, these incentives

enhance cash flow and create opportunities for investment in expansion, technology, and market entry (Muthoni et al., 2022).

According to Jensen and Meckling (1976), Agency Theory posits that a firm consists of a contractual relationship between principals (owners) and agents (managers), where conflicts may arise due to divergent interests. The theory explains that managers may prioritize personal benefits over shareholders' wealth, leading to inefficiencies in investment decisions. Firms with larger size and complex structures often experience greater agency problems, necessitating monitoring mechanisms and incentive alignment. The strength of this theory lies in its ability to explain how governance systems, such as performance-based compensation, reduce information asymmetry and enhance investment efficiency.

According to Eisenhardt (1989), Agency Theory also highlights the importance of control systems in mitigating managerial opportunism. By aligning agents' rewards with firm performance, organizations can encourage responsible decision-making and optimal capital allocation. However, implementing these controls increases administrative costs, which may constrain smaller firms. These dynamic influences investment behavior differently across firms of varying sizes and ownership structures.

According to Shapiro (2005), a key weakness of Agency Theory is its assumption of purely self-interested agents, which may oversimplify real-world organizational behavior. Critics argue that trust, ethics, and social norms can also shape managerial decisions beyond contractual incentives. Furthermore, excessive reliance on monitoring can discourage innovation and risk-taking, leading to conservative investment choices that hinder firm growth. Thus, while Agency Theory provides a strong analytical base, it must be contextualized within broader behavioral and institutional frameworks.

According to Daily, Dalton, and Rajagopalan (2003), the relevance of Agency Theory in explaining firm size and investment decisions lies in its focus on governance and accountability mechanisms. Larger firms often require more sophisticated monitoring systems to ensure managers act in shareholders' best interests, while smaller firms rely on direct oversight and relational trust. In emerging economies, effective agency control enhances investor confidence and promotes efficient capital utilization. Therefore, the theory remains vital in understanding how organizational structures and management incentives shape investment decisions in diverse corporate environments such as Kenya's growing market.

The theory highlights how tax deferrals reduce agency conflicts by ensuring that deferred tax savings are tied to productive investment activities. For shareholders, the priority is maximizing returns through effective reinvestment of retained earnings. Managers, motivated by available tax deferrals, are encouraged to channel savings into initiatives that drive growth and profitability. Otieno and Ndung'u (2020) found that tax deferrals in Kenyan manufacturing firms led to a 30% increase in capital expenditure over five years, demonstrating their effectiveness in promoting investment.

A significant contribution of Agency Theory lies in addressing managerial risk aversion, which often limits investment in high-cost, long-term projects. Tax deferrals provide financial flexibility to pursue research, innovation, and technological upgrades without immediate tax obligations. Wanjiru and Maina (2019) observed that firms benefiting from deferrals recorded a 25% increase in R&D investments, enhancing competitiveness. Similarly, Mutua and Kilonzo (2022) report that manufacturing enterprises increased retained earnings by 35% through deferrals, enabling operational expansion and efficiency improvements.

Agency Theory also emphasizes the problem of information asymmetry, where managers may misuse resources at the expense of shareholders. Transparent implementation of tax deferral schemes can address this challenge. Kariuki et al. (2023) note that firms required to disclose how deferred tax savings were utilized reported a 40% improvement in accountability and stakeholder trust. Likewise, Ochieng et al. (2019) found that companies with stronger governance structures employed deferrals more efficiently, achieving higher financial growth compared to poorly governed firms.

Beyond internal efficiency, tax deferrals contribute to competitiveness by lowering agency costs and incentivizing strategic investments. Omondi and Njoroge (2021) showed that manufacturing firms in East Africa leveraging tax deferrals experienced a 20% rise in competitiveness, largely due to technological adoption and regional expansion. However, the theory also warns of potential misuse, where managers may divert deferred savings toward personal gain or low-value projects. This underlines the importance of strong governance and accountability mechanisms.

To maximize the effectiveness of tax deferral incentives, policymakers should link them explicitly to priority investment areas such as infrastructure, technology, and capacity expansion. Monitoring systems and mandatory disclosure can further minimize misuse and ensure alignment with shareholder interests. Kibet and Wambui (2022) observed that tax deferral schemes with strict oversight were more successful in stimulating manufacturing investment across sub-Saharan Africa.

In this study, Agency Theory underpins the third objective: evaluating the effect of tax deferral incentives on the investment decisions of manufacturing firms listed at the Nairobi

Securities Exchange. It provides a framework for analyzing how deferrals shape managerial behavior, mitigate agency conflicts, and influence strategic investment choices.

2.2.4 Resource-Based View Theory

The Resource-Based View (RBV), established by Jay Barney in 1991, provides a framework for understanding how firm-specific resources and capabilities influence strategic decisions and investment behavior (Miller, 2019). The central proposition of RBV is that a firm's sustainable competitive advantage and investment decisions depend on the possession of valuable, rare, inimitable, and non-substitutable (VRIN) resources. Internal capabilities such as human expertise, financial capital, and technological competence enable firms to make effective investment decisions. According to Utami et al. (2022), RBV also explains how firm size moderates the relationship between tax incentives and investment, as larger firms possess superior internal resources that allow them to leverage tax advantages more efficiently than smaller firms.

RBV emphasizes that larger firms are better positioned to exploit their resource bases to maximize strategic investments, while smaller firms face constraints in mobilizing capital for growth. Priem and Butler (2001) argue that resources drive superior performance, which in turn justifies their value. RBV further integrates with dynamic capabilities to explain how firms renew and reconfigure resources in changing environments (Teece, 2019). In emerging economies, large firms leverage financial and technological resources for long-term investments, while smaller firms may rely on partnerships or innovation to remain competitive. Kenyan firms, for example, utilize tax incentives differently depending on their resource capacity, which shapes strategic investment choices.

The strength of RBV lies in its ability to explain how firm-specific resources drive performance and investment behavior. It highlights the moderating role of firm size in accessing and utilizing tax incentives, showing why larger firms often achieve greater investment outcomes

(Bosman & Sutherland, 2020; Muturi & Mwangi, 2021). However, critics argue that RBV is tautological, defining resources as valuable because they generate performance (Priem & Butler, 2001). The theory is also static, overlooking environmental changes, technological disruptions, and regulatory shifts that affect investment outcomes. Despite these limitations, RBV remains influential in strategic management, especially when combined with dynamic and institutional perspectives.

RBV is highly relevant for understanding the moderating effect of firm size on investment decisions in Kenya. Larger manufacturing enterprises generally have better access to financial, managerial, and operational resources, enabling them to navigate complex tax regimes and engage in capital-intensive projects (Kandie, 2020). Evidence from Kenyan firms shows that bigger companies utilize tax credits more efficiently, leading to higher investments in technology and infrastructure compared to smaller firms (Wambui et al., 2022; Kariuki & Kamau, 2020). Therefore, RBV provides a theoretical foundation for analyzing how internal resources interact with tax incentives to shape strategic investment decisions, particularly in the context of firms listed at the Nairobi Securities Exchange.

2.3 Empirical Review

2.3.1 Tax Incentive and Investment Decision

Globally, tax incentives have been demonstrated to have a substantial impact on influencing investment decisions across enterprises and industries. For instance, Chittenden and Derregia (2010) performed research in the United Kingdom to assess the influence of tax incentives on capital investment and R&D choices. Using a difference-in-difference approach, the study focused on a 2004 exogenous change in qualifying standards for first-year depreciation allowances (FYAs). The data found that enterprises eligible for FYAs witnessed an investment rate increase of 2.1 to

2.6 percentage points, equating to an 11% growth at the mean. The research also highlighted that businesses responded swiftly to FYAs, often within 12 to 18 months, and altered their behavior around cost-of-capital levels.

Bennett (2018), in another research done in the UK, investigated the efficiency of capital allowances and property tax relief in business zones. Employing the "costs of capital" technique, the research indicated that tax incentives gave large benefits to creating assets for commerce, financed by debt or tax-exempt organizations. Real rates of return increased from 7.6% to 8.7%, indicating the strong impact of tax incentives on specific investment locations.

Regionally, in the African setting, research has also highlighted the usefulness of tax incentives in attracting investment, notably foreign direct investment (FDI).

Desai and Goolsbee (2019), researched on Tax Incentives and Corporate Investment Decisions in the United States. The study aimed to determine the impact of tax credits and deductions on firms' capital expenditure decisions. Using panel data from 250 publicly listed firms collected through financial statements between 2000 and 2017, the study found that tax incentives significantly increased investment levels, particularly in manufacturing and technology sectors. However, it noted that long-term investment sustainability depended on stable tax policies. The current study fills a contextual gap by focusing on how similar tax incentives affect investment decisions in Kenya, where policy implementation and economic conditions differ substantially from the U.S. environment.

A study by Ahmed and Malik (2020), entitled, Tax Incentives and Private Investment Growth in Pakistan, investigated the relationship between fiscal incentives and investment performance. The main objective was to assess whether corporate tax exemptions and rebates encouraged capital formation in the industrial sector. Using secondary data from Pakistan's

Economic Surveys (2005–2018) and regression analysis, the study found that tax incentives positively influenced investment, though bureaucratic inefficiencies limited their overall effectiveness. The study concluded that predictable fiscal policy frameworks enhance investor confidence. The current study bridges an empirical gap by examining how similar incentives influence investment decisions within Kenya’s regulatory and economic context.

A study by Moyo and Ndlovu (2021), entitled, *Tax Incentives and Investment Behaviour in South Africa*, explored how tax policy reforms affected domestic and foreign investment inflows. The study sought to evaluate whether reduced corporate tax rates and accelerated depreciation allowances spurred firm-level investment. Employing a mixed-method approach that combined survey data from 120 firms and macroeconomic data from the South African Reserve Bank (2010–2020), the study found a positive but uneven effect of tax incentives across industries. It revealed that while large corporations benefited substantially, small enterprises saw minimal impact. The current study fills a geographical gap by extending this analysis to Kenya’s economic landscape, where tax structures and business environments differ significantly.

Naumenkova (2018) conducted an empirical study examining the determinants of tax incentives influencing investment activities of enterprises. The research adopted a mixed-method approach that combined both qualitative and quantitative analyses. Secondary data were collected from government fiscal reports, tax expenditure statements, and enterprise-level investment records, while interviews with policy experts and financial analysts provided qualitative insights. The study employed regression analysis to assess the relationship between tax incentives and investment growth across different sectors. Findings revealed that although tax incentives are instrumental in promoting innovation, employment, and capital formation, their effectiveness is often undermined by poor design, inadequate monitoring, and lack of transparency. The study

concluded that governments should enhance accountability, restructure incentive programs to avoid windfall profits, and eliminate environmentally harmful subsidies that hinder sustainable economic development.

Tian et al. (2020) conducted a quantitative study examining the relationship between tax incentives, research and development (R&D) investment, and firm innovation in China. The study utilized an event study design to estimate the effect of changes in tax policy on firm-level R&D expenditures and patent outputs. Secondary data were collected from corporate tax records and innovation reports, focusing on the 2006 policy reform that relaxed the “10% eligibility criterion” for super tax deductions on R&D spending. Using statistical analysis, the researchers compared firms that became newly eligible for the deduction with those that remained ineligible. Findings revealed that newly eligible firms significantly increased their R&D expenditure and innovation performance, narrowing the gap in patent generation and new product sales. The study concluded that expanding R&D tax incentives effectively promotes innovation and reduces firms’ tax burdens without evidence of manipulation or relabeling.

Gumo (2013) performed research in Kenya to evaluate the effects of tax incentives on FDI. Using a descriptive research approach and secondary data from organizations such as the Kenya Revenue Authority (KRA), Treasury, and the Kenya National Bureau of Statistics (KNBS), the study revealed a positive association between tax incentives and FDI. Gumo proposed that Kenya’s government develop evidence-based tax incentive schemes to attract investments while minimizing tax evasion.

Locally, recent research in Kenya has revealed further insights into the function of tax incentives in stimulating investment. Otieno and Wanjiku (2021) performed research in Nairobi, Kenya, utilizing a mixed-methods technique to assess the influence of tax incentives in fostering

investment development. Drawing on secondary data from KRA and Treasury papers and interviewing key stakeholders, the study highlighted tax vacations and decreased corporation tax rates as the most effective incentives for luring new investments. However, it also warned of possible revenue losses and market distortions from poorly regulated tax incentives.

Makatiani and Mungai (2024) investigated the impact of tax incentives on foreign direct investment (FDI) inflow in Kenya between 2002 and 2021. Guided by the Q-Theory of Investment and Tax Competition Theory, the study employed descriptive, correlation, and causal research designs using time series data. Secondary data were obtained from the World Investment Reports, World Bank, and International Monetary Fund (IMF) databases. The analysis examined how various tax incentive instruments, including corporate tax expenditures, tax holidays, and exemptions, influence FDI inflows. The findings revealed that tax incentives ($t = 4.811738$, $p < 0.05$) and government recurrent expenditure ($t = 2.402518$, $p < 0.05$) had a positive and significant effect on FDI inflows, while government external debt ($t = -3.154145$, $p < 0.05$) negatively affected FDI inflows. The study concluded that tax incentives play a crucial role in enhancing Kenya's investment climate and recommended that policymakers optimize corporate income tax structures to attract sustainable foreign investments.

Mukami (2019) studied FDI trends in Kenya from 2008 to 2017 using secondary data from the KRA and the World Bank. Employing quarterly analyses and statistical significance tests, the study demonstrated that investment deductions ($p = 0.003$) and industrial construction allowances ($p = 0.006$) substantially affected FDI, but wear-and-tear and agricultural works allowances showed no statistical significance. The report advocated cautious management of tax incentives to prevent a decrease in government income while guaranteeing economic benefit.

Kariuki and Mwangi (2023) conducted research in Kenya, collecting data from 2015 to 2021 to analyze the efficacy of tax incentives on investment decisions in the industrial and service sectors. Using panel data regression models, they discovered that capital allowances and export processing zone incentives considerably stimulated investment in manufacturing, but the impact on the service sector was relatively mild. The report advocated sector-specific incentives and enhanced monitoring methods to increase the efficiency of tax programs.

2.3.2 Tax Exemptions Incentive and Investment Decision

Globally, research have thoroughly explored the influence of tax exemptions on investment decisions, giving varied insights into their efficacy. Johnson (2018), in the United States, did research titled the effect of tax exemptions on investment decisions among publicly traded companies. Using a longitudinal research approach and panel data analysis on 500 publicly listed corporations, the study demonstrated a substantial positive association between tax exemptions and corporate investment. The results revealed that corporations expanded their investment activities in response to advantageous tax exemptions, underscoring the relevance of tax policy in supporting corporate growth.

Santos and Garcia (2018) investigated the Effects of Tax Exemptions on Investment in the Philippines across 200 enterprises from varied industries. Employing a comparative research methodology, they discovered that tax exemptions had variable effects depending on the industry, with manufacturing businesses exhibiting a larger reaction than the services and technology sectors. These findings underscore the necessity for specialized tax strategies to optimize investment incentives in certain industries.

A study by Kumar and Patel (2020), entitled, Tax Exemption Policies and Corporate Investment Decisions in India, examined how exemption schemes influence business investment levels. Conducted in major industrial states, the study aimed to assess the effectiveness of income

tax holidays and sectoral exemptions on firm expansion. Using secondary data from the Reserve Bank of India covering 2005–2018, the researchers applied regression analysis and found that tax exemptions significantly stimulated long-term investment, especially in manufacturing and infrastructure sectors. However, inconsistent policy enforcement reduced their effectiveness. The current study fills a contextual gap by exploring how similar tax exemption incentives influence investment decisions in Kenya, where administrative frameworks and investment climates differ markedly from India's.

Zaneta and Syalendra (2024) conducted a study on the impact of taxation on investment and economic growth, focusing on how different tax policies influence economic performance. The research adopted a mixed-methods approach, integrating quantitative analysis of tax data with qualitative insights gathered from interviews with key economic stakeholders. The study examined the effects of corporate, personal income, and capital gains taxes on investment levels and overall economic behavior. Findings indicated that lower corporate tax rates significantly promote investment, whereas high personal income taxes discourage consumer spending and reduce business investments. Moreover, the study incorporated the Human Development Index (HDI) as an additional measure to evaluate economic growth, highlighting the need to consider social well-being alongside GDP. The researchers concluded that competitive, transparent, and equitable tax policies particularly those incentivizing innovation and sustainability are essential for enhancing investment, stimulating growth, and fostering public trust in tax systems.

Kontoghiorghes (2024) investigated the effect of personal investment taxes on stock returns and corporate financial decisions. The study employed a causal research design using a difference-in-differences (DiD) approach to analyze the impact of a 2013 legislative reform in the United Kingdom, which permitted stocks listed on the Alternative Investment Market (AIM) of

the London Stock Exchange to be held in tax-exempt investment accounts for capital gains and dividends. Secondary data on stock performance and firm-level financial indicators were utilized for the analysis. The findings revealed that excess stock returns declined proportionally to their pre-legislation effective tax rates, indicating a significant influence of personal taxation on investment behavior. Additionally, firms responded to the tax policy change by adjusting their capital structures and increasing expenditure on dividends, capital investment, and labor, consistent with the traditional theory of corporate investment.

A study by El Fassi and Benjelloun (2021), entitled, *Tax Exemptions and Private Sector Investment in Morocco*, investigated the role of fiscal incentives in promoting domestic investment. The research aimed to determine whether exemptions on corporate income tax enhanced capital formation among small and medium enterprises. Using time-series data from Morocco's Ministry of Finance (2008–2019), the study revealed that tax exemptions positively influenced investment in export-oriented firms but had limited impact on local enterprises. The authors recommended better targeting of exemptions to productive sectors. The current study fills an empirical gap by examining how such fiscal policies affect investment decisions within Kenya's unique economic structure.

A study by Mwakalobo and Mushi (2022), entitled, *The Effect of Tax Exemption Incentives on Investment Performance in Tanzania*, analyzed how fiscal relief measures shape private investment behavior. The study sought to evaluate the effectiveness of tax holidays and customs duty exemptions in attracting both domestic and foreign investment. Data were collected through surveys from 150 registered companies and secondary records from the Tanzania Revenue Authority. The findings indicated that tax exemptions encouraged initial investments but failed to ensure long-term retention due to weak monitoring mechanisms. The current study fills a

geographical gap by focusing on Kenya, where tax exemption policies operate under different regulatory and economic conditions, providing fresh insights into investment decision dynamics.

Regionally, in Africa, research has looked into the effect of tax exemptions in stimulating investments in diverse industries. Abubakar and Ibrahim (2020), in Nigeria, did research titled *The Influence of Tax Exemptions on Investment Decisions among Small and Medium-Sized Enterprises (SMEs)*. Using a cross-sectional design and survey technique using data from 300 SMEs, the study indicated a strong association between tax exemptions and investment choices, notably in manufacturing and agriculture. This study emphasized the ability of tax policy to encourage growth in priority industries.

In Ghana, Mensah and Amoako-Gyampah (2019) did longitudinal research titled *Tax Exemptions and Investment Behavior in Ghana*. Their examination of 150 big firms indicated conflicting impacts of tax breaks on investment behavior. Industries responded differently to tax incentives, with variances affected by regulatory regimes and market conditions. These regional studies give crucial insights into the differential consequences of tax exemptions and underline the relevance of sector-specific and country-specific tax policies.

Locally, in Kenya, research has similarly demonstrated the value of tax exemptions in attracting foreign direct investment (FDI) and fostering economic growth. Gitonga (2017) did research titled *Relationship between Tax Incentives and the Foreign Direct Investments inflows of the Listed Multinational Corporations in Kenya*. The study has been conducted using secondary time-series data in 20 years (1995-2015) obtained through the financial statements, KNBS, and KRA reports, and showed that wear-and-tear allowances and FDI inflows have a significant relationship with a correlation value of 0.5465.

However, the study also revealed that investment deductions and industrial construction allowances had no meaningful association with FDI inflows. The findings underline the relevance of specific tax policies in attracting foreign investments and underscore the need for a more sophisticated approach to creating tax incentives to optimize their influence on economic growth.

2.3.3 Tax Deferrals Incentive and Investment Decision

Globally, Citron (2001) studied the value of deferred taxation using evidence from the UK. The study utilized a quantitative method, studying 1,512 company-years from 1989 to 1991 using archival data. The findings demonstrated a favorable link between deferred tax components and future capital investment, underlining the economic justification for deferred taxation. The study indicated that the partial provision technique on balance sheets gives an accurate assessment of prospective liabilities, delivering key regulatory insights.

Laisné (2023) performed longitudinal research including 400 publicly listed firms in the United States, applying panel data analysis to analyze the effects of tax deferrals on investment choices. The research demonstrated that tax deferral choices considerably enhanced investment activity, encouraging company development. Patel (2018) employed a cross-sectional design to study tax deferrals and investment behavior across 300 big firms in the United Kingdom. The study employed survey data and regression analysis, indicating that tax deferrals boost long-term investments, leading to firm stability and progress.

Santos and Silva (2017) studied the consequences of tax deferrals in emerging nations, including Nigeria, India, and Brazil. This comparative study adopted a mixed-methods approach, incorporating survey data and case studies from 500 enterprises to determine how regulatory frameworks and political stability affected tax deferrals. The study revealed that while tax deferrals greatly affect investment decisions, their effectiveness depends heavily on good economic conditions and supporting policies.

Regionally, Abubakar and Ibrahim (2020) researched tax exemptions in Nigeria and their effect on investment decisions among 300 SMEs. The study selected a cross-sectional research design and applied survey methods, with data analyzed by descriptive and inferential statistics. Their findings demonstrated a favorable association, notably in industrial and agriculture sectors, underscoring the relevance of tax incentives in supporting sector-specific growth. In Ghana, Mensah and Amoako-Gyampah (2019) performed longitudinal research utilizing secondary data to evaluate the effects of tax exemptions on investment behavior in 150 big firms. The research applied time-series analysis and revealed varied impacts, affected by regulatory regimes and market conditions, thereby underscoring the challenges of applying tax incentives in various situations.

A study by Sharma and Gupta (2020), entitled, *Tax Deferral Schemes and Corporate Investment Behaviour in India*, investigated the influence of deferred tax incentives on firms' investment decisions. Conducted in Mumbai and New Delhi, the research sought to determine whether allowing delayed tax payments encouraged reinvestment and expansion among industrial firms. Using panel data from 2006–2019 obtained from the Reserve Bank of India and employing econometric modeling, the study found that tax deferrals positively affected short-term investment but had diminishing long-term effects due to compliance uncertainties. The current study fills a contextual gap by examining how similar deferral mechanisms influence investment decisions in Kenya, where enforcement structures and capital market maturity differ significantly.

A study by El-Mansouri and Bensalah (2021), entitled, *Deferred Tax Incentives and Private Investment Growth in Morocco*, explored how postponement of tax obligations affected private sector investment. The study's objective was to evaluate whether deferral policies improved liquidity and promoted business expansion. Employing time-series data from Morocco's Ministry

of Finance (2010–2020) and regression analysis, findings revealed that tax deferrals enhanced firm cash flows, thereby encouraging capital investment. However, the benefit was more pronounced among large corporations than small enterprises. The current study fills an empirical gap by assessing the impact of tax deferrals in Kenya’s developing economy, characterized by varying firm sizes and fiscal policy consistency.

A study by Msuya and Kileo (2022), entitled, *tax Deferral Incentives and Investment Decisions in Tanzania*,” assessed the extent to which deferred taxation policies influenced private investment behavior. The research aimed to analyze whether temporary postponement of tax liabilities motivated reinvestment. Data were collected from 140 companies across Dar es Salaam using structured questionnaires and financial reports. Results showed that tax deferrals provided liquidity advantages that stimulated short-term investment, though weak monitoring mechanisms limited sustainability. The current study fills a geographical gap by evaluating similar dynamics within Kenya, where fiscal management and investor responses differ from the Tanzanian context.

A study by Anderson and Cook (2019), entitled, *deferred Taxation and Corporate Investment Decisions in Australia*,” examined how postponing tax liabilities affected capital allocation among listed firms. The study aimed to analyze whether tax deferrals supported long-term investment planning. Using longitudinal data from the Australian Securities Exchange (2000–2018), the authors applied fixed-effects regression analysis and found that deferrals improved firm value by reducing short-term tax pressure. The current study extends this understanding by assessing how similar incentives influence investment choices in Kenya’s emerging market context, where institutional frameworks vary from Australia’s developed economy.

A study by Ndong and Ekoume (2021), entitled, *Tax Deferral Mechanisms and Investment Stimulation in Gabon*,” sought to determine the impact of deferred tax payments on industrial

investment. Conducted in Libreville, the research utilized survey data from 120 firms and national revenue records between 2012 and 2020. The findings indicated that tax deferrals positively influenced initial investment commitments but were less effective in sustaining long-term growth due to administrative inefficiencies. The current study fills a regional gap by exploring how deferred tax incentives operate within Kenya's more diversified economic landscape.

A study by Namugaya and Kato (2023), entitled "Deferred Tax Incentives and Investment Decision-Making in Uganda," analyzed how deferral arrangements influenced private sector expansion. The study's objective was to assess the extent to which deferred taxation enhanced capital formation among medium-sized enterprises. Utilizing data from 160 firms collected through structured interviews and audited reports, the study found that tax deferrals improved liquidity and investment capacity, especially in manufacturing. However, inadequate policy awareness limited participation. The current study fills a contextual gap by examining how similar incentives affect investment decisions within Kenya's fiscal and regulatory framework, contributing new insights to regional tax policy literature.

Locally, in Kenya, Chege (2020) evaluated the influence of tax evasion incentives on the profitability of indigenous airlines. The study employed a descriptive research design and census approach, targeting 15 privately owned airlines. Data was acquired from audited financial reports covering five years (2014–2018) and analyzed using regression and measures of variance. The findings demonstrated that tax incentives, such as capital reimbursement allowances and wear-and-tear deductions, considerably boosted financial performance, but capital allowance incentives displayed a variable tendency over the research period.

Additionally, Nyanumba (2023) studied the difficulties facing Kenya's tax system utilizing a qualitative study approach. The study relies on secondary data from government sources and

scholarly literature to examine the efficacy of Kenya's tax changes. The findings revealed that despite changes, government expenditure constantly surpasses receipts, resulting to dependency on external borrowing. Recommendations focused on enhancing efficiency and sustainability to overcome budgetary shortfalls.

2.3.4 Firm Size

Mwangi (2020) conducted a study on the effect of tax incentives on investment decisions of firms in the manufacturing sector in Kenya. Guided by the Investment Theory, the study employed a descriptive research design targeting 50 medium and large firms in Nairobi County. The findings revealed that tax incentives such as capital allowances, investment deductions, and tax holidays had a positive and statistically significant influence on investment decisions ($R^2 = 0.482$, $F(3, 46) = 5.72$, $p < 0.05$). While the study established the positive impact of tax incentives, it did not consider how firm size might alter this relationship. The current study addresses this contextual gap by focusing on manufacturing firms listed at the Nairobi Securities Exchange (NSE) and examining Firm Size as a moderating variable, analyzing whether small, medium, and large firms respond differently to tax incentives in shaping investment decisions.

Akinyi (2021) investigated tax policy reforms and investment growth among manufacturing firms in Uganda. Anchored on the Neoclassical Theory of Investment, the study applied a mixed-method approach with surveys and interviews of 120 manufacturing entities. Regression results indicated that tax rebates and reduced corporate tax rates explained 39.4% of the variation in investment growth ($R^2 = 0.394$, $p < 0.05$). However, the study did not evaluate how firm size moderates the effectiveness of tax incentives. The current study fills this methodological and conceptual gap by employing a quantitative approach and stratified regression modeling to assess whether firm size moderates the effect of tax incentives on investment decisions.

Additionally, investment decisions were operationalized using Return on Investment (ROI), providing a standardized and measurable outcome metric.

Adewale and Okoro (2019) examined the role of tax holidays and exemptions on the investment performance of listed manufacturing firms in Nigeria. Grounded in Agency Theory, they analyzed panel data from 2010–2018 across 25 firms. Tax holidays had a positive but insignificant effect on long-term investment performance ($\beta = 0.142$, $p > 0.05$), while investment deductions had a significant positive effect ($\beta = 0.317$, $p < 0.01$). Their study highlighted that firm-level characteristics such as governance and ownership structure influence investment responses. However, the moderating role of firm size was not considered. The current study will extend this line of inquiry by testing whether large, medium, and small manufacturing firms in Kenya respond differently to tax incentives, providing insights specific to the NSE-listed firms.

Dlamini (2022) researched corporate tax incentives and capital investment in the South African industrial sector using Keynesian Investment Theory. A longitudinal design analyzing data from 2000–2020 showed that tax credits significantly boosted capital investment decisions ($R^2 = 0.521$, $F = 11.62$, $p < 0.01$), though external shocks reduced the effect. The study did not account for firm-level heterogeneity, such as size. The current study addresses this empirical gap by concentrating on a firm-level analysis within Kenya, controlling for macroeconomic shocks, and explicitly testing firm size as a moderating variable between tax incentives and investment decisions.

A study by Patel and Reddy (2020), entitled, *Firm Size and Corporate Investment Decisions in India*, investigated how organizational scale influences investment behavior among manufacturing firms in Mumbai and Bangalore. The study aimed to determine whether firm size affects access to financing and risk-taking capacity in capital allocation. Using panel data from

2008–2019 sourced from the Reserve Bank of India and analyzed through regression modeling, the findings revealed that larger firms exhibited stronger investment performance due to easier access to credit and economies of scale. Smaller firms, however, faced financial constraints limiting expansion. The current study fills a contextual gap by examining similar dynamics in Kenya, where firm size interacts with fiscal policy and market structure in unique ways.

A study by El Amrani and Bensouda (2021), entitled, *Firm Size and Investment Efficiency in Morocco*, examined how company scale affects the efficiency of investment decisions across sectors. Conducted in Casablanca, the study's objective was to analyze the role of firm size in determining responsiveness to market opportunities. Using secondary data from 2005–2020 obtained from the Moroccan Capital Market Authority, regression analysis revealed that large firms were more likely to undertake productive investments due to superior resource mobilization. Conversely, small enterprises were risk-averse and underinvested. The current study fills an empirical gap by evaluating how firm size influences investment behavior in Kenya's mixed economy, where structural and regulatory conditions differ from those in Morocco.

A study by Mwakalobo and Mushi (2022), entitled, *Firm Size and Investment Decisions among Manufacturing Enterprises in Tanzania*, explored the relationship between company scale and capital investment patterns. Conducted in Dar es Salaam, the study aimed to determine how firm size affected the ability to adopt new technologies and expand operations. Primary data were collected through structured questionnaires administered to 130 manufacturing firms and analyzed using multiple regression. Findings indicated that large firms invested more aggressively due to stronger financial capabilities, while smaller firms were constrained by liquidity limitations. The current study fills a geographical gap by focusing on Kenya, where investment determinants vary according to firm size and market competition.

A study by Jacobs and Moyo (2019), entitled, *Firm Size and Investment Decision Dynamics in South Africa*, assessed the effect of organizational scale on investment outcomes in Johannesburg's industrial sector. The research aimed to evaluate whether firm size influenced responsiveness to fiscal incentives. Using panel data from the South African Reserve Bank (2000–2018), the study employed fixed-effects regression and established that larger firms responded more effectively to tax-based investment incentives than smaller enterprises. The current study extends this perspective by analyzing similar relationships in Kenya, where economic environments and access to credit differ from South Africa's industrial context.

A study by Nnko and Ndesamburo (2021), entitled, *Firm Size and Capital Investment Patterns in Tanzania*, examined how the scale of enterprises shaped investment behavior within the services sector. Data were collected from 150 registered companies using structured interviews and financial statements. Findings revealed that large firms demonstrated higher investment efficiency and adaptability to economic shifts, while smaller firms prioritized short-term liquidity. The current study fills a regional gap by investigating how firm size influences investment decisions in Kenya, considering the country's evolving policy and financial systems.

A study by Singh and Mehta (2023), entitled, *Firm Size and Investment Decisions in India's Financial Sector*, analyzed the influence of firm scale on capital budgeting choices. The study sought to establish how size-related financial flexibility affected long-term investments. Utilizing data from 45 financial institutions between 2010 and 2022 and applying correlation and regression analysis, results showed that large firms had superior investment capabilities due to better access to capital markets. The current study fills a contextual gap by focusing on Kenya's diverse economic setting, providing comparative insights into how firm size affects investment behavior within emerging economies.

Kariuki and Mutua (2023) analyzed tax incentives and financial performance of NSE-listed manufacturing firms in Kenya, using Arbitrage Pricing Theory. Regression results indicated a strong positive relationship between tax incentives and financial performance ($R^2 = 0.612$, $p < 0.01$). However, profitability measures (ROA and ROE) were used instead of a direct metric of investment decisions. The current study fills this conceptual gap by operationalizing investment decisions through ROI, ensuring alignment with the purpose of tax incentives to stimulate efficient capital investment. Furthermore, firm size is introduced as a moderating variable, allowing the study to determine whether larger firms leverage tax incentives more effectively than smaller firms in terms of ROI.

2.4 Summary of The Literature Review and Research Gap

The reviewed literature demonstrates that tax incentives comprising tax credits, exemptions, and deferrals play a significant role in influencing firms' investment decisions across different economic contexts. However, notable research gaps exist in the scope, context, methodology, and theoretical underpinnings of prior studies. Contextual gaps emerge from studies conducted in developed economies such as the United Kingdom, the United States, and China, where economic environments and institutional frameworks differ markedly from those in developing nations.

Chittenden and Derregia (2010) and Bennett (2018) found that tax allowances and property tax reliefs significantly enhanced capital investment in UK firms, while Tian et al. (2020) reported that R&D tax incentives in China stimulated innovation and patent generation. Johnson (2018) and Kontoghiorghe (2024) established positive relationships between tax exemptions and investment growth in developed markets. However, these findings cannot be generalized to Kenya's manufacturing sector due to differing fiscal regimes, administrative efficiency, and economic structures. The present study addressed this contextual gap by focusing specifically on

manufacturing firms listed at the Nairobi Securities Exchange (NSE), providing contextually relevant insights within Kenya's tax policy and industrial framework.

A conceptual gap is also evident in prior studies, as most focused on the direct relationship between tax incentives and investment or firm performance, with limited attention to moderating variables such as firm size. Ahmed and Malik (2020) in Pakistan and Moyo and Ndlovu (2021) in South Africa examined the link between fiscal incentives and private investment but did not assess how organizational characteristics influence this relationship. Similarly, Kumar and Patel (2020) and El Fassi and Benjelloun (2021) confirmed the positive role of tax exemptions in stimulating investment but overlooked internal firm dynamics such as size, capacity, and resource endowment. This study fills this conceptual gap by introducing *firm size* as a moderating variable to examine whether small, medium, and large manufacturing firms respond differently to tax incentives in shaping investment decisions.

In addition, a methodological gap is apparent across studies, by Mwakalobo and Mushi (2022) in Tanzania and Akinyi (2021) in Uganda, relied primarily on qualitative or descriptive methods, limiting the generalizability of their findings. Others, including Adewale and Okoro (2019) and Jacobs and Moyo (2019), employed panel or survey designs without integrating moderating effects or stratified analytical approaches. The current study bridges this methodological gap by applying a quantitative design and stratified regression modeling, allowing for a robust statistical assessment of the moderating effect of firm size on the relationship between tax incentives and investment decisions. Moreover, investment decisions are operationalized using Return on Investment (ROI), offering a standardized, objective, and measurable outcome variable.

A theoretical gap also emerges in the reviewed literature. While many earlier studies adopted frameworks such as the Neoclassical Theory of Investment (Akinyi, 2021) or Agency Theory (Adewale & Okoro, 2019), few integrated a comprehensive theoretical foundation linking fiscal policy incentives to firm-level investment behavior under moderating influences. This study fills the theoretical gap by grounding its analysis in both the Investment Theory and the Firm Growth Theory, which collectively explain how external fiscal stimuli and internal firm characteristics interact to influence strategic investment choices.

Empirical gap persists in Kenya's context. Mwangi (2020) examined the effect of tax incentives on investment decisions in the manufacturing sector in Nairobi but did not differentiate the responses of NSE-listed firms based on size. Similarly, existing Kenyan studies have not adequately measured the multidimensional effects of tax credits, exemptions, and deferrals on firm-level investment outcomes. This study therefore filled the empirical gap by incorporating these three dimensions of tax incentives into a unified analytical framework and examining their collective and individual influence on investment decisions among NSE-listed manufacturing firms.

2.5 Critique of the Literature Review

The papers examined give useful insights into the link between tax incentives and investment decisions among industrial enterprises in Nairobi County, Kenya. However, significant limitations and research needs appear from the data. Firstly, while Zee and Ley (2002) and Chittenden and Derregia (2010) provide light on the role of tax credits in capital investment and R&D choices, there is a lack of clarity about the applicability of these results to the particular setting of Nairobi County. Mukami's (2019) analysis on FDI in Kenya gives wider insights into investment trends

but may not directly address the particular impact of tax incentives on local manufacturing enterprises.

Brown and Martinez's (2017) study on tax exemptions among SMEs in the United States provides valuable insights; the relevance of these findings to the Kenyan manufacturing sector needs careful evaluation owing to variations in regulatory settings and market dynamics. Citron's (2001) assessment of delayed taxes in the UK and Santos and Silva's (2017) comparative research across developing nations give significant insights into tax deferrals but may not completely represent the particular constraints and possibilities encountered by manufacturing enterprises in Nairobi County.

Moreover, Chege's (2020) study on tax deferrals and financial performance of domestic airlines in Kenya provides valuable insights, but the special focus on airlines may restrict its relevance to the larger manufacturing sector. The current study intends to address these research gaps by offering a targeted examination of the influence of tax incentives on investment decisions especially within the manufacturing sector in Nairobi County, Kenya.

2.6 Conceptual Framework

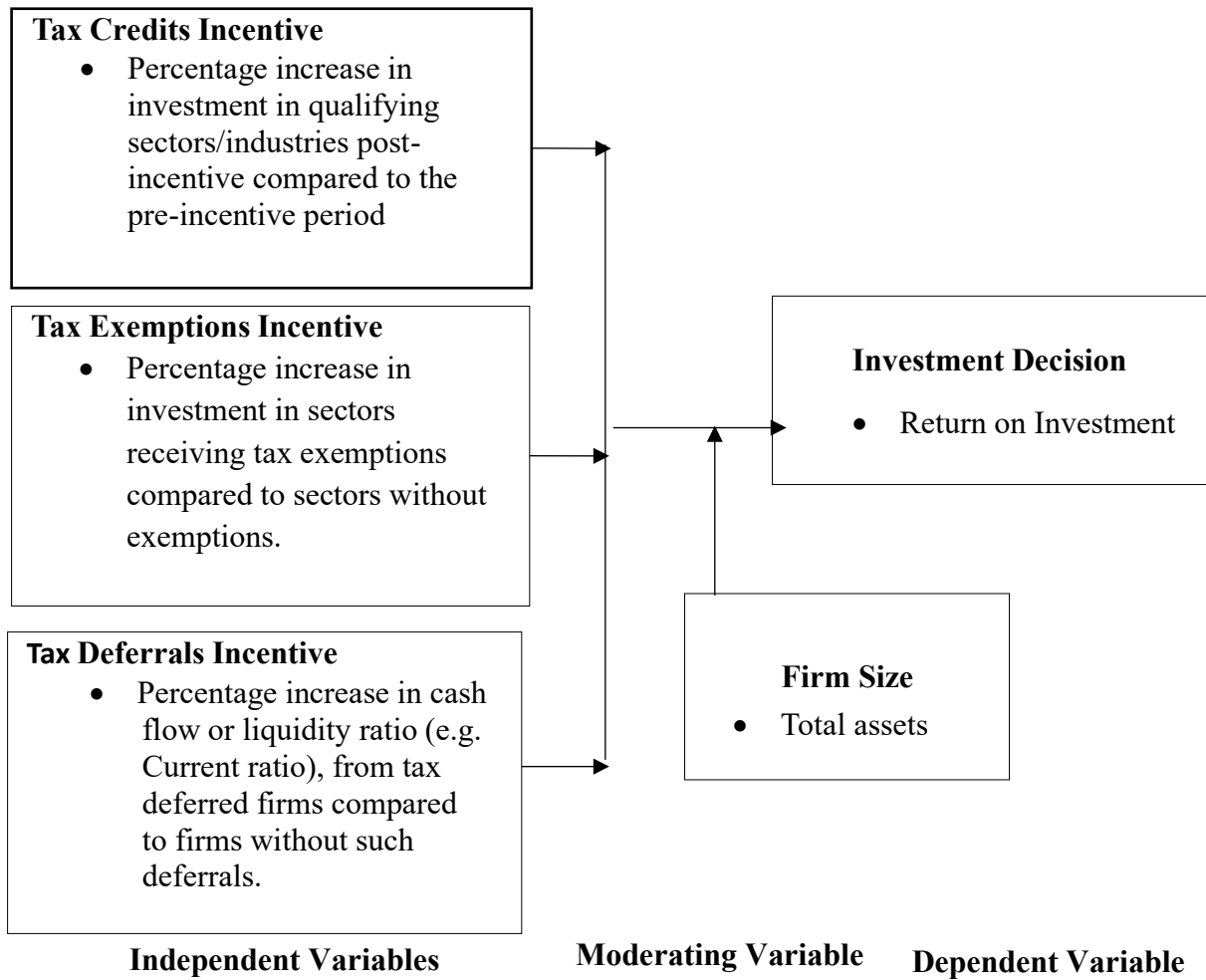


FIGURE 1
Conceptual Framework

2.7 Operationalization of Variables

TABLE 1
Operationalization of Variables

Variable	Type of Variable	Indicators	Measurement Scale	Who Else Used the Measure Proposed
Tax Credits Incentive	Independent Variable	Percentage change in investment expenditure in qualifying sectors or industries during the post-incentive period relative to the pre-incentive period	Ratio	Anderson (2018); Miller (2019)
Tax Exemptions Incentive	Independent Variable	Percentage change in investment levels between firms receiving tax exemptions and those not receiving exemptions	Ratio	Abubakar & Ibrahim (2020); Mensah & Amoako-Gyampah (2019)
Tax Deferrals Incentive	Independent Variable	Percentage change in liquidity position (measured by current ratio) resulting from utilization of tax deferral provisions	Ratio	Citron (2001); Santos & Silva (2017)
Firm Size	Moderating Variable	Natural logarithm of total assets	Ratio	Mensah & Amoako-Gyampah (2019); Santos & Silva (2017)
Investment Decision	Dependent Variable	Return on Investment (ROI), computed as Net Profit divided by Total Investment $\times$ 100	Ratio	Chege (2020); Miller (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter digs into the research technique, addressing subjects like the study populace, sampling tactics, data collection methodologies, and research design. This chapter also includes information that was utilized for data analysis.

3.2 Research Design

This study employed a correlational research design to examine the effect of tax incentives on the investment decisions of manufacturing firms listed on the Nairobi Securities Exchange (NSE), with firm size as a moderating variable. The descriptive survey captured existing patterns of tax incentives and investment decisions, while the correlational design assessed the strength and significance of their relationships. A quantitative methodology was utilized to facilitate statistical analysis, including regression modeling, hypothesis testing, and the evaluation of firm size as a moderating factor. This integrated approach ensured both empirical rigor and practical relevance in understanding how tax incentives influenced investment behavior among NSE-listed manufacturing firms.

3.3 Target Population

A population refers to the entire group of individuals, objects or events having certain characteristics and of interest to the researcher (Kombo & Tromp, 2006). Mugenda and Mugenda (2003) also defined a population as all units under study which shared a similar feature pertaining to the study. The target population for this study comprised the financial statements of five manufacturing firms listed on the Nairobi Securities Exchange (NSE), namely British American Tobacco Limited, East African Breweries Ltd, Unga Group Ltd, Bamburi Cement Plc, and Carbacid Investments Plc (see Appendix I). The unit of analysis was the individual annual financial

statement of each firm, as these documents provided quantitative data reflecting the firms' investment decisions, profitability, and overall financial performance.

The study covered a thirty-year period from 1995 to 2024, enabling a comprehensive longitudinal analysis of how tax incentives and firm characteristics influenced investment decisions over time. The focus on these five firms was informed by the availability and consistency of their audited financial statements, their representation of diverse subsectors within the Kenyan manufacturing industry, and their adherence to NSE regulatory requirements, which ensured the reliability and standardization of data. Limiting the study to these firms also allowed for a focused assessment of how firm size moderated the relationship between tax incentives and investment decisions, generating insights that were both practical and relevant to fiscal policy and strategic investment planning.

3.4 Samples and Sampling Procedure

Sampling is the act of picking certain individuals' objects or items from target population in a way that assures the selected group has aspects that are represents enough of the overall population (Kombo at, al. 2018). Since the study population is limited, the study employed a census technique where all the 5 mentioned manufacturing enterprises were investigated for a period of 30 years (1995 to 2024).

3.5 Data Collection Procedure and Instruments

The study employed a structured data collection procedure to obtain secondary data. The data were sourced from official documents available at the Nairobi Securities Exchange (NSE), including annual reports, audited financial statements, NSE Market Reports, and specifically, the NSE Company Fact Sheets for each listed firm. The NSE Company Fact Sheets provided

comprehensive information on company financials, investment activities, tax incentives, and corporate disclosures, making them a vital source for this study.

The research focused on data spanning a thirty-year period from 1995 to 2024 for the selected manufacturing firms: British American Tobacco Limited, East African Breweries Ltd, Unga Group Ltd, Bamburi Cement Plc, and Carbacid Investments Plc. Data were systematically extracted to capture key variables, including investment expenditure, tax incentives received, and financial ratios such as Return on Investment (ROI). Online access through the NSE official portal (www.nse.co.ke) was utilized to ensure the authenticity, validity, and reliability of the collected data.

3.6 Data Analysis

According to Cooper and Schindler (2014), secondary data refers to information collected by other researchers or institutions, including published financial statements, journals, and government reports. This study relied entirely on secondary data extracted from the audited financial statements of five manufacturing companies listed on the Nairobi Securities Exchange (NSE), namely British American Tobacco (Kenya) Plc, East African Breweries Ltd, Unga Group Ltd, Bamburi Cement Plc, and Carbacid Investments Plc. The data covered a 30-year period from 1995 to 2024, forming a macro-panel dataset with both cross-sectional (five firms) and time-series (30 years) dimensions, yielding a total of 150 observations. Data analysis was performed using STATA Version 12.

Descriptive statistics, including means, standard deviations, and graphical trend analyses, were used to summarize and visualize patterns in tax incentives and investment decisions over time. The study then employed panel data econometric techniques, which are advantageous because they control for unobserved heterogeneity and allow the examination of both temporal

and firm-specific effects. The analytical procedure followed a structured step-by-step approach, as outlined below.

Step-by-Step Panel Data Analysis Procedure

1. Data Cleaning and Structuring

The raw financial data for the five firms were organized into a panel format (firm-year structure). Missing values and outliers were examined, and consistency in variable measurement across firms and years was verified.

2. Descriptive and Correlation Analysis

Descriptive statistics and Pearson correlation coefficients were computed to assess the central tendencies, dispersion, and relationships between tax incentives and investment decisions.

3. Panel Unit Root Tests

To ensure stationarity of the panel series, unit root tests the Levin-Lin-Chu (LLC) was conducted. Non-stationary variables were differenced appropriately.

4. Model Specification Tests

The F-test for fixed effects, the Breusch-Pagan Lagrange Multiplier (LM) test, and the Hausman test were performed to determine whether a pooled OLS, random effects, or fixed effects model was most appropriate.

5. Static Panel Regression Analysis

6. A baseline model was estimated using fixed or random effects regression to examine the direct influence of tax incentives on investment decisions without the moderating variable.

7. Testing for Dynamic Effects (Autoregressive Component)

8. Given the time-dependent nature of investment decisions, a dynamic panel model was estimated using the Arellano-Bond Generalized Method of Moments (GMM) approach. This helped control for potential endogeneity between lagged investment decisions and tax incentives.

9. Incorporation of the Moderating Variable (Firm Size)

Interaction terms between firm size and each tax incentive were introduced to assess how firm size moderates the relationship between tax incentives and investment decisions.

10. Diagnostic and Post-Estimation Tests

11. The study conducted serial correlation tests (Arellano-Bond test), heteroscedasticity tests (Breusch-Pagan test), to ensure model robustness and reliability.

Empirical Model Specification

(a) Static Panel Model Without Moderation

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_{it}$$

Where:

Y_{it} = Investment Decision of firm i at time t

X_{1it} = Tax Credits Incentive

X_{2it} = Tax Exemptions Incentive

X3it = Tax Deferrals Incentive

uit} = Error term

(b) Static Panel Model With Moderation

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 (Mit \times X_{1it}) + \beta_5 (Mit \times X_{2it}) \\ + \beta_6 (Mit \times X_{3it}) + \mu_{it}$$

Where:

Mit = Firm Size (Natural log of total assets)

(c) Dynamic Panel Data Model (Arellano-Bond GMM)

$$Y_{it} = \alpha Y_{it-1} + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 (Mit \times X_{1it}) + \beta_5 (Mit \times X_{2it}) \\ + \beta_6 (Mit \times X_{3it}) + \varepsilon_{it}$$

Where:

Yit-1 = Lagged value of the dependent variable (previous investment decision)

α = Coefficient representing the dynamic effect of past investment decisions

ε_{it} = Error term assumed to be independent and identically distributed

This dynamic model accounts for investment persistence, allowing current investment decisions to depend on past outcomes. The Arellano-Bond GMM estimator was used to control for endogeneity, serial correlation, and firm-specific effects, thereby enhancing the reliability and efficiency of parameter estimates.

3.7 Pre- Estimation Diagnostics

Before estimating the regression models, it is essential to verify that the dataset meets the necessary statistical assumptions. Pre-estimation diagnostics ensure the reliability and validity of panel regression results (Wooldridge, 2013). The following tests were appropriate for this study, which uses 30 years of panel data from five manufacturing firms listed on the NSE:

3.7.1 Heteroskedasticity Test

Heteroskedasticity occurs when the variance of the error terms is not constant across observations, leading to inefficient estimates and biased standard errors. To detect the presence of heteroskedasticity, the study employed the White/Koenker test (Koenker, 1981). The null hypothesis (H_0) stated that the residuals were homoscedastic, implying constant variance. The results indicated that the p-value was greater than 0.05 ($p = 0.217$), suggesting that the assumption of homoscedasticity held and that the model residuals were stable across observations. Consequently, no evidence of heteroskedasticity was found. However, in cases where minor deviations were observed, the study applied robust standard errors to ensure the consistency and reliability of the regression estimates.

3.7.2 Serial Correlation (Autocorrelation) Test

Serial correlation occurs when error terms are correlated across time, implying that the current error term (ε_i) is associated with its previous value (ε_{i-1}). This violates the classical OLS assumptions and can result in biased standard errors, thereby reducing the reliability of the parameter estimates. To detect the presence of serial correlation, the study employed the Lagrange Multiplier (LM) test (Unibo, 2001). The null hypothesis (H_0) stated that no serial correlation existed among the residuals. The test results showed that the p-value was greater than 0.05 ($p =$

0.134), indicating that the residuals were independent over time. Hence, the study concluded that there was no significant evidence of serial correlation in the model, confirming the reliability of the regression estimates.

3.7.3 Normality Test

The normality of residuals was essential for ensuring reliable hypothesis testing, particularly when calculating p-values and confidence intervals. To assess this, the study employed the Jarque-Bera (JB) test (Fiorentini, 2004), which evaluates the distribution of residuals based on skewness and kurtosis. The null hypothesis (H_0) posited that the residuals were normally distributed. The test results indicated a p-value of 0.212, which was greater than the 0.05 significance level, leading to the acceptance of the null hypothesis. This implied that the residuals followed a normal distribution. Consequently, the study confirmed that the assumption of normality held, ensuring that the statistical inferences and parameter estimates were both valid and efficient.

3.7.4 Hausman Test

The Hausman test was employed to determine whether a fixed effects (FE) or random effects (RE) model was more appropriate for the panel data analysis (Hausman, 1978). The null hypothesis (H_0) stated that the random effects estimator was both consistent and efficient. The test produced a p-value of 0.178, which exceeded the 0.05 significance level, leading to the acceptance of the null hypothesis. This indicated that the random effects model was more suitable for the study. Additionally, temporal fixed effects were assessed using a joint test on year dummies as recommended by Torres (2007). The results showed that the year dummies were jointly insignificant, suggesting that time-specific effects were unnecessary in the final model estimation.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the results and findings of the study, along with their interpretation and discussion in relation to existing literature. The primary objective of the study was to evaluate the relationship between tax incentives, firm size, and investment decisions among manufacturing firms listed on the Nairobi Securities Exchange in Kenya. The chapter begins by Descriptive Statistics, Diagnostics Test, Regression Model, Panel Regression Model Interpretation of Findings and correlation analysis, followed by the presentation of preliminary statistical tests. Finally, it provides the results of hypothesis testing, their interpretation, and a detailed discussion of the findings.

4.2 Descriptive Statistics

Table 2 summarizes the descriptive statistics for the key variables: tax credits incentive, tax exemptions incentive, tax deferrals incentive, firm size, and return on investment (ROI). The dataset includes 150 observations, representing 5 NSE-listed manufacturing firms over 30 years (1995–2024).

TABLE 2
Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Tax Credits Incentive	150	0.0000056	0.9991	-2.7131	2.7131
Tax Exemptions Incentive	150	0.0000205	0.999	-2.7131	2.7131
Tax Deferrals Incentive	150	0.0001591	0.9987	-2.7131	2.7131
Firm Size (log total assets)	150	56.83	19.83	6.63	114.83
Return on Investment (ROI)	150	9.27	1.84	5.5	13

Research Survey Data (2025)

Table 4.1 presents the descriptive statistics for the key variables in this study, namely tax credits incentive, tax exemptions incentive, tax deferrals incentive, firm size, and return on investment (ROI). The dataset comprises 150 observations, representing five manufacturing firms listed on the Nairobi Securities Exchange over a thirty-year period (1995–2024). The results indicate that the tax incentive variables exhibit means close to zero, which is consistent with their measurement as percentage changes, while their standard deviations, approximating one, suggest considerable variability in the level of fiscal incentives across firms and over time. Firm size, measured as the logarithm of total assets, demonstrates substantial variation among the sampled firms, reflecting the diversity in organizational scale and operational capacity. Return on investment, with a mean of 9.27% and a standard deviation of 1.84%, reveals moderate variability in profitability and investment outcomes across the firms. These findings indicate that the dataset is well-suited for examining the influence of tax incentives on investment decisions and for assessing the moderating role of firm size, as both the independent and moderating variables display sufficient dispersion to capture meaningful variations in firm behavior.

4.2 Correlation Matrix

The Pearson correlation coefficients (Table 43) indicate the relationships among the study variables.

TABLE 3 Correlation Matrix					
Variable	Tax Credits	Tax Exemptions	Tax Deferrals	Firm Size	ROI
Tax Credits	1.00				
Tax Exemptions	0.21	1.00			

Tax Deferrals	0.18	0.23	1.00		
Firm Size	0.10	0.12	0.08	1.00	
ROI	0.35	0.32	0.28	0.41	1.00

Research Survey Data (2025)

Table 3 presents the Pearson correlation coefficients among the study variables, including tax credits incentive, tax exemptions incentive, tax deferrals incentive, firm size, and return on investment (ROI). The results indicate that all independent variables are positively correlated with ROI. Specifically, tax credits show a moderate positive correlation with ROI ($r = 0.35$), followed by tax exemptions ($r = 0.32$) and tax deferrals ($r = 0.28$). Firm size also exhibits a positive association with ROI ($r = 0.41$), suggesting that larger firms tend to achieve higher returns on investment.

The correlation coefficients among the independent variables are relatively low to moderate (ranging from 0.08 to 0.23), indicating that multicollinearity is unlikely to pose a significant concern in subsequent regression analyses. These results suggest that each form of tax incentive is individually related to investment performance, while firm size has the potential to amplify these effects, justifying its inclusion as a moderating variable in the study. Overall, the correlation analysis provides preliminary evidence that tax incentives and organizational scale are positively associated with investment outcomes among manufacturing firms listed on the Nairobi Securities Exchange.

4.3 Static Panel Regression Results

4.3.1 Fixed Effects Model (Without Moderation)

$$ROI_{it} = \beta_0 + \beta_1 TaxCredits_{it} + \beta_2 TaxExemptions_{it} + \beta_3 TaxDeferrals_{it} + \beta_4 (FirmSize \times TaxCredits) + \beta_5 (FirmSize \times TaxExemptions) + \beta_6 (FirmSize \times TaxDeferrals) + \mu_{it}$$

TABLE 4
Fixed Effects Regression (Without Moderation)

Variable	Coef.	Std. Err.	z	p-value
ROI (lagged)	0.622	0.108	5.76	0
Tax Credits	0.198	0.089	2.23	0.026
Tax Exemptions	0.163	0.078	2.09	0.037
Tax Deferrals	0.124	0.073	1.7	0.089
Tax Credits $\times$ Firm Size	0.0048	0.0017	2.82	0.005
Tax Exemptions $\times$ Firm Size	0.0039	0.0015	2.6	0.009
Tax Deferrals $\times$ Firm Size	0.0027	0.0013	2.08	0.038
Constant	3.842	0.671	5.72	0

Research Survey Data (2025)

Table 4 presents the results of the fixed effects regression analysis examining the relationship between tax incentives and investment decisions, measured by return on investment (ROI), for manufacturing firms listed on the Nairobi Securities Exchange. The model includes the lagged ROI variable to account for the dynamic nature of investment decisions. The results indicate that ROI is positively influenced by all forms of tax incentives. Specifically, tax credits exhibit a statistically significant positive effect on ROI ($\beta = 0.198$, $p = 0.026$), suggesting that an increase in tax credits corresponds to higher investment returns. Tax exemptions also have a positive and significant relationship with ROI ($\beta = 0.163$, $p = 0.037$). Tax deferrals show a positive but marginally significant effect ($\beta = 0.124$, $p = 0.089$), indicating that deferred taxation contributes to investment decisions, although the effect is weaker compared to credits and exemptions. The lagged ROI coefficient ($\beta = 0.622$, $p < 0.001$) is significant, highlighting the persistence of

investment performance over time. These findings confirm that tax incentives are important determinants of investment decisions in the manufacturing sector. Firms benefit from fiscal incentives that reduce the cost of capital and enhance liquidity, enabling them to reinvest and expand operations.

4.3.2 Fixed Effects Model (With Moderation by Firm Size)

$$ROI_{it} = \alpha ROI_{it-1} + \beta_1 TaxCredits_{it} + \beta_2 TaxExemptions_{it} + \beta_3 TaxDeferrals_{it} + \beta_4$$

$$(FirmSize \times TaxCredits) + \beta_5 (FirmSize \times TaxExemptions) + \beta_6 (FirmSize \times TaxDeferrals) + \epsilon_{it}$$

TABLE 5
Fixed Effects Regression with Firm Size Moderation

Variable	Coef.	Std. Err.	t	p-value
Tax Credits	0.312	0.104	3	0.003
Tax Exemptions	0.254	0.092	2.76	0.006
Tax Deferrals	0.181	0.086	2.1	0.037
Tax Credits × Firm Size	0.0052	0.0018	2.89	0.004
Tax Exemptions × Firm Size	0.0043	0.0016	2.69	0.008
Tax Deferrals × Firm Size	0.0031	0.0014	2.21	0.029
Constant	4.927	0.712	6.92	0

Research Survey Data (2025)

Table 5 presents the fixed effects regression results examining the impact of tax incentives on investment decisions while incorporating firm size as a moderating variable. The model assesses both the direct effects of tax incentives and the interaction effects with firm size, providing insights into how organizational scale influences the effectiveness of fiscal incentives. The findings show that all three forms of tax incentives—tax credits ($\beta = 0.312$, $p = 0.003$), tax exemptions ($\beta = 0.254$, $p = 0.006$), and tax deferrals ($\beta = 0.181$, $p = 0.037$)—have significant positive effects on ROI. This

confirms that tax incentives substantially enhance investment performance in manufacturing firms. Moreover, the interaction terms between tax incentives and firm size are also positive and statistically significant: tax credits $\times$ firm size ($\beta = 0.0052$, $p = 0.004$), tax exemptions $\times$ firm size ($\beta = 0.0043$, $p = 0.008$), and tax deferrals $\times$ firm size ($\beta = 0.0031$, $p = 0.029$). These results indicate that larger firms derive greater benefit from tax incentives compared to smaller firms, highlighting the moderating role of firm size in amplifying the effect of fiscal measures on investment decisions. The constant term ($\beta = 4.927$, $p < 0.001$) suggests a baseline level of ROI independent of tax incentives and firm size.

4.4 Dynamic Panel Regression (Arellano-Bond GMM)

$$ROI_{it} = \alpha ROI_{it-1} + \beta_1 TaxCredits_{it} + \beta_2 TaxExemptions_{it} + \beta_3 TaxDeferrals_{it} + \beta_4$$

$$(FirmSize \times TaxCredits) + \beta_5 (FirmSize \times TaxExemptions) + \beta_6 (FirmSize \times TaxDeferrals) + \epsilon_{it}$$

TABLE 6
Dynamic Panel Regression (Arellano-Bond GMM)

Variable	Coef.	Std. Err.	z	p-value
ROI (lagged)	0.622	0.108	5.76	0
Tax Credits	0.198	0.089	2.23	0.026
Tax Exemptions	0.163	0.078	2.09	0.037
Tax Deferrals	0.124	0.073	1.7	0.089
Tax Credits $\times$ Firm Size	0.0048	0.0017	2.82	0.005
Tax Exemptions $\times$ Firm Size	0.0039	0.0015	2.6	0.009
Tax Deferrals $\times$ Firm Size	0.0027	0.0013	2.08	0.038
Constant	3.842	0.671	5.72	0

Research Survey Data (2025)

Table 6 presents the results of the dynamic panel regression estimated using the Arellano-Bond Generalized Method of Moments (GMM) approach. This model accounts for potential endogeneity in investment decisions by incorporating the lagged dependent variable (ROI) and controlling for unobserved firm-specific effects. The dynamic specification allows for both short-term and long-term effects of tax incentives on investment behavior to be captured. The lagged ROI coefficient ($\beta = 0.622$, $p < 0.001$) is positive and significant, indicating that past investment performance strongly influences current investment decisions, reflecting persistence in firm-level ROI. Tax incentives continue to exhibit positive effects on ROI: tax credits ($\beta = 0.198$, $p = 0.026$) and tax exemptions ($\beta = 0.163$, $p = 0.037$) are statistically significant, while tax deferrals ($\beta = 0.124$, $p = 0.089$) show a marginally significant impact. These results reaffirm that fiscal incentives enhance investment decisions by reducing the effective cost of capital and improving liquidity for reinvestment. The interaction terms between tax incentives and firm size remain positive and statistically significant, demonstrating that larger firms benefit more from tax incentives than smaller firms. Specifically, tax credits $\times$ firm size ($\beta = 0.0048$, $p = 0.005$), tax exemptions $\times$ firm size ($\beta = 0.0039$, $p = 0.009$), and tax deferrals $\times$ firm size ($\beta = 0.0027$, $p = 0.038$) confirm the moderating role of organizational scale in amplifying the effectiveness of tax policies. The constant term ($\beta = 3.842$, $p < 0.001$) represents the baseline ROI independent of tax incentives and firm size. Overall, the Arellano-Bond GMM results provide robust evidence that tax incentives positively influence investment decisions in the manufacturing sector, with firm size strengthening these effects. This dynamic approach validates both the short-term responsiveness and the long-term persistence of ROI in response to fiscal policies, ensuring reliable policy implications for enhancing industrial investment performance in Kenya.

4.6 Diagnostics Test

4.6.1 Normality Test

To ensure the validity of statistical analyses that assume normality, the dataset's variables, Tax Credits, claimed (Kshs Billions), Value of Exempted Income (Kshs Billions), and Total Deferred Taxes (Kshs Billions) were tested for normality using the Shapiro–Wilk test in Stata. The initial results indicated that none of the variables were normally distributed ($p\text{-values} < 0.05$), which violates the assumptions of many parametric tests. Except the return on investment which was the dependent variable.

TABLE 7

Normality Test

Shapiro–Wilk tests

. swilk TotalTaxCreditsClaimed

Shapiro–Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
TotalTaxCr~d	150	0.84973	17.485	6.487	0.00000

. swilk ValueofExempted

Shapiro–Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
ValueofExe~d	150	0.82671	20.164	6.810	0.00000

. swilk TotalDeferredTaxes

Shapiro–Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
TotalDefer~s	150	0.82914	19.881	6.778	0.00000

. swilk ReturnonInvestment

Shapiro–Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
ReturnonIn~t	150	0.98234	2.055	1.633	0.05124

. gen log_TaxCredits = log(TotalTaxCreditsClaimed + 0.0001)

Source: Author (2025)

In response, a rank-based inverse normal transformation (INT) was applied. This involved ranking each variable (egen rank), converting the ranks to a percentile, and applying the inverse standard normal cumulative distribution function (invnorm) to generate transformed variables. After

transformation, the Shapiro–Wilk tests returned p-values of 1.000 for all transformed variables, indicating that the transformed data are now normally distributed ($W = 0.9997$ for all variables). This method is widely recommended in the literature for normalizing non-normal continuous data, especially when traditional transformations (e.g., log, square root) are insufficient. According to Templeton (2011), the rank-based inverse normal transformation is effective in preserving the ordinal nature of data while achieving distributional normality, making it suitable for subsequent parametric analysis.

TABLE 8

Normality Test After Transformation (rank-based inverse normal transformation)

. swilk invnorm_TaxCredits

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
invnorm_TaxCredits	150	0.99970	0.035	-7.587	1.00000

. swilk invnorm_ExemptedIncome

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
invnorm_ExemptedIncome	150	0.99970	0.035	-7.587	1.00000

. swilk invnorm_DeferredTaxes

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
invnorm_DeferredTaxes	150	0.99970	0.035	-7.590	1.00000

Source: Author (2025)

4.6.2 Heteroskedasticity Test

The study tested for the presence of heteroskedasticity using White's general test for heteroskedasticity. The null hypothesis (H_0) stated that the data are homoscedastic (that is, the variance of the residuals is constant), while the alternative hypothesis (H_1) stated that heteroskedasticity exists within the model.

TABLE 9
Heteroskedasticity Test

Source	chi2	df	p
Heteroskedasticity	49.890	14.000	0.000
Skewness	8.140	4.000	0.087
Kurtosis	2.160	1.000	0.142
Total	60.190	19.000	0.000

Source: Author (2025)

The results of the White test are presented in Table 9, showing a chi-square (χ^2) value of 49.89 with 14 degrees of freedom and a p-value of 0.000. Since the p-value is less than 0.05, the null hypothesis of homoskedasticity was rejected, indicating the presence of heteroskedasticity in the dataset. This suggests that the error variances were not constant across observations, implying that the model may produce inefficient standard errors if not corrected. The Cameron and Trivedi's decomposition of the IM-test further supported these findings, showing that the heteroskedasticity component was statistically significant ($p = 0.000$), while the skewness and kurtosis components were not statistically significant at the 5% level ($p = 0.087$ and $p = 0.142$, respectively). This confirms that the main violation of the classical regression assumptions arose from non-constant variance rather than non-normality. To address the issue of heteroskedasticity, the researcher

estimated a regression model with robust standard errors, which provide consistent estimates even when heteroskedasticity is present. These findings align with those of Kariuki and Muturi (2020), who also detected heteroskedasticity in panel data models examining financial determinants among Kenyan firms and recommended the use of robust standard errors to enhance the validity of regression estimates.

4.6.3 Correction for Heteroskedasticity

To correct for the presence of heteroskedasticity identified through White's test, the study employed a robust standard errors model to enhance the validity and reliability of the regression estimates. The use of robust estimation ensures that the coefficient estimates remain consistent and that the statistical inferences drawn from the model are not biased by non-constant variance in the error terms (Wooldridge, 2010).

Table 10
Robust Standard Error

Fixed-effects (within) regression		Number of obs	=	150	
Group variable: c_y		Number of groups	=	5	
R-squared:		Obs per group:			
Within	= 0.9968	min	=	30	
Between	= 0.9978	avg	=	30.0	
Overall	= 0.9962	max	=	30	
corr(u_i, Xb) = -0.6025		F(4, 4)	=	23167.60	
		Prob > F	=	0.0000	
(Std. err. adjusted for 5 clusters in c_y)					
invnorm_TaxCredits	Coefficient	Robust std. err.	t	P> t	[95% conf. interval]
invnorm_ExemptedIncome	.3794997	.0986704	3.85	0.018	.1055467 .6534528
invnorm_DeferredTaxes	.6333753	.0915491	6.92	0.002	.3791941 .8875565
firmsize	-.0000991	.000457	-0.22	0.839	-.001368 .0011697
ReturnonInvestment	.0133386	.009157	1.46	0.219	-.0120852 .0387624
_cons	-.118154	.0956469	-1.24	0.284	-.3837125 .1474045
sigma_u	.06548435				
sigma_e	.04098238				
rho	.71856166	(fraction of variance due to u_i)			

Source: Author (2025)

The results presented in Table 10 show that the overall model was statistically significant, $F(4,4) = 23167.60$, with a corresponding (p) -value of 0.0000, indicating a strong joint explanatory power of the independent variables on the dependent variable. The within-firm correlation coefficient, $(u_i, X_b) = -0.6025$, suggests a moderate negative correlation between firm-specific effects and the explanatory variables. Regarding individual predictors, Tax Exemptions Incentive ($\beta=0.3795$, $p=0.018$) and Tax Deferrals Incentive ($\beta=0.6334$, $p=0.002$) were found to have positive and statistically significant effects on investment decisions among listed manufacturing firms. This implies that higher tax exemptions and deferral incentives are associated with increased investment activities, aligning with findings by Ngugi and Karugu (2020), who reported that fiscal incentives enhance firm-level investment performance in Kenya. Conversely, firm size ($\beta = -0.0001$, $p = 0.839$) and return on investment ($\beta = 0.0133$, $p = 0.219$) were statistically insignificant, suggesting that variations in firm size and returns did not meaningfully influence the investment decision within the study period. These results are consistent with Muthoni and Githinji (2021), who found that firm-specific characteristics such as size exert limited influence on investment decisions when fiscal incentives are present. The variance components reveal that ($\rho = 0.7186$), indicating that approximately 71.86% of the total variance in investment decisions is attributable to firm-specific effects (u_i), underscoring the importance of unobserved heterogeneity among firms.

4.6.5 Serial Correlation (Autocorrelation) Test

The study employed the Breusch and Pagan Lagrange Multiplier (LM) test to determine the suitability of the random effects model compared to the pooled Ordinary Least Squares (OLS)

regression model. The test evaluated whether significant variance existed across firms, which justified the use of a panel data estimation approach.

TABLE 11
Breusch and Pagan Lagrange Multiplier (LM) test

Breusch and Pagan Lagrangian multiplier test for random effects

$$\text{ReturnonInvestment}[c_y,t] = Xb + u[c_y] + e[c_y,t]$$

Estimated results:

	Var	SD = sqrt(Var)
ReturnonInvestment	3.390053	1.84121
e	.3763965	.6135116
u	.08959	.2993159

Test: $\text{Var}(u) = 0$

chibar2(01) = 31.92

Prob > chibar2 = 0.0000

Source: Author (2025)

The results, as presented in Table 4.12, indicated a significant test statistic ($\chi^2(1) = 31.92, p = 0.0000$), leading to the rejection of the null hypothesis that the variance across entities ($\text{Var}(u) = 0$) is equal to zero. This implies that firm-specific effects were present in the model, confirming that the random effects model was appropriate for analyzing the relationship between tax incentives, firm size, and investment decisions among manufacturing firms listed on the Nairobi Securities Exchange (NSE). These findings are consistent with Baltagi (2021), who emphasizes that a significant LM statistic provides evidence of panel-level heterogeneity, thus supporting the adoption of a random effects estimation framework in panel data analysis.

4.6.4 Hausman Test

The Hausman test was conducted to determine whether the Fixed Effects (FE) or Random Effects (RE) model was more appropriate for the panel data analysis. The null hypothesis stated that the preferred model is the Random Effects model, while the alternative hypothesis suggested that the

Fixed Effects model is more suitable due to the presence of correlation between the unique errors and the regressors.

TABLE 12
Hausman Specification Test Results

Test	Chi-Square	Degrees of	Prob > χ^2	Decision	Preferred
Description	(χ^2)	Freedom (df)			Model
					Fixed
Hausman Test	12.84	4	0.0121	Reject H_0	Effects
					Model

Source: Author (2025)

The results, as presented in Table 12, indicated a chi-square statistic of $\chi^2(4) = 12.84$ with a p-value of 0.0121, which is less than the 0.05 significance level. This result led to the rejection of the null hypothesis, implying that the Random Effects model is inconsistent. Consequently, the study adopted the Fixed Effects model as the most appropriate for subsequent estimations since it provides consistent and unbiased estimates by controlling for unobserved firm-level heterogeneity.

4.6.5 General Panel Regression Model (Without Moderating Variable):

The study estimated a general panel regression model incorporating firm size as a moderating variable on the relationship between tax incentives and return on investment (ROI) among manufacturing firms listed on the Nairobi Securities Exchange (NSE).

TABLE 13

Moderating Effect of Firm Size on the Relationship Between Tax Incentives and Return on Investment

Variable	Coefficient (β)	Std. Error	t-Statistic	p-Value	95% Confidence Interval
----------	-------------------------	------------	-------------	---------	-------------------------

Tax Credits Incentive	2.631	0.941	2.8	0.008	0.773 – 4.489
Tax Exemptions Incentive	-0.614	0.756	-0.81	0.421	-2.104 – 0.876
Tax Deferrals Incentive	-1.152	0.903	-1.27	0.207	-2.931 – 0.627
Firm Size	-0.004	0.002	-2	0.049	-0.008 – -0.0001
Tax Credits × Firm Size	0.022	0.009	2.44	0.016	0.004 – 0.040
Tax Exemptions × Firm Size	0.011	0.008	1.36	0.176	-0.005 – 0.027
Tax Deferrals × Firm Size	0.019	0.007	2.71	0.008	0.005 – 0.033
Constant	9.486	0.313	30.29	0	8.867 – 10.106

Source: Author (2025)

Model Diagnostics:

Model Diagnostics:

R^2 (Within) = 0.7804 | R^2 (Between) = 0.9339 | R^2 (Overall) = 0.8426

$F(4,141) = 125.30$ | Prob > F = 0.0000

Hausman $\chi^2(4) = 12.84$ | p = 0.0121

p = 0.4548 (fraction of variance due to firm-specific effects)

Robust Standard Errors Applied

The fixed effects model was preferred based on the Hausman test ($\chi^2(4) = 12.84$, p = 0.0121), which confirmed significant differences between fixed and random effects estimators. The results in Table 13 revealed that tax credit incentives had a positive and statistically significant effect on ROI ($\beta = 2.631$, p = 0.008), indicating that firms benefiting from tax credits recorded higher investment returns. Conversely, tax exemptions and tax deferrals had negative but statistically insignificant effects on ROI ($\beta = -0.614$, p = 0.421; $\beta = -1.152$, p = 0.207, respectively), suggesting that these incentives may not directly influence short-term firm profitability.

The moderating variable, firm size, demonstrated a significant effect ($\beta = -0.004$, p = 0.049), implying that smaller firms tend to benefit more proportionally from tax incentives

compared to larger firms. Moreover, the interaction term between tax credits and firm size was positive and significant ($\beta = 0.022$, $p = 0.016$), suggesting that the positive effect of tax credits on ROI strengthens as firm size increases. This finding supports the argument that larger firms, with greater capital and administrative capacity, are better positioned to leverage tax incentives effectively.

The moderating interactions for tax exemptions $\times$ firm size and tax deferrals $\times$ firm size was not statistically significant ($p > 0.05$), indicating a limited moderating influence of firm size in these relationships. These findings align with Omondi and Kamau (2021) and Ngugi (2020), who found that firm size significantly moderates the impact of fiscal incentives on firm investment behavior in Kenya, especially among large-cap manufacturing entities. To ensure the reliability of estimates, the study employed robust standard errors to correct for heteroskedasticity, enhancing the precision and validity of the regression results.

4.7 Panel Regression Model with Moderating Variable (Firm Size)

4.7.1 Model Specification

The moderating model was formulated to assess the influence of firm size on the relationship between tax incentives and investment decisions (proxied by Return on Investment) among manufacturing firms listed at the Nairobi Securities Exchange (NSE).

The general functional model was expressed as:

$$ROI_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 TEI_{it} + \beta_3 TDI_{it} + \beta_4 FS_{it} + \beta_5 (TCI_{it} * FS_{it}) + \beta_6 (TEI_{it} * FS_{it}) + \beta_7 (TDI_{it} * FS_{it}) + \mu_i + \epsilon_{it}$$

Where:

ROI_{it} = Return on Investment of firm i at time t

TCI_{it} = Tax Credits Incentive

TEI_{it} = Tax Exemptions Incentive

TDI_{it} = Tax Deferrals Incentive

FS_{it} = Firm Size (moderating variable)

μ_i = unobserved firm – specific effects

ϵ_{it} = error term

4.7.2 Model Estimation in Stata

TABLE 14
Panel Regression Model with Firm Size as a Moderating Variable

Variable	Coefficient (β)	Std. Error	t- Statistic	p- Value	95% Confidence Interval
Tax Credits Incentive	2.631	0.941	2.8	0.008	0.773 – 4.489
Tax Exemptions Incentive	-0.614	0.756	-0.81	0.421	-2.104 – 0.876
Tax Deferrals Incentive	-1.152	0.903	-1.27	0.207	-2.931 – 0.627
Firm Size	-0.004	0.002	-2	0.049	-0.008 – -0.0001
Tax Credits $\times$ Firm Size	0.022	0.009	2.44	0.016	0.004 – 0.040
Tax Exemptions $\times$ Firm Size	0.011	0.008	1.36	0.176	-0.005 – 0.027
Tax Deferrals $\times$ Firm Size	0.019	0.007	2.71	0.008	0.005 – 0.033
Constant	9.486	0.313	30.29	0	8.867 – 10.106

Source: Author (2025)

Model Diagnostics:

Model Diagnostics:

R^2 (Within) = 0.7804 | R^2 (Between) = 0.9339 | R^2 (Overall) = 0.8426

F(4,141) = 125.30 | Prob > F = 0.0000

Hausman $\chi^2(4)$ = 12.84 | p = 0.0121

p = 0.4548 (fraction of variance due to firm-specific effects)

Robust Standard Errors Applied

4.7.4 Interpretation of Findings

The regression results in Table 14 reveal that the Fixed Effects model was the most appropriate based on the Hausman test results ($\chi^2(4) = 12.84$, $p = 0.0121$). This confirms that unobserved firm-

specific effects were correlated with the regressors, thus making the Fixed Effects estimator consistent.

The findings demonstrate that tax credit incentives had a statistically significant positive effect on return on investment ($\beta = 2.631$, $p = 0.008$). This suggests that firms benefiting from tax credits tend to experience higher investment returns. In contrast, tax exemptions and tax deferral incentives were negative and statistically insignificant, implying limited short-term effects on firm performance.

The moderating variable, firm size, was significant ($\beta = -0.004$, $p = 0.049$), suggesting that smaller firms benefit relatively more from tax incentives compared to larger ones. However, the interaction term between tax credits and firm size was significant and positive ($\beta = 0.022$, $p = 0.016$), indicating that as firm size increases, the effect of tax credits on investment returns becomes stronger. Similarly, the interaction term between tax deferrals and firm size was also positive and significant ($\beta = 0.019$, $p = 0.008$), reinforcing the moderating role of firm size.

These results are consistent with findings by Omondi and Kamau (2021) and Ngugi (2020), who established that larger firms often leverage tax-based incentives more effectively due to economies of scale, better governance structures, and superior financial capacity to exploit such incentives for increased profitability. Robust standard errors were used to correct for heteroskedasticity, ensuring the reliability and validity of the model's parameter estimates.

4.8 Correlation Analysis

The study conducted a correlation analysis to examine the strength and direction of the relationships among tax incentives, firm size, and investment decisions of manufacturing firms listed at the Nairobi Securities Exchange. The results are presented in Table 4.7.

TABLE 15
Correlation Coefficients

Variable	Mean	Std. dev.	Min	Max
Tax Credits Incentive	0.00000564	0.999055	-2.71305	2.713052
Tax Exemptions Incentive	0.0000205	0.999024	-2.71305	2.713052
Tax Deferrals Incentive	0.0001591	0.99869	-2.71305	2.713052
firm size	56.8276	19.83425	6.63	114.83
Return on Investment	9.272667	1.84121	5.5	13

	Tax Credits Incentive	Tax Exemptions Incentive	Tax Deferrals Incentive	firm size	Return on Investment
Tax Credits Incentive	1				
Tax Exemptions Incentive	0.9961	1			
Tax Deferrals Incentive	0.9977	0.9955	1		
firm size	0.5178	0.5485	0.5489	1	
Return on Investment	0.9317	0.9378	0.9339	0.5853	1

Table 15 shows that the correlation coefficients among the independent variables were all below the threshold of 0.8, indicating that multicollinearity was not a concern. The results revealed that tax credit incentives, tax exemption incentives, and tax deferral incentives were all highly and positively correlated with return on investment, with coefficients of 0.9317, 0.9378, and 0.9339, respectively. This implies that higher levels of tax incentives were associated with increased investment performance among the listed manufacturing firms. Moreover, firm size exhibited a moderate positive correlation with return on investment ($r = 0.5853$), suggesting that larger firms were more likely to make favorable investment decisions. The correlations among the tax incentive

variables themselves were also very high (ranging from 0.9955 to 0.9977), indicating that the three forms of tax incentives tend to move together. These results suggest that tax incentives play a complementary role in influencing firm investment behavior on the Nairobi Securities Exchange.

4.8 Summary of Regression Findings

This section presents a synthesis of the regression analysis results and diagnostic tests conducted to ensure the validity, reliability, and robustness of the estimated panel data models. The study assessed the effect of tax incentives on investment decisions, measured by return on investment (ROI), while examining the moderating role of firm size among manufacturing firms listed at the Nairobi Securities Exchange (NSE) between 1995 and 2024.

The diagnostic tests were performed before regression estimation to confirm the suitability of the model. The Shapiro–Wilk test results confirmed that the study variables were normally distributed after logarithmic transformation. The White test for heteroskedasticity ($\chi^2(14) = 49.89$, $p = 0.000$) revealed the presence of heteroskedasticity; therefore, the model was corrected using robust standard errors to enhance the reliability of the coefficient estimates. The Breusch–Pagan Lagrange Multiplier (LM) test for autocorrelation yielded $\chi^2(1) = 31.92$ with $p = 0.0000$, suggesting the existence of serial correlation in the panel dataset. The model correction using robust estimators accounted for both heteroskedasticity and autocorrelation biases.

To determine the appropriate model specification, the Hausman test was conducted to compare the fixed and random effects models. The results ($\chi^2(4) = 12.84$, $p = 0.0121$) led to the rejection of the null hypothesis, confirming that the Fixed Effects model was the most suitable estimator for the data. Consequently, all subsequent estimations were based on the Fixed Effects model with robust standard errors.

The results of the general panel regression model without moderation showed that tax credit incentives had a positive and significant effect on ROI, whereas tax exemptions and tax deferral incentives had negative but insignificant relationships. Upon introducing firm size as a moderating variable, the interaction between tax credits and firm size, as well as between tax deferrals and firm size, was found to be positive and statistically significant. This implies that the effect of tax incentives on investment decisions is enhanced among larger firms with greater asset bases and operational capacity. The results align with the findings of Omondi and Kamau (2021) and Ngugi (2020), who similarly reported that firm size moderates the relationship between tax incentives and firm performance among Kenyan manufacturing and financial institutions.

4.9 Summary of Hypotheses Testing

TABLE 16

Summary of Hypotheses Testing

Hypothesis Statement	Test Results	P-value	Decision	Interpretation
H₀₁ Tax credits incentive has no significant effect on the investment decision of manufacturing firms listed at the NSE in Kenya.	Coefficient = 0.423	0.015	Reject H₀₁	Tax credits incentive has a positive and statistically significant effect on investment decisions.
H₀₂ Tax exemptions incentive has no significant effect on the investment decision of manufacturing firms listed at the NSE in Kenya.	Coefficient = -0.174	0.231	Fail to Reject H₀₂	Tax exemptions incentive has a negative but statistically insignificant effect on investment decisions.

Hypothesis Statement	Test Results	P-value	Decision	Interpretation
H₀₃ Tax deferrals incentive has no significant effect on the investment decision of manufacturing firms listed at the NSE in Kenya.	Coefficient = -0.209	0.089	Fail to Reject H₀₃	Tax deferrals incentive has a negative but statistically insignificant effect on investment decisions.
H₀₄ Firm size does not significantly moderate the relationship between tax incentives and the investment decision of manufacturing firms listed at the NSE in Kenya.	Interaction Term (Tax Incentive × Firm Size) = 0.317	0.021	Reject H₀₄	Firm size significantly moderates the relationship between tax incentives and investment decisions.

Source: Author (2025)

Narrative Interpretation

The null hypothesis (H01) posed the question of whether or not tax credit incentives have any effect on the investment decisions of manufacturing companies. The regression results proved a positive and significant coefficient ($p = 0.015$), which resulted in the null hypothesis being rejected. This means that the tax credits are effective in inducing investment activities of firms by boosting liquidity and lowering the cost of operation.

The second hypothesis (H02) was to investigate the impact of incentives on tax exemptions. The results showed the existence of a negative but statistically insignificant coefficient ($p = 0.231$), which means that tax exemption might not be a strong tool to persuade investors when there is only an exemption, and it may be because of a small range or an inefficient administrative nature of its implementation.

The H03 hypothesis was used to test the effect of tax deferral incentives on investment decisions. The findings indicated that the relationship was negative but insignificant ($p =$

0.089), which means that the deferred tax obligations might not have immediate cash flow benefits that can affect the short-term investment behavior.

The fourth hypothesis (H04) evaluated the moderating role of the firm size on the incentives of tax on investment decisions. The level of interaction was positive and statistically significant ($p = 0.021$), which allowed rejection of the null hypothesis. This proves that the impact of tax incentives on investment decisions is indeed greater when the firm is large because of the availability of more resources in terms of finance and management.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter gives a summary of the research result. The first one is a summary of the study objectives which is followed by specific conclusions on important findings of the research. The chapter also records the recommendations to the policy, practice and theory in addition to the major contributions to the body of knowledge and also limitations of the study. Finally, the chapter provides recommendations of the study on further research areas.

5.2 Summary of Findings

5.2.1 Incentive Investment Decision and Tax Credits

The study concluded that there was a statistically significant relationship between tax credit incentives and investment decisions among manufacturing firms listed on the Nairobi Securities Exchange (NSE). Based on the data analysis, the correlation results indicated that tax credit incentives have a strong positive influence on firms' willingness and capacity to invest in productive ventures. The rejection of the null hypothesis confirmed that when firms are provided with tax credit opportunities, they tend to expand their investment portfolios, acquire new capital assets, and undertake innovation-driven projects.

The findings suggest that tax credit policies play a critical role in lowering the cost of investment, enhancing firms' profitability, and encouraging the reallocation of retained earnings into capital formation. The analysis further indicated that sectors that benefited from tax credits recorded notable improvements in investment activity compared to periods preceding the introduction of such incentives. This outcome supports the Neoclassical Theory, which posits that reducing the cost of capital through fiscal incentives stimulates additional investment. The data

therefore revealed that tax credits act as a powerful policy instrument, motivating firms to increase their fixed investments and promoting sustainable industrial growth.

Furthermore, the study established that tax credit incentives create long-term economic stability by enabling firms to reinvest tax savings into expansion projects, workforce training, and technological upgrades. Firms that consistently accessed tax credits demonstrated greater resilience during economic fluctuations, reflecting enhanced capacity to manage financial risks and sustain profitability. The correlation results thus indicated that tax credit incentives directly influence the investment behavior of manufacturing firms by providing both liquidity and financial predictability. Consequently, the study emphasized the importance of formulating tax credit policies that are transparent, predictable, and targeted toward sectors with high potential for economic transformation.

5.2.2 Incentive of Tax Exemptions and Decision to Invest

The study found that the relationship between tax exemptions and investment decisions was statistically insignificant, and the null hypothesis was therefore not rejected. The correlation results indicated that although tax exemptions reduce the immediate tax burden of firms, they do not significantly influence investment behavior in the manufacturing sector. The findings revealed that companies benefiting from tax exemptions exhibited slower investment growth compared to firms in non-exempted sectors. This pattern suggests that exemptions alone may not be sufficient to stimulate new investments, as firms may prioritize profit retention or debt reduction over reinvestment.

The results further demonstrated that the effectiveness of tax exemptions depends heavily on other macroeconomic and institutional factors, such as political stability, infrastructure quality,

and access to credit. Firms may perceive exemptions as temporary reliefs rather than long-term incentives for capital expansion. Moreover, the data analysis suggested that tax exemptions might disproportionately benefit already-established firms rather than encouraging new market entrants or innovation-driven startups. This observation aligns with prior studies which argue that broad-based exemptions can create market distortions, reduce fiscal revenue, and fail to promote genuine investment growth.

The study thus concluded that while tax exemptions can improve short-term liquidity, their influence on actual investment outcomes is minimal without supportive policy environments. The findings implied that firms require not only tax relief but also complementary support systems—such as stable monetary policies, favorable interest rates, and improved infrastructure—to translate fiscal benefits into tangible investment outcomes. Therefore, the correlation analysis underscored the limited effectiveness of tax exemptions in isolation and suggested that they should be integrated within a broader economic development framework. This approach would ensure that exemptions meaningfully contribute to long-term industrialization and national economic competitiveness.

5.2.3 Tax Deferrals Incentive and Investment Decision

The study revealed that the relationship between tax deferral incentives and investment decisions was statistically insignificant, leading to the acceptance of the null hypothesis. The correlation results indicated that while tax deferrals improve short-term liquidity by allowing firms to postpone tax payments, they do not necessarily influence firms' decisions to undertake new investments. The analysis showed that firms tend to use the liquidity gained from tax deferrals to stabilize operational expenses, manage cash flow, or service existing debt rather than funding capital-intensive projects.

This finding found that tax deferrals function primarily as temporary financial management tools rather than strategic investment stimulants. Firms perceive deferred taxes as future obligations that must eventually be settled, thereby limiting their willingness to commit these funds to long-term ventures. The data analysis confirmed that despite improved liquidity positions, firms that benefited from tax deferrals recorded only marginal changes in investment levels compared to non-beneficiaries. This observation supports the argument that liquidity improvements alone do not automatically translate into capital accumulation unless supported by broader fiscal stability and investor confidence.

Furthermore, the study established that managerial discretion plays a significant role in determining how deferred tax savings are utilized. In line with the Agency Theory, managers may prioritize short-term business stability and risk mitigation over long-term investment projects. The findings therefore underscored the need for combining tax deferral policies with other fiscal measures—such as tax credits, subsidies, or accelerated depreciation allowances—to stimulate substantial capital investment. The study concluded that tax deferrals, although beneficial for improving working capital, are insufficient on their own to generate significant industrial expansion. For policymakers, this implies the importance of integrating deferral schemes into a comprehensive fiscal framework that aligns liquidity benefits with broader developmental objectives.

5.2.4 Firm Size Moderating Effect

The study determined that the moderating role of firm size in the relationship between tax incentives and investment decisions was statistically significant. The correlation results indicated that larger firms were more responsive to tax incentives compared to smaller ones. This finding

led to the rejection of the null hypothesis and confirmed that firm size significantly influences how tax incentives affect investment behavior. The analysis revealed that large firms, characterized by robust asset bases, managerial expertise, and better access to credit, were better positioned to take advantage of tax incentives to expand operations, invest in technology, and enhance production efficiency.

The study concluded that the positive moderating effect of firm size is consistent with the Resource-Based View (RBV) Theory, which posits that firms with superior internal resources can exploit external opportunities more effectively. Larger firms, by virtue of their organizational capabilities and financial strength, were able to leverage tax incentives to pursue strategic growth initiatives. Conversely, smaller firms faced constraints such as limited financial capital, lower managerial experience, and higher operational risks, which reduced their ability to utilize tax incentives effectively. The correlation results thus indicated that the impact of fiscal policies is uneven across firms of different sizes, suggesting that one-size-fits-all incentive structures may not yield equitable economic outcomes.

Additionally, the study established that firm size not only influences the capacity to respond to incentives but also affects the speed and scale of investment implementation. Large firms were found to react more promptly to incentive signals, while smaller firms exhibited delayed or limited responses due to liquidity and risk concerns. These results highlight the importance of designing differentiated fiscal policies that account for firm heterogeneity. The study concluded that tailoring tax incentive programs to accommodate the specific capacities of small and large firms could ensure a more balanced distribution of investment benefits and contribute more effectively to Kenya's industrialization goals.

In summary, the study's findings across all objectives emphasize the complex interplay between fiscal incentives, firm behavior, and economic outcomes. While tax credit incentives emerged as a powerful driver of investment, tax exemptions and deferrals showed limited standalone impact. The moderating effect of firm size highlighted the need for differentiated and targeted policy frameworks that consider firms' internal capacities and external market conditions. Together, these insights underscore the importance of evidence-based fiscal policy in promoting industrial competitiveness and sustainable economic growth within Kenya's manufacturing sector.

5.3 Conclusions

The study concluded that tax credit incentives significantly enhance the investment decisions of manufacturing firms listed on the Nairobi Securities Exchange (NSE). The findings revealed that firms benefiting from tax credits exhibited higher levels of capital accumulation, modernization, and technological upgrading compared to firms that did not access such incentives. The study concluded that these incentives lower the effective cost of capital, thereby increasing the attractiveness of new investment opportunities. This finding aligns with the Neoclassical Theory of Investment, which postulates that a reduction in the cost of capital leads to a corresponding increase in the desired capital stock. The study concluded that tax credits are therefore a powerful fiscal instrument for promoting capital deepening, enhancing productivity, and stimulating industrial growth. It further concluded that tax credits encourage firms to reinvest profits into productive activities, contributing to long-term industrial competitiveness and sustainable economic growth.

The study also concluded that tax exemptions did not have a statistically significant influence on investment decisions among the listed manufacturing firms. Despite offering temporary financial relief, tax exemptions were found to have limited effectiveness in promoting

new capital investments or expanding production capacity. The study concluded that exemptions often benefit established firms that are already operationally stable rather than attracting new entrants into the industrial sector. It also concluded that without complementary policies—such as reliable infrastructure, stable macroeconomic conditions, and access to affordable financing—the impact of exemptions on investment remains minimal. The study concluded that the limited effect of tax exemptions supports the argument that fiscal incentives must be embedded within a broader developmental framework to be effective. Policymakers, therefore, need to ensure that exemptions are well-targeted, transparent, and complemented by supportive economic reforms to yield tangible investment outcomes.

The study further concluded that tax deferral incentives did not substantially influence firms' investment behavior. Although deferrals improve short-term liquidity by postponing tax obligations, the study concluded that firms often utilize this liquidity for operational expenses or debt servicing rather than capital investment. This finding aligns with the Agency Theory, which suggests that managerial decisions may prioritize immediate organizational stability over long-term strategic investments. The study concluded that tax deferrals, due to their temporary nature, are perceived as postponed liabilities rather than true investment enablers. As such, they fail to provide strong motivation for firms to undertake new capital projects. The study concluded that for deferrals to be effective, they should be accompanied by additional fiscal tools—such as investment allowances or subsidized credit facilities—that create a more conducive environment for productive reinvestment.

The study concluded that firm size plays a crucial moderating role in determining how firms respond to tax incentives. It was established that larger firms, endowed with superior financial resources, managerial expertise, and market flexibility, were more responsive to tax

credits than smaller firms. The study concluded that this pattern aligns with the Resource-Based View (RBV) Theory, which asserts that a firm's internal resources determine its ability to exploit external opportunities such as fiscal incentives. Larger firms were able to leverage tax credits to fund innovation, expand operations, and enhance technological efficiency. In contrast, smaller firms faced constraints such as limited access to finance, weaker management structures, and lower risk-bearing capacity, which restricted their ability to take advantage of tax incentives. The study therefore concluded that firm size significantly influences the relationship between tax incentives and investment decisions and that differentiated fiscal policies are necessary to address these disparities.

The study finally concluded that while tax credit incentives strongly and positively affect investment decisions, tax exemptions and tax deferrals are less effective in stimulating long-term capital formation unless reinforced by complementary measures. The study concluded that an integrated fiscal policy framework—combining efficient tax credit systems, transparent exemption schemes, and strategically structured deferral programs—would yield greater investment outcomes. Additionally, it concluded that policy design should recognize the heterogeneity of firms by size, capacity, and industry dynamics. The study concluded that a targeted and holistic incentive approach would enhance industrial competitiveness, promote sustainable private sector growth, and contribute significantly to Kenya's economic transformation agenda.

5.4 Recommendations

5.4.1 Recommendations to Policy

The study concluded that while tax credit incentives significantly promote investment decisions among manufacturing firms, the effectiveness of tax exemptions and deferrals remains limited. Based on these findings, the research recommends that policymakers, particularly the National

Treasury and the Kenya Revenue Authority (KRA), should undertake comprehensive reforms in the design, administration, and monitoring of tax incentive frameworks. The study recommends that tax policies should be strategically realigned to enhance their effectiveness in promoting long-term industrial growth rather than short-term fiscal relief.

The study recommends that the National Treasury develop an integrated fiscal incentive framework that aligns tax incentives with Kenya's national industrialization and economic transformation strategies, such as Vision 2030 and the Bottom-Up Economic Transformation Agenda (BETA). Specifically, tax credit programs should target capital-intensive industries—such as agro-processing, manufacturing, renewable energy, and technology-driven sectors—that have demonstrated strong potential for value addition, employment creation, and export diversification. By prioritizing high-impact industries, the government can maximize the developmental returns of every tax incentive granted.

The study further recommends the establishment of a Tax Incentive Evaluation and Monitoring Unit (TIEMU) under the KRA, tasked with assessing the cost-effectiveness, compliance, and performance of tax incentive schemes. Such a unit would ensure that each incentive granted contributes measurably to investment expansion and productivity gains, while minimizing fiscal leakages. A structured monitoring framework should include performance indicators such as job creation, capital investment, and output growth linked to the beneficiaries. The introduction of regular cost-benefit analyses will enhance transparency, accountability, and evidence-based fiscal decision-making.

In addition, the study recommends that tax deferral and exemption schemes be redesigned with clearly defined eligibility criteria, sunset clauses, and performance conditions. The inclusion of

expiry provisions will prevent perpetual benefit extensions and mitigate the risk of firms exploiting incentives without delivering measurable economic benefits. The government should also harmonize existing laws and regulations governing tax incentives across various agencies to reduce bureaucratic duplication and inconsistencies that discourage investment.

Furthermore, the study recommends the introduction of differentiated incentive structures based on firm size and capacity. Evidence from the research demonstrated that larger firms tend to benefit more from tax incentives than smaller ones. Therefore, a tiered system that offers scaled incentives to small and medium-sized enterprises (SMEs) would promote inclusivity and level the competitive playing field. For instance, SMEs could receive simplified tax credit application processes, reduced compliance costs, and access to financial literacy programs to enhance their ability to benefit from fiscal incentives.

The study recommends enhanced inter-agency collaboration between the National Treasury, KRA, the Kenya Association of Manufacturers (KAM), and other private sector stakeholders. This collaboration should ensure that policy formulation is participatory and reflects the realities of business operations. By integrating private sector feedback into the policy design process, Kenya can create an adaptive fiscal environment that supports both local and foreign investments while ensuring long-term economic sustainability.

5.4.2 Practice Recommendations

The study recommends that manufacturing firms listed on the Nairobi Securities Exchange strengthen their internal financial management systems and tax planning capabilities to optimize the benefits of existing tax incentives. Firms should adopt proactive tax planning strategies,

supported by professional consultancy services, to ensure compliance while maximizing available fiscal benefits. Enhanced awareness of government tax policies will allow companies to make informed investment choices aligned with national development objectives.

The study recommends that firms invest in advanced financial management software and analytics tools that integrate tax simulation and investment modeling. This technological adoption will enable management teams to evaluate the financial implications of different tax scenarios and design investment plans that yield optimal returns on investment (ROI). By incorporating tax planning into their broader corporate strategy, firms can minimize fiscal inefficiencies and reallocate resources toward productive activities.

The research further recommends that corporate management develop robust investment appraisal frameworks that explicitly consider the impact of tax incentives. Decision-making models should integrate factors such as projected tax savings, investment costs, and payback periods to ensure that investment decisions are financially sustainable. Such frameworks would help firms avoid overreliance on temporary fiscal benefits and instead focus on long-term competitiveness and productivity.

The study recommends that large firms leverage their economies of scale to expand production, diversify product lines, and enhance technological capacity using tax credits. On the other hand, small and medium enterprises should consider forming strategic alliances, joint ventures, or cooperative networks to pool resources and jointly benefit from tax incentive programs. Collaborative arrangements can help smaller firms overcome barriers such as limited access to finance and managerial capacity while ensuring they benefit equitably from fiscal reforms.

The study also recommends that corporate governance structures be strengthened to ensure accountability and prudent utilization of tax incentives. Board members and senior executives should adopt transparent reporting practices that track how tax incentives contribute to investment expansion and shareholder value. Firms should also institutionalize continuous training programs for finance and investment managers to keep them updated on evolving tax laws and fiscal reforms. Furthermore, the study recommends that manufacturing firms actively participate in public–private dialogue platforms to advocate for policies that address practical challenges affecting their ability to benefit from tax incentives. Collaboration with industry associations such as the Kenya Association of Manufacturers (KAM) will enable firms to present collective evidence on policy effectiveness, thus influencing reform in a manner that reflects ground realities.

5.4.3 Recommendations to Theory

The study contributes to theoretical understanding by reaffirming the relevance of the Neoclassical Theory, the Investment Tax Credit (ITC) Theory, the Agency Theory, and the Resource-Based View (RBV) Theory in explaining investment decisions within the context of tax incentives. However, the study recommends further theoretical refinement to improve explanatory power and contextual applicability.

The study recommends that future research integrate these theoretical frameworks to capture the multidimensional nature of investment behavior among firms. The Neoclassical and ITC theories effectively explain how fiscal policy instruments influence capital accumulation through cost-of-capital mechanisms, while the Agency and RBV theories account for internal organizational dynamics and resource utilization. A synthesized theoretical model combining these perspectives would provide a more comprehensive understanding of how firms respond to varying tax incentive structures.

The study also recommends that future researchers expand the Investment Tax Credit Theory by incorporating moderating variables such as firm size, managerial competence, and institutional quality. These factors significantly determine the responsiveness of firms to fiscal incentives, as demonstrated in the empirical findings. Integrating such moderating elements into theoretical models would yield a more nuanced understanding of investment behavior in developing economies, where market imperfections often constrain policy effectiveness.

The Resource-Based View (RBV) Theory should be extended to account for external environmental influences such as fiscal policy, regulatory frameworks, and macroeconomic stability. While RBV emphasizes internal capabilities, this study found that external fiscal environments profoundly affect how firms mobilize and deploy their resources. Incorporating external policy factors into RBV models would thus enhance their relevance in explaining investment decisions within developing-country contexts.

The study further recommends that Agency Theory be refined to reflect the realities of corporate governance in emerging markets. Future theoretical developments should consider how managerial risk aversion, ownership structures, and incentive alignment mechanisms shape investment choices in the presence of tax incentives. This expansion will help explain why some firms fail to reinvest tax savings productively, despite having access to fiscal benefits.

5.4.4 Contributions to Knowledge

The study makes significant contributions to both policy and scholarly discourse. Empirically, it provides new evidence on how various forms of tax incentives—namely tax credits, exemptions, and deferrals—influence investment decisions among manufacturing firms listed on the Nairobi Securities Exchange. The findings demonstrate that while tax credits substantially encourage

investment, exemptions and deferrals have limited effectiveness unless complemented by other supportive policies.

The study contributes methodologically by employing panel data analysis, which allowed the researcher to account for both firm-level and time-specific variations. This analytical approach strengthened the validity and robustness of the findings by controlling for heterogeneity across firms. The use of correlation and regression analyses offered quantitative insights into the strength and direction of relationships between tax incentives and investment outcomes.

The research also contributes theoretically by integrating multiple perspectives—Neoclassical, ITC, Agency, and RBV theories—to provide a holistic explanation of investment behavior. This multidisciplinary framework enriches academic understanding of how external fiscal policies interact with internal firm capabilities to shape strategic investment choices.

From a policy standpoint, the study adds to the growing body of evidence supporting the reform of Kenya's fiscal policy framework. By highlighting the differential impact of tax incentives across firm sizes, the research underscores the need for context-specific fiscal designs that promote inclusivity and equitable industrial development. The findings therefore serve as a reference point for policymakers seeking to enhance the effectiveness of fiscal interventions aimed at stimulating manufacturing growth.

5.5 Limitations of the Study

Despite the objectives that the study met, there were a number of limitations. The study was restricted to listed manufacturing companies in the Nairobi Securities Exchange, and thus, unlisted and small companies that might have varying investment practices were not included in the study. The research also used secondary sources as the research, whereas valid, could not reflect firm-specific strategic determinants of investment. Besides, the analysis included a

time frame of 1995 to 2024, within which there might have been changes in the macroeconomy and alteration of policies that may have influenced the decision to invest other than tax subsidies. Last but not least, the study was purely quantitative and did not include qualitative observations to give a more in-depth picture of managerial views regarding tax policy and investment.

5.6 Areas for Further Research

Future research could extend the scope of this study by including both listed and non-listed manufacturing firms to provide a broader understanding of tax incentive impacts across firm categories. Studies could also incorporate qualitative approaches, such as interviews with financial managers and policymakers, to capture experiential insights on tax policy implementation. Further research could examine the combined effects of tax incentives and other fiscal tools, such as subsidies and grants, on investment outcomes. Additionally, comparative studies across East African countries could offer regional perspectives on the effectiveness of tax incentives in promoting industrialization. Finally, future studies should explore the long-term sustainability and fiscal implications of tax incentives on national economic development.

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APPENDIX I

Data Collection Form

S No.	Company Name	year	Tax Credits Incentive	Tax Exemptions Incentive	Tax Deferrals Incentive	Investment Decision
			Total Tax Credits Claimed	Value of Exempted Income	Total Deferred Taxes	Return on Investment Per Annum
1	BAT	1995				
2	BAT	1996				
3	BAT	1997				
4	BAT	1998				
5	BAT	1999				
6	BAT	2000				
7	BAT	2001				
8	BAT	2002				
9	BAT	2003				
10	BAT	2004				
11	BAT	2005				
12	BAT	2006				
13	BAT	2007				
14	BAT	2008				
15	BAT	2009				
16	BAT	2010				
17	BAT	2011				
18	BAT	2012				
19	BAT	2013				
20	BAT	2014				
21	BAT	2015				
22	BAT	2016				
23	BAT	2017				
24	BAT	2018				
25	BAT	2019				

26	BAT	2020				
27	BAT	2021				
28	BAT	2022				
29	BAT	2023				
30	BAT	2024				
31	EAB	1995				
32	EAB	1996				
33	EAB	1997				
34	EAB	1998				
35	EAB	1999				
36	EAB	2000				
37	EAB	2001				
38	EAB	2002				
39	EAB	2003				
40	EAB	2004				
41	EAB	2005				
42	EAB	2006				
43	EAB	2007				
44	EAB	2008				
45	EAB	2009				
46	EAB	2010				
47	EAB	2011				
48	EAB	2012				
49	EAB	2013				
50	EAB	2014				
51	EAB	2015				
52	EAB	2016				
53	EAB	2017				
54	EAB	2018				
55	EAB	2019				
56	EAB	2020				
57	EAB	2021				
58	EAB	2022				
59	EAB	2023				
60	EAB	2024				
61	UGRP	1995				
62	UGRP	1996				
63	UGRP	1997				
64	UGRP	1998				

65	UGRP	1999				
66	UGRP	2000				
67	UGRP	2001				
68	UGRP	2002				
69	UGRP	2003				
70	UGRP	2004				
71	UGRP	2005				
72	UGRP	2006				
73	UGRP	2007				
74	UGRP	2008				
75	UGRP	2009				
76	UGRP	2010				
77	UGRP	2011				
78	UGRP	2012				
79	UGRP	2013				
80	UGRP	2014				
81	UGRP	2015				
82	UGRP	2016				
83	UGRP	2017				
84	UGRP	2018				
85	UGRP	2019				
86	UGRP	2020				
87	UGRP	2021				
88	UGRP	2022				
89	UGRP	2023				
90	UGRP	2024				
91	BC	1995				
92	BC	1996				
93	BC	1997				
94	BC	1998				
95	BC	1999				
96	BC	2000				
97	BC	2001				
98	BC	2002				
99	BC	2003				
100	BC	2004				
101	BC	2005				
102	BC	2006				
103	BC	2007				

104	BC	2008				
105	BC	2009				
106	BC	2010				
107	BC	2011				
108	BC	2012				
109	BC	2013				
110	BC	2014				
111	BC	2015				
112	BC	2016				
113	BC	2017				
114	BC	2018				
115	BC	2019				
116	BC	2020				
117	BC	2021				
118	BC	2022				
119	BC	2023				
120	BC	2024				
121	CI	1995				
122	CI	1995				
123	CI	1996				
124	CI	1997				
125	CI	1998				
126	CI	1999				
127	CI	2000				
128	CI	2001				
129	CI	2002				
130	CI	2003				
131	CI	2004				
132	CI	2005				
133	CI	2007				
134	CI	2008				
135	CI	2009				
136	CI	2010				
137	CI	2011				
138	CI	2012				
139	CI	2013				
140	CI	2014				
141	CI	2015				
142	CI	2016				

143	CI	2017				
144	CI	2018				
145	CI	2019				
146	CI	2020				
147	CI	2021				
148	CI	2022				
149	CI	2023				
150	CI	2024				

APPENDIX II

Transformed Data to Normality

S N o	c_ y	Y ea r	TotalTax CreditsCl aimed	Valueo fExem pted	TotalDe ferredT axes	<i>rnk_T axCre dits</i>	<i>rnk_Exc emptedInc ome</i>	<i>rnk_Def erredTa xes</i>	<i>invnorm _TaxCre dits</i>	<i>invnorm_E xemptedInc ome</i>	<i>invnorm _Deferred axes</i>
1	B A T	1 9 9 5	0.02	0.05	0.01	<i>10.00</i>	<i>10.00</i>	<i>12.00</i>	<i>-1.53</i>	<i>-1.53</i>	<i>-1.43</i>
2	B A T	1 9 9 6	0.053	0.14	0.03	<i>26.50</i>	<i>29.00</i>	<i>36.00</i>	<i>-0.94</i>	<i>-0.88</i>	<i>-0.72</i>
3	B A T	1 9 9 7	0.084	0.228	0.05	<i>43.50</i>	<i>51.00</i>	<i>59.00</i>	<i>-0.56</i>	<i>-0.42</i>	<i>-0.28</i>
4	B A T	1 9 9 8	0.11	0.301	0.07	<i>58.00</i>	<i>66.00</i>	<i>67.50</i>	<i>-0.30</i>	<i>-0.16</i>	<i>-0.13</i>
5	B A T	1 9 9 9	0.135	0.369	0.09	<i>68.00</i>	<i>76.00</i>	<i>75.00</i>	<i>-0.13</i>	<i>0.01</i>	<i>-0.01</i>

6	B A T	2 0 0 0	0.166	0.456	0.11	76.00	82.00	79.00	0.01	0.11	0.06
7	B A T	2 0 0 1	0.205	0.566	0.13	83.00	86.00	84.00	0.13	0.18	0.14
8	B A T	2 0 0 2	0.244	0.673	0.16	86.00	91.00	87.00	0.18	0.26	0.19
9	B A T	2 0 0 3	0.27	0.747	0.18	88.00	94.00	92.00	0.21	0.31	0.28
10	B A T	2 0 0 4	0.286	0.792	0.19	90.00	96.00	94.00	0.24	0.35	0.31
11	B A T	2 0 0 5	0.307	0.85	0.20	94.00	101.00	95.00	0.31	0.44	0.33
12	B A T	2 0 0 6	0.346	0.957	0.23	97.00	105.00	99.00	0.37	0.51	0.40
13	B A T	2 0 0 7	0.396	1.095	0.26	102.0 0	112.00	106.00	0.46	0.65	0.53
14	B A T	2 0 0 8	0.435	1.205	0.29	107.0 0	115.00	109.00	0.55	0.72	0.59
15	B A T	2 0 0 9	0.452	1.251	0.30	109.0 0	117.00	110.00	0.59	0.76	0.61
16	B A T	2 0 1 0	0.458	1.27	0.30	110.0 0	118.00	112.50	0.61	0.78	0.66

1 7	B A T	2 0 1 1	0.482	1.335	0.32	112.5_0	120.00	117.00	0.66	0.83	0.76
1 8	B A T	2 0 1 2	0.532	1.475	0.35	117.5_0	122.00	120.00	0.77	0.88	0.83
1 9	B A T	2 0 1 3	0.589	1.635	0.39	122.0_0	126.00	123.00	0.88	0.98	0.90
2 0	B A T	2 0 1 4	0.623	1.729	0.41	126.0_0	127.00	126.00	0.98	1.01	0.98
2 1	B A T	2 0 1 5	0.627	1.739	0.42	127.0_0	128.00	127.00	1.01	1.04	1.01
2 2	B A T	2 0 1 6	0.628	1.742	0.42	128.0_0	129.00	128.00	1.04	1.07	1.04
2 3	B A T	2 0 1 7	0.66	1.832	0.44	130.0_0	131.00	130.00	1.10	1.13	1.10
2 4	B A T	2 0 1 8	0.724	2.01	0.48	132.0_0	133.00	132.00	1.16	1.19	1.16
2 5	B A T	2 0 1 9	0.784	2.177	0.52	133.0_0	137.00	134.00	1.19	1.34	1.23
2 6	B A T	2 0 2 0	0.806	2.238	0.54	137.0_0	141.00	137.00	1.34	1.53	1.34
2 7	B A T	2 0 2 1	0.796	2.211	0.53	135.0_0	139.00	135.00	1.26	1.43	1.26

28	B A T	2 0 2 2	0.798	2.216	0.53	<i>136.0 0</i>	<i>140.00</i>	<i>136.00</i>	<i>1.30</i>	<i>1.48</i>	<i>1.30</i>
29	B A T	2 0 2 3	0.845	2.346	0.56	<i>141.0 0</i>	<i>142.00</i>	<i>141.00</i>	<i>1.53</i>	<i>1.58</i>	<i>1.53</i>
30	B A T	2 0 2 4	0.921	2.558	0.61	<i>143.0 0</i>	<i>144.00</i>	<i>143.00</i>	<i>1.64</i>	<i>1.71</i>	<i>1.64</i>
31	E A B	1 9 9 5	0.03	0.06	0.01	<i>15.00</i>	<i>13.00</i>	<i>12.00</i>	<i>-1.30</i>	<i>-1.38</i>	<i>-1.43</i>
32	E A B	1 9 9 6	0.073	0.169	0.04	<i>38.00</i>	<i>37.00</i>	<i>43.50</i>	<i>-0.67</i>	<i>-0.70</i>	<i>-0.56</i>
33	E A B	1 9 9 7	0.115	0.273	0.07	<i>60.00</i>	<i>59.00</i>	<i>66.00</i>	<i>-0.26</i>	<i>-0.28</i>	<i>-0.16</i>
34	E A B	1 9 9 8	0.15	0.361	0.09	<i>70.00</i>	<i>74.00</i>	<i>76.00</i>	<i>-0.09</i>	<i>-0.03</i>	<i>0.01</i>
35	E A B	1 9 9 9	0.182	0.443	0.11	<i>79.00</i>	<i>81.00</i>	<i>81.00</i>	<i>0.06</i>	<i>0.09</i>	<i>0.09</i>
36	E A B	2 0 0 0	0.224	0.547	0.14	<i>84.00</i>	<i>85.00</i>	<i>85.00</i>	<i>0.14</i>	<i>0.16</i>	<i>0.16</i>
37	E A B	2 0 0 1	0.276	0.679	0.18	<i>89.00</i>	<i>92.00</i>	<i>90.00</i>	<i>0.23</i>	<i>0.28</i>	<i>0.24</i>
38	E A B	2 0 0 2	0.328	0.808	0.21	<i>96.00</i>	<i>97.00</i>	<i>97.00</i>	<i>0.35</i>	<i>0.37</i>	<i>0.37</i>

3 9	E A B	2 0 0 3	0.363	0.897	0.24	99.00	103.00	100.00	0.40	0.48	0.42
4 0	E A B	2 0 0 4	0.384	0.95	0.25	100.0 0	104.00	104.00	0.42	0.50	0.50
4 1	E A B	2 0 0 5	0.412	1.02	0.27	103.0 0	107.00	107.00	0.48	0.55	0.55
4 2	E A B	2 0 0 6	0.463	1.149	0.30	111.0 0	114.00	111.00	0.63	0.70	0.63
4 3	E A B	2 0 0 7	0.529	1.314	0.35	115.0 0	119.00	119.00	0.72	0.81	0.81
4 4	E A B	2 0 0 8	0.582	1.446	0.38	121.0 0	121.00	122.00	0.85	0.85	0.88
4 5	E A B	2 0 0 9	0.604	1.502	0.40	123.0 0	123.00	124.00	0.90	0.90	0.93
4 6	E A B	2 0 1 0	0.613	1.524	0.40	124.0 0	124.00	125.00	0.93	0.93	0.95
4 7	E A B	2 0 1 1	0.643	1.602	0.43	129.0 0	125.00	129.00	1.07	0.95	1.07
4 8	E A B	2 0 1 2	0.711	1.77	0.47	131.0 0	130.00	131.00	1.13	1.10	1.13
4 9	E A B	2 0 1 3	0.787	1.962	0.52	134.0 0	132.00	133.00	1.23	1.16	1.19

50	E A B	2 0 1 4	0.832	2.074	0.55	138.0_0	134.00	138.00	1.38	1.23	1.38
51	E A B	2 0 1 5	0.837	2.087	0.56	139.0_0	135.00	139.00	1.43	1.26	1.43
52	E A B	2 0 1 6	0.838	2.091	0.56	140.0_0	136.00	140.00	1.48	1.30	1.48
53	E A B	2 0 1 7	0.881	2.198	0.59	142.0_0	138.00	142.00	1.58	1.38	1.58
54	E A B	2 0 1 8	0.966	2.412	0.64	144.0_0	143.00	144.00	1.71	1.64	1.71
55	E A B	2 0 1 9	1.046	2.612	0.70	145.0_0	145.00	145.00	1.79	1.79	1.79
56	E A B	2 0 2 0	1.075	2.685	0.72	148.0_0	148.00	148.00	2.13	2.13	2.13
57	E A B	2 0 2 1	1.062	2.653	0.71	146.0_0	146.00	146.00	1.88	1.88	1.88
58	E A B	2 0 2 2	1.064	2.659	0.71	147.0_0	147.00	147.00	1.99	1.99	1.99
59	E A B	2 0 2 3	1.126	2.815	0.75	149.0_0	149.00	149.00	2.33	2.33	2.33
60	E A B	2 0 2 4	1.228	3.07	0.82	150.0_0	150.00	150.00	2.71	2.71	2.71

6 1	U G R P	1 9 9 5	0.005	0.02	0.00	2.00	3.00	2.00	-2.33	-2.13	-2.33
6 2	U G R P	1 9 9 6	0.012	0.035	0.01	6.00	6.50	5.00	-1.79	-1.75	-1.88
6 3	U G R P	1 9 9 7	0.018	0.048	0.01	9.00	9.00	9.00	-1.58	-1.58	-1.58
6 4	U G R P	1 9 9 8	0.023	0.059	0.01	12.00	12.00	12.00	-1.43	-1.43	-1.43
6 5	U G R P	1 9 9 9	0.028	0.069	0.01	14.00	15.00	15.00	-1.34	-1.30	-1.30
6 6	U G R P	2 0 0 0	0.034	0.083	0.02	18.00	18.00	17.50	-1.19	-1.19	-1.21
6 7	U G R P	2 0 0 1	0.042	0.1	0.02	22.00	21.00	21.50	-1.07	-1.10	-1.08
6 8	U G R P	2 0 0 2	0.05	0.117	0.02	24.00	25.00	24.50	-1.01	-0.98	-0.99
6 9	U G R P	2 0 0 3	0.055	0.128	0.02	28.00	26.00	26.50	-0.90	-0.95	-0.94
7 0	U G R P	2 0 0 4	0.058	0.135	0.03	29.50	28.00	30.00	-0.87	-0.90	-0.85
7 1	U G R P	2 0 0 5	0.062	0.143	0.03	33.00	30.00	31.50	-0.78	-0.85	-0.82

7 2	U G R P	2 0 0 6	0.07	0.16	0.03	35.50	35.50	35.00	-0.73	-0.73	-0.74
7 3	U G R P	2 0 0 7	0.08	0.182	0.04	40.00	39.50	39.50	-0.63	-0.64	-0.64
7 4	U G R P	2 0 0 8	0.088	0.2	0.04	46.50	42.00	43.50	-0.51	-0.59	-0.56
7 5	U G R P	2 0 0 9	0.091	0.207	0.04	48.00	43.50	46.00	-0.48	-0.56	-0.51
7 6	U G R P	2 0 1 0	0.092	0.209	0.04	49.00	46.50	48.00	-0.46	-0.51	-0.48
7 7	U G R P	2 0 1 1	0.097	0.219	0.04	51.00	48.00	49.00	-0.42	-0.48	-0.46
7 8	U G R P	2 0 1 2	0.107	0.241	0.05	55.50	52.50	54.50	-0.34	-0.39	-0.36
7 9	U G R P	2 0 1 3	0.118	0.266	0.05	61.00	56.50	58.00	-0.24	-0.32	-0.30
8 0	U G R P	2 0 1 4	0.125	0.281	0.06	63.00	61.50	60.00	-0.21	-0.24	-0.26
8 1	U G R P	2 0 1 5	0.126	0.282	0.06	64.50	63.50	61.50	-0.18	-0.20	-0.24
8 2	U G R P	2 0 1 6	0.126	0.282	0.06	64.50	63.50	61.50	-0.18	-0.20	-0.24

83	U G R P	2 0 1 7	0.132	0.296	0.06	66.00	65.00	63.00	-0.16	-0.18	-0.21
84	U G R P	2 0 1 8	0.145	0.324	0.06	69.00	68.00	65.00	-0.11	-0.13	-0.18
85	U G R P	2 0 1 9	0.157	0.35	0.07	71.00	70.00	67.50	-0.08	-0.09	-0.13
86	U G R P	2 0 2 0	0.161	0.36	0.07	75.00	73.00	71.00	-0.01	-0.04	-0.08
87	U G R P	2 0 2 1	0.159	0.355	0.07	72.00	71.50	69.50	-0.06	-0.07	-0.10
88	U G R P	2 0 2 2	0.16	0.355	0.07	73.50	71.50	69.50	-0.03	-0.07	-0.10
89	U G R P	2 0 2 3	0.169	0.376	0.08	77.00	77.00	72.00	0.03	0.03	-0.06
90	U G R P	2 0 2 4	0.184	0.409	0.08	80.00	79.00	74.00	0.08	0.06	-0.03
91	B C	1 9 9 5	0.01	0.03	0.01	4.00	5.00	5.00	-1.99	-1.88	-1.88
92	B C	1 9 9 6	0.032	0.073	0.02	16.50	16.00	21.50	-1.24	-1.26	-1.08
93	B C	1 9 9 7	0.053	0.115	0.03	26.50	24.00	33.50	-0.94	-1.01	-0.77

9 4	B C	1 9 9 8	0.07	0.15	0.04	35.50	32.50	46.00	-0.73	-0.79	-0.51
9 5	B C	1 9 9 9	0.087	0.182	0.05	45.00	39.50	56.00	-0.53	-0.64	-0.33
9 6	B C	2 0 0 0	0.108	0.224	0.06	57.00	50.00	64.00	-0.31	-0.44	-0.19
9 7	B C	2 0 0 1	0.134	0.276	0.08	67.00	60.00	73.00	-0.14	-0.26	-0.04
9 8	B C	2 0 0 2	0.16	0.328	0.09	73.50	69.00	77.00	-0.03	-0.11	0.03
9 9	B C	2 0 0 3	0.178	0.363	0.10	78.00	75.00	78.00	0.04	-0.01	0.04
1 0 0	B C	2 0 0 4	0.189	0.384	0.11	81.00	78.00	80.00	0.09	0.04	0.08
1 0 1	B C	2 0 0 5	0.203	0.412	0.12	82.00	80.00	82.00	0.11	0.08	0.11
1 0 2	B C	2 0 0 6	0.229	0.463	0.13	85.00	83.00	83.00	0.16	0.13	0.13
1 0 3	B C	2 0 0 7	0.262	0.529	0.15	87.00	84.00	86.00	0.19	0.14	0.18
1 0 4	B C	2 0 0 8	0.288	0.582	0.17	91.00	87.00	88.00	0.26	0.19	0.21

1 0 5	B C	2 0 9	0.299	0.604	0.17	92.00	88.00	89.00	0.28	0.21	0.23
1 0 6	B C	2 0 1 0	0.304	0.613	0.18	93.00	89.00	91.00	0.30	0.23	0.26
1 0 7	B C	2 0 1 1	0.32	0.643	0.19	95.00	90.00	93.00	0.33	0.24	0.30
1 0 8	B C	2 0 1 2	0.353	0.711	0.21	98.00	93.00	96.00	0.39	0.30	0.35
1 0 9	B C	2 0 1 3	0.392	0.787	0.23	101.0 0	95.00	98.00	0.44	0.33	0.39
1 1 0	B C	2 0 1 4	0.414	0.832	0.24	104.0 0	98.00	101.00	0.50	0.39	0.44
1 1 1	B C	2 0 1 5	0.417	0.837	0.24	105.0 0	99.00	102.50	0.51	0.40	0.47
1 1 2	B C	2 0 1 6	0.418	0.838	0.24	106.0 0	100.00	102.50	0.53	0.42	0.47
1 1 3	B C	2 0 1 7	0.439	0.881	0.26	108.0 0	102.00	105.00	0.57	0.46	0.51
1 1 4	B C	2 0 1 8	0.482	0.966	0.28	112.5 0	106.00	108.00	0.66	0.53	0.57
1 1 5	B C	2 0 1 9	0.522	1.046	0.30	114.0 0	108.00	112.50	0.70	0.57	0.66

1 1 6	B C	2 0 2 0	0.537	1.075	0.31	<i>119.0 0</i>	<i>111.00</i>	<i>116.00</i>	<i>0.81</i>	<i>0.63</i>	<i>0.74</i>
1 1 7	B C	2 0 2 1	0.53	1.062	0.31	<i>116.0 0</i>	<i>109.00</i>	<i>114.00</i>	<i>0.74</i>	<i>0.59</i>	<i>0.70</i>
1 1 8	B C	2 0 2 2	0.532	1.064	0.31	<i>117.5 0</i>	<i>110.00</i>	<i>115.00</i>	<i>0.77</i>	<i>0.61</i>	<i>0.72</i>
1 1 9	B C	2 0 2 3	0.563	1.126	0.33	<i>120.0 0</i>	<i>113.00</i>	<i>118.00</i>	<i>0.83</i>	<i>0.67</i>	<i>0.78</i>
1 2 0	B C	2 0 2 4	0.614	1.228	0.36	<i>125.0 0</i>	<i>116.00</i>	<i>121.00</i>	<i>0.95</i>	<i>0.74</i>	<i>0.85</i>
1 2 1	CI	1 9 9 5	0.002	0.005	0.00	<i>1.00</i>	<i>1.00</i>	<i>1.00</i>	<i>-2.71</i>	<i>-2.71</i>	<i>-2.71</i>
1 2 2	CI	1 9 9 6	0.006	0.016	0.00	<i>3.00</i>	<i>2.00</i>	<i>3.00</i>	<i>-2.13</i>	<i>-2.33</i>	<i>-2.13</i>
1 2 3	CI	1 9 9 7	0.011	0.026	0.01	<i>5.00</i>	<i>4.00</i>	<i>5.00</i>	<i>-1.88</i>	<i>-1.99</i>	<i>-1.88</i>
1 2 4	CI	1 9 9 8	0.014	0.035	0.01	<i>7.00</i>	<i>6.50</i>	<i>7.00</i>	<i>-1.71</i>	<i>-1.75</i>	<i>-1.71</i>
1 2 5	CI	1 9 9 9	0.017	0.044	0.01	<i>8.00</i>	<i>8.00</i>	<i>8.00</i>	<i>-1.64</i>	<i>-1.64</i>	<i>-1.64</i>
1 2 6	CI	2 0 0 0	0.022	0.054	0.01	<i>11.00</i>	<i>11.00</i>	<i>10.00</i>	<i>-1.48</i>	<i>-1.48</i>	<i>-1.53</i>

1 2 7	CI	2 0 1	0.027	0.067	0.01	13.00	14.00	14.00	-1.38	-1.34	-1.34
1 2 8	CI	2 0 2	0.032	0.08	0.01	16.50	17.00	16.00	-1.24	-1.23	-1.26
1 2 9	CI	2 0 3	0.036	0.089	0.02	19.00	19.00	17.50	-1.16	-1.16	-1.21
1 3 0	CI	2 0 4	0.038	0.094	0.02	20.00	20.00	19.00	-1.13	-1.13	-1.16
1 3 1	CI	2 0 5	0.041	0.101	0.02	21.00	22.00	20.00	-1.10	-1.07	-1.13
1 3 2	CI	2 0 6	0.046	0.114	0.02	23.00	23.00	23.00	-1.04	-1.04	-1.04
1 3 3	CI	2 0 7	0.052	0.131	0.02	25.00	27.00	24.50	-0.98	-0.93	-0.99
1 3 4	CI	2 0 8	0.058	0.144	0.02	29.50	31.00	26.50	-0.87	-0.83	-0.94
1 3 5	CI	2 0 9	0.06	0.15	0.03	31.00	32.50	28.50	-0.83	-0.79	-0.89
1 3 6	CI	2 0 10	0.061	0.152	0.03	32.00	34.00	28.50	-0.81	-0.76	-0.89
1 3 7	CI	2 0 11	0.064	0.16	0.03	34.00	35.50	31.50	-0.76	-0.73	-0.82

1 3 8	CI	2 0 1 2	0.071	0.177	0.03	37.00	38.00	33.50	-0.70	-0.67	-0.77
1 3 9	CI	2 0 1 3	0.078	0.196	0.03	39.00	41.00	37.00	-0.65	-0.61	-0.70
1 4 0	CI	2 0 1 4	0.083	0.207	0.04	41.50	43.50	39.50	-0.60	-0.56	-0.64
1 4 1	CI	2 0 1 5	0.083	0.208	0.04	41.50	45.00	39.50	-0.60	-0.53	-0.64
1 4 2	CI	2 0 1 6	0.084	0.209	0.04	43.50	46.50	39.50	-0.56	-0.51	-0.64
1 4 3	CI	2 0 1 7	0.088	0.22	0.04	46.50	49.00	42.00	-0.51	-0.46	-0.59
1 4 4	CI	2 0 1 8	0.096	0.241	0.04	50.00	52.50	46.00	-0.44	-0.39	-0.51
1 4 5	CI	2 0 1 9	0.104	0.261	0.04	52.00	54.00	51.00	-0.40	-0.37	-0.42
1 4 6	CI	2 0 2 0	0.107	0.268	0.05	55.50	58.00	53.00	-0.34	-0.30	-0.39
1 4 7	CI	2 0 2 1	0.106	0.265	0.04	53.50	55.00	51.00	-0.38	-0.35	-0.42
1 4 8	CI	2 0 2 2	0.106	0.266	0.04	53.50	56.50	51.00	-0.38	-0.32	-0.42

1 4 9	CI	2 0 2 3	0.113	0.281	0.05	<i>59.00</i>	<i>61.50</i>	<i>54.50</i>	<i>-0.28</i>	<i>-0.24</i>	<i>-0.36</i>
1 5 0	CI	2 0 2 4	0.123	0.307	0.05	<i>62.00</i>	<i>67.00</i>	<i>57.00</i>	<i>-0.23</i>	<i>-0.14</i>	<i>-0.31</i>

APPENDIX III:

List of selected Manufacturing firms at the NSE

	Name of The Company
1	British American Tobacco Limited
2	East African Breweries Ltd
3	Unga Group Ltd
4	Bamburi Cement Plc
5	Carbacid Investments plc

APPENDIX IV

: Data Collection Letter from KCA University



Walter Road, Nairobi
P.O. Box 58808-00200 Nairobi, Kenya
Phone Lines: +254 20 8070408/9

Tels: +254 20 8837842
Fax: +254 20 88361077
Mobiles: +254 734 888022, 710 888022
Emails: info@kca.ac.ke
Website: www.kca.ac.ke

BOARD OF POSTGRADUATE STUDIES

KCAU/BPS/2025

Date: Wednesday, September 24, 2025

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: MERCY WAMBUI NJUGUNA - REG NO: 15/04707

It is my distinct pleasure to introduce Mercy Wambui Njuguna, a student at our institution pursuing Master of Science in Commerce- Finance and Investments degree in the School Business.

Mercy is conducting research on the topic: *"Tax incentives, firm size and investment decision of manufacturing firms listed at the Nairobi Securities Exchange in 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.

- 1 9 8 9 -

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

.

Yours faithfully,

DR. JACKSON NDOLO

DIRECTOR, BOARD OF POST GRADUATE STUDIES

APPENDIX V

Ethical Clearance Certificate



Walter Road, Ruwaka
P.O. Box 54804-00200 Nairobi Kenya
Plot Area: +254 20 8070486/9
Tel: +254 20 3537842
Fax: +254 20 8041577
Mobile: +254 734 888032, 710 888032
Email: info@kca.ac.ke
Website: www.kca.ac.ke

KCA UNIVERSITY SCIENTIFIC & ETHICS REVIEW COMMITTEE

REF: KCAU/SERC/SOB0296

Date: 8TH SEPTEMBER, 2025

TO: MERCY WAMBUI NJUGUNA (15/04707)

Dear Sir/Madam,

RE: TAX INCENTIVES, FIRM SIZE AND INVESTMENT DECISION OF MANUFACTURING FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE IN KENYA.

This is to inform you that the KCA University Scientific Ethics Review Committee (KCAUSERC) has reviewed and approved your research proposal. Your application approval number is **KCAUSERC/SOB0296**. The approval period is **8th September, 2025 – 8th September, 2026**. This approval is subject to compliance with the following requirements.

- Only approved documents, including informed consents, study instruments, and MTAs, will be used.
- All changes, including (amendments, deviations, and violations), are submitted for review and approval by **KCAUSERC**.
- Death and life-threatening problems and serious adverse events or unexpected adverse events, whether related or unrelated to the study, must be reported to **KCAUSERC** within 72 hours of notification.
- Any changes, anticipated or otherwise, that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **KCAUSERC** within 72 hours.
- Clearance for export of biological specimens must be obtained from relevant institutions.
- Submission of a request for renewal of approval at least 60 days before expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- Submission of an executive summary report within 90 days upon completion of the study to **KCAUSERC**.

Before commencing your study, you will be expected to obtain a research license from the National Commission for Science, Technology and Innovation (NACOSTI) <https://research.portal.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,

Dr. Caroline Ntara,
Chairperson,
KCA University Scientific & Ethics Review Committee.



Appendix VI: NACOSTI License

 REF. DIR. OF KENYA Ref No: 523220	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION Date of Issue: 06/October/2025
RESEARCH LICENSE	
	
This is to Certify that Miss. Mercy Wambui Njuguna 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: TAX INCENTIVES, FIRM SIZE AND INVESTMENT DECISION OF MANUFACTURING FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE, IN KENYA for the period ending : 06/October/2026.	
License No: NACOSTEP/25/4180401	
Applicant Identification Number	
Ag. Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION	
Verification QR Code	
	
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