

**INFLATION AND THE STOCK MARKET RETURNS OF COMMERCIAL  
BANKS LISTED AT THE NAIROBI SECURITIES EXCHANGE, KENYA**

**JUDITH KANINI MWIWA**

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## DECLARATION

The research is my original work and has not been presented in any other institution for a degree.

Signature: ..... Date.....

**Judith Kanini Mwiwa**

**D53/MSA/PT/33340/2014**

The submission of this project for evaluation has been done with my approval as the University Supervisor.

Signature: ..... Date: .....

**Dr. Ambrose O. Jagongo**

**Department of Accounting & Finance**

**School of Business, Economics & Finance**

**Kenyatta University**

## **DEDICATION**

To our son, master Zayn Njonjo, daughter, Tziona Wavinya and my sister Charilyne Mumu for their source of inspiration in my academic journey.

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## **ABBREVIATIONS AND ACRONYMS**

**AIMS:** Alternative Investment Markets Segment

**ESM's:** Emerging Stock Markets

**ETS:** Electronic Trading System

**GDP:** Gross domestic product

**HDI:** human development index

**IMF:** The International Monetary Fund

**NSE:** Nairobi Stock Exchange

**SMR:** Stock Market Returns

**UK:** United Kingdom

**US:** United States

**VAR:** Vector Autoregressive

**WAN:** Wide Area Network

## DEFINITION OF TERMS

**Inflation:** Refers to the general and sustained increase in the prices of goods and services in Kenya, which may influence the performance of stock returns of commercial banks listed at the Nairobi Securities Exchange (NSE).

**Cost-push inflation:** This denotes the rise in the general price level driven by increased production costs, which may impact the profitability and stock market returns of listed commercial banks.

**Demand-pull inflation:** Refers to inflation arising from heightened demand in the economy relative to supply, potentially affecting consumer purchasing power and investment in banking stocks.

**Imported inflation:** Represents price increases resulting from higher costs of imported goods and services, which may influence operational expenses and thus the stock returns of commercial banks in Kenya.

**Inflation targeting:** A monetary policy strategy used by Kenya's central bank to maintain inflation within a set target range, influencing investor expectations and stock market behavior.

**Exchange rate:** In this context, it is the value of the Kenyan Shilling relative to foreign currencies, affecting foreign investment inflows and the performance of bank stocks on the NSE.

**Interest rate:** The cost of borrowing set by financial institutions or the Central Bank, which can influence loan uptake, bank profitability, and corresponding stock returns.

**Equity price:** The market value of a single share of a commercial bank listed on the NSE, serving as an indicator of investor valuation and returns in the stock market.

**Stock:** A financial instrument representing ownership in a listed commercial bank, entitling the holder to a proportion of the bank's earnings and assets.

**Stock market:** Refers to the Nairobi Securities Exchange, where shares of commercial banks are traded and whose performance reflects investor responses to inflationary trends.

**Stock market returns:** These are the gains or losses accrued by investors from holding stocks of commercial banks, measured by dividends and capital appreciation, and influenced by inflationary conditions.

## ABSTRACT

Inflation, defined as the sustained increase in the general price level of goods and services over time, poses significant implications for financial markets and investment decisions. In developing economies like Kenya, inflation is not only a macroeconomic concern but also a critical determinant of investor confidence and capital market performance. While stocks are traditionally considered a hedge against inflation, empirical evidence remains inconclusive, with some studies showing positive, negative, or even neutral relationships between inflation and stock market returns. This divergence underscores the need for context-specific research. In this regard, the present study investigated the influence of inflation on the stock market returns of commercial banks listed at the Nairobi Securities Exchange (NSE), Kenya. The study sought to analyze how different types of inflation; cost-push inflation, demand-pull inflation, imported inflation, and inflation targeting, affect stock market returns. Theoretical grounding was provided by the Fisher Hypothesis, Inflation Illusion Hypothesis, Proxy Hypothesis, and Interest Rate Parity Theory, each offering different lenses through which the inflation-stock return nexus can be understood. A descriptive research design was adopted to enable a detailed examination of the phenomenon. The study focused on all eleven commercial banks listed on the NSE from January 2017 to December 2022, a period characterized by significant economic volatility both locally and globally. Given the manageable population size, a census approach was employed. Secondary data was obtained from credible institutional sources including the Kenya National Bureau of Statistics (KNBS), the Central Bank of Kenya (CBK), and the Nairobi Securities Exchange (NSE). Quarterly data over the six-year period were analyzed to establish patterns and relationships between inflation variables and stock market returns. Quantitative methods were applied using SPSS version 21 to draw meaningful inferences. The findings revealed that cost-push inflation, demand-pull inflation, and imported inflation had a significant and positive effect on the stock market returns of commercial banks at the NSE. Furthermore, inflation targeting by the Central Bank was found to moderate these effects, particularly by influencing investor expectations and interest rate movements. These results underscore the complexity of inflation's impact on financial markets, suggesting that inflation, while often perceived as a threat, may under certain conditions be associated with improved stock market performance. The study contributes to the growing body of knowledge on macroeconomic factors influencing capital markets in emerging economies and offers insights for policymakers, investors, and financial analysts seeking to navigate inflationary periods effectively.

# CHAPTER ONE

## INTRODUCTION

### **1.1 Study Background**

Over the past decade, Kenya has witnessed a significant increase in public borrowing from both domestic and international sources. This trend has raised concerns over fiscal sustainability and has coincided with a slowdown in economic activity and subdued performance in the securities market, characterized by a decline in stock valuations. Within the financial markets, inflation emerges as a key variable that influences investor behavior and asset pricing. While monetary expansion is commonly employed to stimulate economic activity, its effectiveness under certain conditions—such as liquidity traps—has been questioned. In such scenarios, injecting additional money into the economy may not translate into increased investment or consumption, a situation metaphorically described as “pushing on a string.” Though low to moderate inflation may stem from fluctuations in real demand, changes in supply, or variations in the velocity of money, most economists concur that persistent inflation is largely driven by the money supply expanding at a rate that exceeds economic growth (Bernanke, 2018).

In the context of financial markets, stock exchanges such as the Nairobi Securities Exchange (NSE) play a critical role in channeling capital from savers to productive investments. They provide a mechanism for risk-sharing and liquidity provision, enabling investors—both individual and institutional—to diversify their portfolios and align their investment strategies with risk tolerance and return expectations. As noted by Olweny and Kimani (2021), stock markets support economic development by mobilizing savings from various sectors and efficiently reallocating them to commercial enterprises. For listed banks, the stock market serves as a platform not only for capital acquisition but also as a barometer of investor sentiment influenced by

macroeconomic indicators such as inflation, interest rates, and exchange rate volatility. The performance of banking stocks, therefore, becomes sensitive to inflationary pressures that affect both operational costs and consumer behavior.

Globally, macroeconomic policy has increasingly focused on achieving stable economic growth alongside low and predictable inflation rates (Sergii, 2019). This approach is widely endorsed due to its potential to enhance long-term investment planning and financial market stability. According to Omollo (2022), consistent economic growth drives labor demand and expands employment opportunities, while higher national output boosts public sector revenues, enabling expanded infrastructure and service delivery. This, in turn, promotes long-term productivity and economic resilience (Amanja & Morrissey, 2019). In the context of the stock market, stable macroeconomic conditions create a conducive environment for financial instruments to perform optimally.

However, high and unpredictable inflation introduces uncertainty into the pricing of financial assets, affecting investor expectations and leading to risk-averse investment strategies (Gokal & Hanif, 2018). From a corporate finance perspective, inflation complicates decision-making processes by distorting real interest rates, undermining return forecasts, and increasing operational costs. Chiu and Meh (2021) emphasize that inflation uncertainty negatively impacts borrowing and lending decisions, compelling firms to divert resources toward inflation hedging strategies. For banks, this might include more intensive competitor price monitoring to distinguish inflationary pressures from sector-specific trends (Gokal & Hanif, 2018). Such operational adjustments can affect profitability and, consequently, the performance of banking stocks.

### **1.1.1 Inflation**

Inflation refers to a sustained increase in the general price level of goods and services in an economy over a period, leading to a decline in the purchasing power of money (Romer, 2019). It is typically measured using price indices, with the most common being the Consumer Price Index (CPI) and the Producer Price Index (PPI). The CPI tracks the average change in prices paid by consumers for a basket of goods and services and is a standard indicator used to assess cost-of-living adjustments and monetary policy decisions. The PPI, in contrast, measures changes in the prices received by domestic producers for their output and is often a leading indicator of future consumer inflation. In this study, inflation is measured using the CPI to capture both demand-pull and imported inflation, while PPI is used to capture cost-push inflation. Inflation targeting, a forward-looking monetary policy approach adopted by the Central Bank of Kenya (CBK), is also examined as a moderating factor.

Inflation is a critical macroeconomic variable because of its direct and indirect impacts on financial markets. Persistent inflation erodes real investment returns and increases market uncertainty, affecting investor sentiment and asset valuations. As Bernanke et al. (2019) highlight, inflation can distort pricing signals, increase the cost of capital, and lead to inefficient resource allocation. Vega and Winkelried (2019) argue that well-anchored inflation expectations, achieved through inflation targeting, can reduce inflation volatility, lower the costs of disinflation, and stabilize long-term return expectations. These dynamics make inflation particularly relevant in examining the stock market performance of commercial banks.

In Kenya, inflation has been influenced by a mix of domestic and external factors, including exchange rate volatility, fiscal deficits, food supply shocks, and global commodity prices. According to the Kenya National Bureau of Statistics (KNBS), the country's inflation rate averaged around 6% annually over the past decade, but episodes of volatility—such as during the 2017 drought and the COVID-19 pandemic—pushed inflation beyond CBK's target range of 2.5%–7.5%. More recently, inflation peaked at 9.6% in October 2022, largely due to imported inflation from rising global fuel and food prices (KNBS, 2023). These inflationary pressures affect commercial banks through increased operational costs, higher non-performing loans due to reduced customer purchasing power, and fluctuating investor confidence in banking stocks.

Commercial banks listed on the Nairobi Securities Exchange (NSE) have experienced varying stock market returns in response to macroeconomic fluctuations. Data from the NSE shows that between 2017 and 2022, most banking stocks demonstrated moderate but uneven performance. For instance, shares of Equity Group Holdings and KCB Group—two of the largest banks by market capitalization—registered growth in some years but faced downturns in others due to inflation shocks and policy rate adjustments by the CBK. The average stock return for listed banks was positive between 2017 and 2019, driven by increased profitability and regional expansion. However, returns dipped sharply in 2020 following the economic disruption caused by the COVID-19 pandemic, and although a recovery was noted in 2021 and 2022, it remained uneven across institutions (NSE, 2023).

Several bank stocks have shown sensitivity to inflation-linked policy decisions, such as the Monetary Policy Committee's adjustments of the Central Bank Rate (CBR), which influences borrowing costs and credit availability. Furthermore, higher inflation

expectations often drive up interest rates, thereby reducing the present value of future earnings, negatively impacting stock valuations. For commercial banks, this effect is compounded by inflation's impact on loan defaults, operating margins, and regulatory capital requirements.

Inflation remains a key determinant of stock market performance, particularly for commercial banks whose earnings and investor valuations are closely tied to macroeconomic stability. By exploring how different forms of inflation—demand-pull, cost-push, imported inflation, and inflation targeting—relate to stock market returns, this study aims to provide deeper insight into the inflation-stock return nexus within Kenya's financial sector.

### **1.1.2 Stock Market Returns**

Stock market returns refer to the gains or losses investors earn from holding shares in publicly listed companies. These returns are typically realized through two primary components: capital gains (or losses) and dividend payments. Capital gains arise from the increase in a stock's market price over time, while dividends represent periodic profit distributions by the firm to its shareholders. The performance of stock market returns is widely regarded as a forward-looking indicator of macroeconomic conditions. According to Mun, Siong, and Thing (2018), declining stock prices often precede economic downturns, whereas a rise in stock prices typically signals expectations of economic expansion. For example, the global uncertainty surrounding the 2019 economic slowdown triggered notable declines in global stock indices, reflecting investor apprehension (Fuentes, 2020).

In the Kenyan context, the stock market—anchored by the Nairobi Securities Exchange (NSE)—plays a vital role in capital mobilization, risk diversification, and financial intermediation. Commercial banks listed on the NSE, including Equity Group Holdings, KCB Group, NCBA, and others, constitute a significant segment of the exchange in terms of market capitalization and trading activity. These banks use the capital markets to raise long-term financing through equity issuance, thereby supporting credit expansion and investment. According to NSE Annual Reports (2023), the banking sector consistently accounts for over 40% of the total market capitalization and turnover at the exchange.

However, stock market returns of commercial banks have exhibited mixed performance in recent years, influenced by macroeconomic challenges such as inflation, currency depreciation, interest rate volatility, and post-pandemic recovery uncertainty. For instance, Equity Group Holdings' stock appreciated by over 25% between 2017 and 2019, benefiting from regional expansion and robust financial results. However, in 2020, the onset of the COVID-19 pandemic caused its share price to drop by more than 20%, alongside KCB and Co-operative Bank, as investors reacted to reduced profitability and heightened credit risk. Although partial recovery occurred in 2021 and 2022, the rebound was dampened by inflationary pressures, tightening monetary policy, and global geopolitical shocks (NSE, 2023; CBK, 2022).

Moreover, the NSE 20 Share Index—which tracks the performance of 20 top companies—declined from 3,712.04 points in January 2017 to 1,596.25 points by December 2022, indicating an overall bearish trend. A similar pattern is reflected in the Banking Sector Index, which also dropped significantly over the same period, highlighting stagnation in investor confidence and returns across the sector. Key drivers

of these trends include inflation-driven interest rate hikes, reduced credit growth, and exchange rate instability, which directly impact bank earnings and, consequently, investor returns.

In empirical finance, stock market returns are commonly measured using percentage change in stock prices over time, adjusted for dividends. Stock market returns for commercial banks listed on the NSE are calculated on a quarterly basis using closing share prices and declared dividends from January 2017 to December 2022. Data is sourced from the NSE, Central Bank of Kenya (CBK), and individual bank financial statements. This approach ensures consistency with market practice and allows for an accurate analysis of how inflation dynamics affect investor gains in the banking sector.

The declining trend in stock market performance, particularly within Kenya's banking sector, raises concerns about the sensitivity of bank returns to inflationary pressures. Understanding the link between inflation types—such as cost-push, demand-pull, imported inflation, and inflation targeting—and stock returns is critical for investors, policymakers, and financial institutions seeking to navigate macroeconomic risks and optimize financial strategies.

### **1.1.3 Banks listed in Nairobi Securities Exchange**

In Kenya, NSE stands as the primary stock market. Functioning as a market for the trading of securities which the government, corporate entities and publicly listed institutions offer, during Kenya's time as a British colony, the London Stock Exchange approved its development in 1954 as an overseas stock exchange, with approval from. Initially lacking formal regulations, the market operated on an agreement with standard commissions, and participants, including lawyers, estate agents, auctioneers and accountants would meet informally for price exchange over coffee.

The NSE remained inactive up to 1993 when privatization happened due to economic reforms led and restrictions on exchange controls and foreign investors were eased (Smith et al., 2022). As an African Stock Exchanges Association member, the NSE ranks fifth-largest in Africa in capitalizing market as a GPD percentage and fourth stock exchange by trading volumes. With a WAN platform introduced in 2007, trading occurs through the Electronic Trading System (ETS), implemented in 2016, eliminating brokers being physically present on the trading floor.

In 2021, the NSE underwent restructuring, resulting in three market segments: the Fixed Income Securities Market Segment (FISMS), the Alternative Investment Markets Segment (AIMS), and the Main Investments Market Segment (MIMS). FISMS offers fixed income securities an independent market, including short-term financial tools e.g commercial papers and treasury bills; debenture stocks, preference shares, corporate bonds and treasury bonds, AIMS provides alternative capital-raising avenue for SMEs facing challenges meeting stringent MIMS listing requirements, while MIMS serves as the primary quotation market.

#### **1.1.4 Inflation Targeting**

In the contemporary global economy, there is a prevailing preference for maintaining a modest and consistent level of inflation. This choice is rooted in the belief that low inflation serves to mitigate the impact of economic downturns by facilitating quicker adjustments in the labor market and minimizing monetary policy being hindered by a liquidity trap. While aiming for zero percent inflation may seem ideal, it is not practical nor deemed desirable. The consensus among the majority of economists is that a moderate inflation rate, around two percent, is optimal, and up to five percent is

considered acceptable. However, double-digit inflation rates are widely regarded as undesirable.

Ensuring a lower and stable inflation rate is typically entrusted to monetary authorities, commonly represented by central banks. These entities exert control over monetary policy through mechanisms like open market operations, setting banking reserve requirements and interest rate adjustments.

Examining historical trends, during hyperinflation episodes in the 1990s, certain nations like the Democratic Republic of Congo and Angola faced extreme average inflation respective rates of approximately 716% and 476%. Meanwhile, nations like Zambia, Uganda, Sudan and Ghana experienced comparatively high average inflation rate of up to 30%. On the other end of the spectrum, nations like Tunisia, Niger, Morocco, Cape Verde, Equatorial Guinea, Libya, Burkina Faso, Mali, Chad and the Central African Republic maintained lower average inflation rates, hovering around 4%. For the broader set of African nation studied, in the 1970s average inflation stood at 12.4%, escalating to 114.5% in the 1990s because of hyperinflation in Angola and DRC, as well as elevated inflation in Sudan, Uganda, and Zambia. However, in the 2000s, this rate decreased to 10.5% and further decreased to 6.8% during 2010-2013. For the entire period from 1970 to 2013 across African countries, the average inflation rate was 35.2%. Disparities in inflation levels among these nations are attributed to variations in monetary policy regimes. Consequently, a common currency is shared by countries in the CFA zone, the CFA franc, and maintain a fixed exchange regime to uphold low inflation. While some Maghreb countries such as Tunisia, Morocco, and Libya previously adhered to a fixed peg, at present, Nigeria, South Africa, and Ghana

follow an inflation-targeting regime, whereas majority of African countries follow either a managed float regime or monetary-targeting regime.

## **1.2 Problem Statement**

The persistent volatility of stock market returns in Kenya, particularly among commercial banks listed on the Nairobi Securities Exchange (NSE), raises critical concerns about the underlying macroeconomic drivers, chief among them being inflation. Despite the theoretical premise that equities offer a hedge against inflation, empirical evidence remains inconsistent and, at times, contradictory. This has left investors, policymakers, and corporate managers uncertain about how inflationary trends affect returns on equities, especially within the banking sector that forms the backbone of the NSE in terms of market capitalization and trading activity.

From a contextual standpoint, commercial banks in Kenya have faced fluctuating returns over the past six years. For instance, NSE market data show that the Banking Sector Index declined from 4,010 points in 2017 to 2,342 points in 2022—a 41.6% drop—despite periods of strong financial performance by individual banks (NSE, 2023). Equity Group Holdings' share price fell from KES 53.00 in early 2020 to KES 39.80 by the end of 2022, even though it reported rising net profits during this period. These declines occurred in tandem with elevated inflation levels, which averaged 6.5% between 2017 and 2022, spiking to 9.6% in late 2022, primarily due to supply chain disruptions, rising fuel prices, and imported inflation (KNBS, 2023; CBK, 2022). This divergence between stock performance and corporate fundamentals suggests inflation may exert a more nuanced and complex influence on stock market returns than previously assumed.

Empirically, several studies in Kenya have focused on the relationship between inflation and stock prices but yield mixed and inconclusive findings. For example, Munene (2017) found a negative and statistically significant relationship between inflation and stock prices, while Nyamute (2018) reported that inflation, interest rates, and exchange rates collectively impacted stock prices in varying directions. However, most of these studies concentrated on general market indices rather than sector-specific performance, overlooking the heterogeneity across industries. Specifically, few studies have examined the banking sector independently, despite its substantial contribution to NSE turnover and capital flow. This lack of sectoral analysis limits the relevance of policy recommendations and investor strategies derived from aggregate data.

Methodologically, past research has tended to adopt linear models, failing to account for potential non-linearities and threshold effects in the inflation-stock return relationship. International studies such as Li et al. (2016) and Bruno & Easterly (2016) show that inflation may affect stock returns positively up to a certain threshold, beyond which the effect turns negative. These dynamics have not been adequately explored in the Kenyan context, particularly with respect to distinguishing among different inflation sources—such as demand-pull, cost-push, and imported inflation—and how these categories may differentially impact the stock performance of commercial banks. Additionally, most Kenyan studies rely heavily on annual data, which may mask short-term fluctuations and temporal causality between inflation and returns. There is a methodological gap in the use of high-frequency (e.g., quarterly) data that can provide more precise insights into short-term investor behavior and market adjustments. In light of these contextual, empirical, and methodological gaps, the current study seeks to investigate the influence of various forms of inflation—including imported, cost-push,

demand-pull, and inflation targeting—on the stock market returns of commercial banks listed at the Nairobi Securities Exchange. By narrowing the scope to the banking sector, using quarterly data from 2017 to 2022, and incorporating moderating effects of inflation targeting policies, this study aims to offer a more nuanced and policy-relevant understanding of inflation’s role in shaping equity market performance in Kenya.

### **1.3 Study Objectives**

#### **1.3.1 The General Objective**

To determine the effect of inflation on the stock market returns of commercial banks listed at the NSE, Kenya

#### **1.3.2 Specific Objectives.**

- i. To establish effect of demand-pull inflation on the stock market returns at NSE, Kenya
- ii. To find out effect of cost-push inflation on the stock market returns at NSE, Kenya
- iii. To determine effect of imported inflation on the stock market returns at NSE, Kenya
- iv. To assess effect of hyper-inflation on the stock market returns at NSE, Kenya
- v. To examine the moderating effect of inflation targeting on the stock market returns at NSE, Kenya

### **1.4 Research Hypotheses**

**H<sub>01</sub>:** Demand-pull inflation does not have a significant effect on the stock market returns at NSE, Kenya.

**H<sub>02</sub>:** Cost-push inflation does not have a significant effect on the stock market returns at NSE, Kenya.

**H03:** Imported inflation does not have a significant effect on the stock market returns at NSE, Kenya?

**H04:** Inflation targeting does not have a significant moderating effect on the stock market returns at NSE, Kenya.

### **1.5 Study Significance**

The research's significance is its capability to assist investment firms in developing and executing effective policies to achieve wealth maximization goals and enhance overall firm value. The findings carry policy implications for both investment firms and government authorities. For investment firms, the study can inform the creation of policies that consider factors like inflation, exchange and interest rates, contributing to investment promotion in the stock market. Additionally, this research contributes valuable insights to the existing knowledge base in this field, providing a solid foundation for future researchers in conducting more in-depth investigations in this area.

### **1.6 Study Scope**

This research examined how inflation impacts the commercial banks' stock market returns listed on the NSE in Kenya. The research will be guided by the Inflation Illusion Hypothesis, Fisher Hypothesis, The Proxy Hypothesis, and Interest Rate Parity Theory. Employing a descriptive research design, the study will encompass all eleven (11) banking sector firms listed on the NSE, with available data spanning from January 2017 to December 2022. Due to the relatively small target population (less than 100), a census survey was conducted, thus there was no need of sampling.

This research relied on secondary data obtained from external records. Stock market return data will be sourced from the NCE and the CBK, while inflation data was collected from the KNBS. The analysis covered a five-year period, with data examined

on a quarterly basis exploring the connection between stock market returns and inflation. The data collection process entailed using a data collection sheet. Quantitative evaluation was conducted using the SPSS 21 version.

### **1.7 Study Limitations**

Firstly, this research faced difficulties in establishing inflation and stock market returns' causal connection because of the influence of various external factors and market dynamics on both variables independently. Additionally, the research may be limited by challenges related to the data availability and quality, particularly if historical inflation and stock market data are not readily accessible or if there are gaps in the dataset. Moreover, the generalizability of findings was a concern, given that the dynamics of the Kenyan economy and banking sector may significantly differ from those in other regions, thereby limiting the external validity of the study. The research also considered potential changes in banking regulations, monetary policies, or other macroeconomic factors that could impact the stock market returns of commercial banks.

### **1.8 Study Organization**

The document is outlined as: the preceding first section furnishes the study background, objectives, scope, significance, and encountered limitations during the exercise. Section two comprises a review of literature and a conceptual framework. The third section outlines the study design, targeted group, sampling design, data tool, and strategies for analyzing and presenting data. Chapter four highlights the discussions and findings. The fifth chapter highlights the findings in summary, conclusions, recommendations and what the project suggests for further research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The section covers the examination of both empirical and theoretical literature relevant to this research. Additionally, it offers a critical analysis of existing literature, along with a summary and identification of research gaps related to this research and its conceptual framework.

#### **2.2 Theoretical Literature Review**

This relies on the conceptual framework established by researchers to investigate how inflation impacts stock market returns.

##### **2.2.1 Inflation Illusion Theory**

The theory that inflation illusion arises from significant correlations between inflation rates and stock market returns was proposed by Modigliani and Cohn (1979). They suggested that the phenomenon of money illusion significantly influences market investors. Consequently, stocks are perceived as undervalued during periods of higher inflation and overvalued during lower inflation rates. The Cohn and Modigliani hypothesis implies that investors exhibit behavioral biases, leading to valuation errors influenced by inflation (Wilcox, 2017).

Ritter and Warr's (2016) study aligned with the inflation illusion hypothesis, attributing the leveraged equities undervaluation to errors in using real capitalization and nominal rates, ultimately sparking the bull market in 1982. Similarly, Campbell and Vuolteenaho's (2016) research, spanning from 1927 to 2016, identified inflation-induced mispricing, providing further support for the illusion hypothesis. However, while inflation illusion can account for the stock mispricing level, no explanation of

mispricing volatility (Lung and Wang, 2017). According to this theory, inflation may be linked to investors' risk attitudes, which can negatively impact stock prices.

### **2.2.2 Fisher Theory**

The Fisher effect posits that altering nominal asset returns corresponds to expected inflation, suggesting that real attributes dictate stock returns, irrespective of the inflation rate. Assets, such as stocks represent claims to physical assets, should exhibit a positive correlation with expected inflation to counteract the impact of rising prices (Fisher, 1930).

Boudoukh and Richardson's (1993) studies support the Fisher Hypothesis regarding how stock market returns and inflation relate. Conducted in the US and the UK, this research analyzed returns between 1802 and 1990. However, Fisher Effect has faced criticism from many researchers. Schwert and Fama (2017) and Mandelker and Jaffe (2016) documented a negative link between stock prices and inflation. Mishra and Singh (2017) posit that the negative relationship is a result of increasing inflation, which raises the discount rate in the standard stock valuation model, hence negatively impacting the stock market returns.

This theory's implication is that, in a normal trading scenario where present and anticipated inflation levels are shown in prices, increment in anticipated inflation, all else being equal, results into a rise in nominal returns. This systematic change suggests that inflation and stock returns are interconnected. The theory underscores the idea that assets should consistently sustain their values against inflation, resulting in a notable link between stock return and inflation.

### **2.2.3 The Proxy Theory**

Introduced by Fama in 1981, The Proxy Theory aims to elucidate the inflation and stock market prices' inverse association, and their indirect connections with economic

activity. Fama's Hypothesis posits that stock market returns and anticipated economic growth's positive correlation results in a slowdown of real economic growth as inflation increases. This, in turn, amplifies volatility, compelling investors to seek higher premiums to mitigate the additional risks (Olusifayo, 2017).

Cozier and Rahman (1988) utilized Granger's (1969) technique to investigate the causality mode in how inflation and stock market returns. Their research in Canada aligned with the predictions of the Proxy Hypothesis. Lee (1992) employed the Vector Autoregression (VAR) residuals approach to examine Granger causality and dynamic interactions among variables in the US, with outcomes consistent with Fama's Proxy Hypothesis. However, McQueen and Roley (1993) criticized this theory, contending that real economic activities and stock prices negatively relate only under specific scenarios, arguing that stock prices is boosted by information about a surge in economic activities in weaker economies but depresses them in flourishing economies.

#### **2.2.4 Purchasing Power Parity Theory**

Keynes formulated the theory in 1923, positing that difference in interest rates between two nations is comparable to the gap between the current and future exchange rates of their respective currencies. This theory holds significant importance in exchange markets as it elucidates the interplay among interest, foreign exchange, and spot exchange rates. The tight correlation among interest rates, inflation, and exchange rates implies that changing one parameter has a compensating impact on the others. Exchange rates and inflation are influenced by central banks through interest rates manipulation (Alexius, 2021). Foreign capital is attracted by a high interest rate in a country, leading to exchange rate going up. Though, when inflation is higher in any nation or its currency weakens in comparison to others, the higher interest rates' impact is diminished.

The theory asserts that a currency's forward, futures and spot price incorporate differential rate of interest between two currencies, assuming the absence of taxes or transaction costs (Alexius, 2021). According to this theory, disparity in interest rates between two currencies is indicated by the discount or premium of one currency relative to the other. The currency possessing the lower interest rate exhibits a forward premium compared to the currency with the higher interest rate. Without transaction costs, the interest rate differential is approximately equivalent to the forward differential in an efficient market. When this condition is satisfied, the interest rate parity and forward rate align, indicating equilibrium in the money market. Then match between return on a hedged foreign investment and the realized interest rate on a corresponding domestic investment is ensured by interest parity, leading to a zero disparity between the hedged foreign interest rate and the domestic rate.

Chinn and Meredith (2018) note that interest differential between particular currencies is employed by Euro currency markets when calculating forward interest using a no-arbitrage condition. Interest rate parity is pivotal in foreign exchange markets as it establishes a connection between spot and foreign exchange rates. In essence, the interest rate differential between 2 nations equals the variation between forward exchange rate and a spot. It states that the interest rate parity theory resulted from foreign exchange trading and suggests that anticipated exchange rate change plus the foreign country's interest rate be equal to the domestic interest rate. A notable weakness of this theory lies in its reliance on two assumptions: the efficiency of markets with capital mobility and the perfect substitutability of foreign and domestic assets. Nevertheless, the theory is pertinent for comprehension of how study variables like interest rate and inflation rate relate.

### **2.2.5 Efficient Market Hypothesis (EMH) Theory**

The Efficient Market Hypothesis (EMH), developed by Eugene Fama in the 1970s, is one of the most influential theories explaining the behavior of stock market returns. The EMH posits that stock prices fully reflect all available information at any given time, implying that it is impossible for investors to consistently achieve excess returns through market timing or stock selection based on publicly available information. The theory categorizes market efficiency into three forms: weak, semi-strong, and strong. In the weak form, stock prices incorporate all past trading information; the semi-strong form suggests prices reflect all publicly available information; and the strong form contends that prices reflect all information, both public and private. According to EMH, any changes in stock prices are driven by new, unpredictable information, making returns essentially random and not systematically related to observable variables like inflation—unless inflation conveys new information not already priced in by the market.

In relation to the current study, the EMH provides a useful lens for analyzing stock market returns of commercial banks listed on the Nairobi Securities Exchange (NSE). The hypothesis suggests that if the NSE is semi-strong efficient, then macroeconomic variables such as inflation should only affect stock returns if they convey new, unexpected information not already accounted for in stock prices. However, in an emerging market like Kenya's, where market inefficiencies may be more pronounced due to limited investor information access, behavioral biases, and lower liquidity, inflation dynamics may indeed impact stock returns in observable and predictable ways. For example, unanticipated increases in inflation could alter investor expectations regarding future interest rates, monetary policy, or corporate profitability, leading to immediate adjustments in stock prices. This divergence from full market efficiency

justifies a deeper exploration of inflation as a key determinant of stock market returns in Kenya's banking sector.

Moreover, empirical studies have used EMH as a benchmark to test whether macroeconomic fundamentals such as inflation, interest rates, and exchange rates are reflected in equity prices. For instance, Omran and Pointon (2001) found that emerging markets often deviate from the EMH due to slower information dissemination and limited market depth, thereby allowing macroeconomic variables to significantly influence returns. In the Kenyan context, limited investor awareness, uneven access to market information, and speculative trading can lead to temporary inefficiencies, making stock returns more sensitive to inflationary pressures. The EMH thus not only frames the theoretical justification for examining stock market returns as a dependent variable but also sets a standard against which the responsiveness of equity prices to inflation indicators can be measured. This makes it a suitable theoretical foundation for the present study, which seeks to empirically assess how different types of inflation affect stock returns in Kenya's commercial banking sector.

## **2.3 Empirical Review**

### **2.3.1 Demand-pull Inflation and Stock Market Returns**

Munene (2017) conducted a study exploring how stock prices and inflation relate at the NSE. The aim was to define and approximate the functional association between these two variables. The research utilized monthly data from selected stocks of 6 firms listed on the NSE from 2002 to 2016. The OLS estimation method was deployed in estimating a single equation with information dummy, expected inflation, and actual inflation as explanatory variables and practical returns as the dependent variable. An ECM specification was used in capturing long-run equilibrium after variable differencing in making them stationary. The research reported that expected inflation and stock returns

negatively correlated. However, dividend information dummy, stock prices and actual inflation related positively.

In Kenya, Ngigi (2017) explored how stock market performance is impacted by monetary and fiscal policy actions. Using co integration of variables, the study analyzed the anticipated and unanticipated monetary and fiscal policies' effect on the NSE performance. Findings suggested that unanticipated fiscal and anticipated monetary policy actions negatively impact stock market, while unanticipated monetary policy adjustments have a positive impact. Anticipated fiscal policy actions have no notable effect on the stock market.

Omondi & Olweny (2018) focused on how stock return volatility is influenced by macroeconomic factors on the NSE. Utilizing monthly time series data for between 2010 January and 2021 December, the research employed EGARCH and TGARCH models. The research found evidence that inflation, interest, and foreign exchange rates fluctuations significantly impact stock return volatility. It also identified symmetry in stock returns but noted that they are leptokurtic and not normally distributed.

Muriithi (2020) explored how on the NSE performance was affected by financial crises, focusing on the period from 1991 to 2010. The performance indicator being NSE 20 share Index, a significant difference in stock market performance in the year after a crisis has hit major exchanges was reported. Although the impacts were not strong enough to cause panic, the research revealed that NSE performance is generally low in monetary crises but improves after the crisis.

In a study by Mutai (2021), the focus was on macroeconomic attributes influencing stock prices on NSE. The research tested empirically how stock prices and various macroeconomic variables like money supply, budget deficit, current account balance, exchange rates, inflation, and Treasury bill rates were associated. Utilizing VAR

technique and monthly data from 1990 to 2002, the research aimed at identifying the macroeconomic variables influencing stock prices and approximate their long-term connection. The findings suggested that stock prices tend to evolve together with inflation, exchange rates, current account balance, GDP, Treasury bill rates, budget deficit and money supply over time.

Using firms on the NSE, Aroni (2021) did an evaluation of factors that impact stock prices for between 2010 January and 2018 December. The study considered exchange rates, inflation, interest rates and money supply, using secondary data from CBK and NSE. Multiple regression analysis showed that inflation, interest, and exchange rates notably impacted the stock prices, whereas the connection with money supply was not significant. The study concluded that investors should continuously review current financial and economic conditions to formulate appropriate investment strategies, considering the dynamic nature of financial markets affected by various macroeconomic factors.

### **2.3.2 Cost-Push Inflation and Stock Market Returns**

In a separate investigation, Abugri (2016) examined selected macroeconomic indicators in four Latin American countries, including money supply, industrial production, interest, and exchange rates to elucidate their impact on market returns. The findings suggested that global factors consistently play a significant role to explain returns across all markets, while nation-specific macroeconomic attributes exhibit varying levels of impact.

Chen and Jin (2018) study shares similarities with our research, as both endeavors aim to identify the factors influencing stock returns. Nevertheless, distinctions arise as our study concentrates on a developing economy, where economic variables may impact

stock returns differently. Notably, our study employs panel data analysis, specifically employing random effect generalized least squares (GLS).

Robert (2018) explored how stock market returns in emerging economies like India, China, Russia and Brazil are affected by macroeconomic variables. The results indicated a lack of significant relationships between current and past market returns and macroeconomic variables, suggesting weak market efficiency. Additionally, no noteworthy connections were observed between stock market index prices, oil prices, and exchange rates in these 4 nations.

Coleman and Tettey (2018) investigated how the Ghana Stock Exchange is impacted by macroeconomic variables, deploying quarterly data from 1991 to 2019. Their conclusions highlighted adverse effects of market lending rates on stock market performance, stock market performance and inflation negatively associated, and the time-delayed impact of inflation due to lag periods.

Data from 13 emerging stock markets (ESMs) spanning from 1984 to 2018 was utilized by Bai and Green (2018) in exploring the cross-sectional stock returns variations determinants. Their random effects regression analysis revealed negative relationships between exchange rate changes and country effects, a positive association between inflation and country effects, a decrease in stock returns with increased activities of financial intermediaries, and a positive connection between stock returns and stock market activity.

Koubi (2018) investigated the stock returns and financial development determinants across 49 countries from 1980 to 1999. The study identified negative effects of high transactions and legal uncertainty on stock market stability, with notable impact being exerted by transaction costs. Exchange rates, general economic volatility, capital controls, and degree of openness showed varying degrees of influence on stock returns.

A study to ascertain factors determining stock returns during the 1987 and 2018 US stock market meltdowns was done by Wang et al. (2019). Their multivariate regression evaluation highlighted bankruptcy risk and technical insolvency risk contribution to stock returns. More significant losses were experienced by stocks with greater return volatility, larger market capitalization, and higher betas. The market-to-book ratio played a key task in the 2018 meltdown but not in 1987, while stock illiquidity was a significant determinant in 1987 but not in 2018.

In Namibia, Eita (2020) examined attributes influencing stock market prices by use of quarterly data from 1998 to 2019. The research reported that, economic activity, money supply, exchange rate, inflation, and rate of interest were the main stock price determinants. Positive relationships were reported between economic activity, stock market prices and money supply, while inflation and interest rates had negative associations with stock prices.

### **2.3.3 Imported Inflation and Stock Market Returns**

Tursoy, Gunsol, and Rjoub (2018) conducted a test on the APT model validity within the Istanbul Stock Exchange (ISE) through monthly data spanning between 2021 and 2019. The incorporated 13 macroeconomic attributes, including interest rates, money supply, industrial production, market pressure index, unemployment rates, gold prices, foreign reserves, gross domestic product, imports, exports, exchange rates, crude oil prices, and consumer price index. Their findings suggested that returns on ISE were not impacted by the mentioned factors.

Lucey, Najadmalayeri, and Singh (2018) explored how imported inflation and stock exchange returns in developed countries from 1999 to 2007 were associated. Monthly information from stock exchanges in the UK, Singapore, Italy, Hong Kong, Germany, France, and Canada were evaluated through the GARCH model. The results revealed

that unexpected news related to macroeconomic variables significantly influenced the returns of stock exchanges in the mentioned countries.

A study on the connection between imported inflation and the ISE returns was done by Karam and Mittal (2020). Ordinary Least Squares model was deployed on quarterly information encompassing GDP, exchange, inflation and interest rates from 1995 to 2018. Results reported that long-term connection between imported inflation and the ISE returns existed.

Hsing, Y. (2020) utilized the exponential GARCH model in investigating how imported inflation impacted the Argentine stock market index. Selected attributes included the world stock market represented, the inflation rate, exchange rates, monetary and fiscal policies. The outcomes suggested a positive association between the U.S. stock market index, USD/ peso the ratio of M2 money supply to GDP, exchange rate, the Argentine stock market index and real GDP. Conversely, the index was influenced negatively by the government spending, inflation rate as GDP percentage and the money market rate.

Laichena and Obwogi (2020) studied how imported inflation variable affect stock returns in East Africa. The research incorporated GDP, exchange rates, inflation, interest rates, and stock returns data from three East African nations between 2009 and 2014. Using a random effects model in multiple regression analysis, they reported that both interest and exchange rates notably but negatively related with stock returns. Additionally, there existed notable but positive linkage between and both GDP and stock returns and inflation.

#### **2.3.4 Hyper-Inflation and Stock Market Returns**

Ball and Sheridan (2019) compared economic improvements in 7 OECD IT nations to 13 OECD non-IT nations. It was noted that, after adopting IT, output and inflation

growth and variability levels improved, but similar improvements were also observed in non-targeting countries. They argued that attributes other than monetary regime led to better economic performance concluded that even though the economy is not negatively affected by IT, it does not have a major impact.

Rasche and Williams (2019) studied monetary policy effectiveness and revealed that for the medium-term horizon, central banks successfully hit targets. Though, the research highlighted uncertainties and dimensions in the operating environment that make consistently implementing short-run money stabilization policies problematic. In Uganda, Adam (2019) evaluated monetary policy conduct, addressing concerns that successful inflation control had stifled financial sector development and gotten to a high fiscal cost.

One hundred and nine inflation-targeting nations, including 23 developing ones were sampled by Vega and Winkelried (2019), finding lower inflation rates with the implementation of inflation targeting policies. This aligns with earlier studies by Corboi et al. (2010), Neumann and von Hagen (2012), and Petursson (2018). Goncalvas and Salles (2018) also showed a decrease in inflation among developing countries with inflation targeting. Balli and Sheridani (2019) made a conclusion among sampled inflation-targeting nations; there were economically and statistically notable reduction. The research aims at comparing inflation rate trends prior and after the inflation targeting introduction in Kenya.

A research on the inflation targeting macroeconomic impact on growth volatility, inflation volatility, and inflation in 35 emerging countries was done by Batini and Laxton (2016). Outcomes indicated a negative and notable inflation targeting impact on the inflation trend, leading to decrease in average inflation rate and volatility

observed in nations that have embraced inflation targeting. This research looks into how the inflation targeting adoption impacts the inflation rate in developing countries.

### **2.3.5 The Moderating Effect of Inflation Targeting**

In a study by Musyoka (2018), the researcher investigated the influence of inflation targeting on financial market development in selected Sub-Saharan African countries. Using panel data covering 1995 to 2015, the study examined whether countries that adopted inflation targeting experienced better capital market development. The results revealed that inflation targeting positively affected market confidence and led to more stable stock market performance. However, the study generalized findings across countries with significantly different economic structures and regulatory environments, which limits applicability to individual markets such as Kenya. Furthermore, the study failed to assess sector-specific effects, particularly commercial banks whose performance may differ from other market segments.

Another Bach and Walker (2019) analyzed the effect of inflation targeting on stock market returns in England, with specific emphasis on Birmingham. The study applied a GARCH model to monthly data between 2003 and 2017. It found that inflation targeting regimes contributed to reduced volatility in stock market returns and improved investor confidence. Despite its relevance, the study's major limitation was that it did not isolate specific types of inflation (e.g., cost-push, imported, or demand-pull), and treated inflation as a single homogenous construct. This limits the ability to differentiate how targeted policies respond to distinct inflationary sources.

A study conducted by Maghanu (2020) assessed how inflation targeting influenced interest rates and its eventual impact on the equity prices of banking sector firms listed on the Nairobi Securities Exchange. Using quarterly data from 2010 to 2018 and employing a vector error correction model (VECM), the research found that successful

inflation targeting by the Central Bank of Kenya led to relatively lower interest rates, which in turn had a positive influence on stock prices. However, the study did not statistically test for the moderating effect of inflation targeting between inflation and stock returns, hence failing to position inflation targeting as a true moderating variable within the analytical model.

Miller et al., (2021) explored the moderating role of inflation targeting in the relationship between inflation volatility and equity market performance in the DRC. The study used monthly time-series data from 2005 to 2020 and applied regression analysis for moderation. The results showed that inflation targeting significantly moderated the relationship, particularly in reducing the negative effect of unexpected inflation shocks on stock market performance. While the study demonstrated the moderating mechanism, it lacked disaggregation by economic sectors such as banking, making its findings overly broad and less actionable for sector-specific policy guidance.

In an empirical study by Kimani and Muriithi (2022), the focus was on the effectiveness of inflation targeting in stabilizing capital markets in emerging African economies. The researchers employed the difference-in-differences (DiD) estimation technique to compare inflation-targeting and non-targeting countries from 2001 to 2018. Results indicated that countries with inflation-targeting frameworks experienced less volatility in equity returns during periods of macroeconomic uncertainty. However, the study's comparative cross-national design overlooked unique monetary transmission mechanisms in individual economies. Additionally, it failed to account for institutional quality, which plays a critical role in how inflation targeting policies are implemented and enforced.

Brick and Lee (2024) carried out a study focused on the moderating effect of inflation targeting on the relationship between inflation subtypes (cost-push and demand-pull)

and stock market returns in financial sector in the United States. Using quarterly panel data for the period 2015 to 2023 and applying hierarchical moderated regression analysis, the findings revealed that inflation targeting policies by commercial banks significantly moderated the negative effects of cost-push inflation on banking sector returns. However, the moderating effect was weaker in the case of demand-pull inflation. The study made an important contribution by disaggregating inflation types and introducing interaction terms. Nonetheless, it relied solely on secondary data without accounting for potential structural breaks or regime shifts in US monetary policy environment during the study period.

#### **2.4 Summary of Literature Review**

How returns in inflation and stock market are associated, if they do, has captured the interest of both practitioners and researchers. At the heart of this discussion is the declaration by Fisher (1930) regarding equity stocks. Equity can function as a safeguard against inflation, according to Fisher (1930) hypothesis. When the proposition holds true, investors might opt to exchange their financial assets for tangible assets during periods of anticipated inflation. In this scenario, stock prices should accurately be reflecting expected inflation, leading to a positive connection between these 2 variables.

The idea that the stock market is a safeguard against inflation suggests that investors receive full compensation for increment in the overall price level by an equal increment in nominal stock market returns, thereby keeping returns unchanged. This connection neutrality or direction between stock market returns and inflation has built a substantial body of evidence in empirical literature. As of now, an agreement on this matter has not been reached.

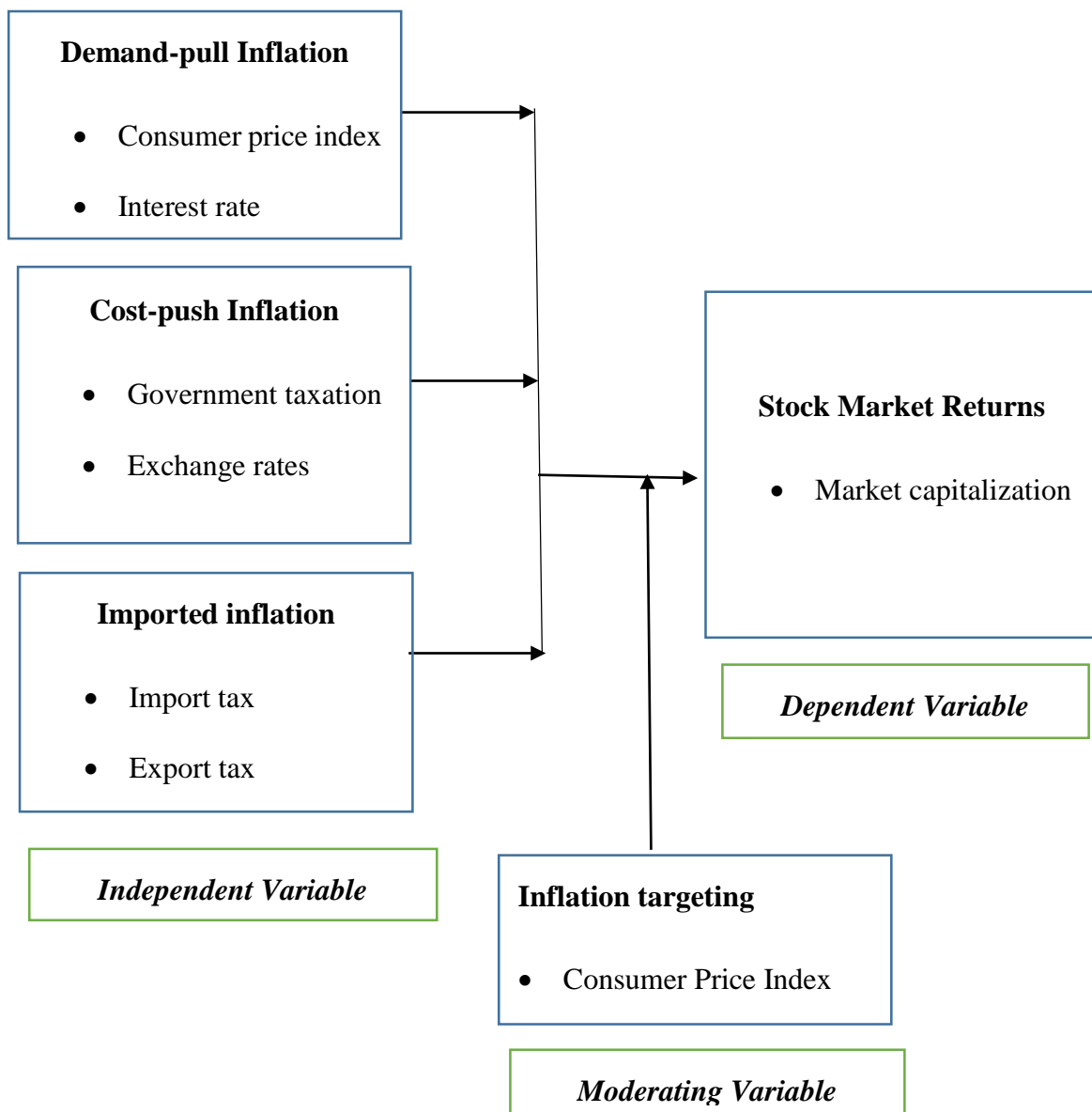
**Table 2.1 Research Gaps Summary**

<b>Researcher</b>	<b>Focus</b>	<b>Methodology</b>	<b>Outcomes</b>	<b>Gaps</b>	<b>Current research focus</b>
Munene (2017)	How inflation and stock prices at the NSE relate	Used Descriptive research design	Inflation and stock prices positively correlated	Used Secondary data for 1999 to 2011	Will focuses on how inflation affects stock market returns at NSE
Muriithi (2018)	How NSE performance is affected by financial crises	Descriptive study design utilized	NSE performance is generally low in monetary crises but improves after the crisis	The research covered the period 2007 to 2012	Focused on how inflation affects stock market returns at NSE
Omondi & Olweny (2018)	How stock return volatility is impacted by macroeconomic factors on the NSE	Secondary data obtained using descriptive research design	Inflation, interest, and foreign exchange rates fluctuations significantly impact stock return volatility	time series data was estimated using ordinary least square for the duration 1970-2013	Focused on a 5 years duration i.e 2017 and December 2022.
Ngigi (2019)	How stock market performance is impacted by monetary and fiscal policy actions	Descriptive study design and primary data obtained	Fiscal and Monetary policy actions positively impact stock market performance	The study was on fiscal and monetary policy actions	The current study will be on inflation and stock market returns at NSE

Wang, et al. (2022)	Factors determining stock returns during the 1987 and 2018 US stock market meltdowns	Descriptive study methodology used	Inflation positively affect stock returns	The study focused stock returns in the 1987 and 2018	The study was in Kenya and focused on listed firms between 2017-2022
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## 2.4 Conceptual Framework

This is a written or visual output that elucidates, either through graphics or narration, the fundamental elements for examination, including the key variables, or factors, and presumed connection between them (Miles and Huberman, 1994). The examination of both empirical and theoretical literature above pertains to the inflation effect on stock market returns. Utilizing the study's variables, the conceptual framework can be succinctly outlined as follows:



**Figure 2.1: Conceptual Framework**

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The section outlines the study methodology. It presents the type of research design, targeted group, sample and sampling techniques and data gathering tools and methods used. It also presents the data collection and evaluation.

#### **3.2 Research Design**

Leedy and Ormrod (2019) states, study design is "the set of methods and procedures for gathering and evaluating data related to a hypothesis or research question." It encompasses decisions regarding the research's purpose, data gathering and evaluation techniques and the overall study structure. The chosen research design is descriptive research, aiming to identify factors associated with specific events or outcomes. The design is a systematic approach to investigation where data is gathered and evaluated to depict the present relationships, terms, or conditions related to an issue (Kothari, 2021). The researcher opted for this design as it allows for a thorough analysis of the study phenomenon in its natural context.

#### **3.3 Target Population**

This is the specific set of individuals or entities from where data is sought. A population is the set of sampling cases or units a scholar is focusing on in the study (Newing, 2011). A target population comprises of individuals of a real group or hypothetical of objects, or people from where an investigator aims at generalizing the study results, whereas the accessible group comprises all members who could be part of the sample (Borg and Gall 2007). This research's target population encompasses all eleven (11) banking sector companies listed on the NSE, for which data will be available during the period from January 2017 to December 2022.

### **3.4 Sample Size and Sampling Technique**

As per Neuman (2014), sampling is the procedure of choosing participants for a study involves carefully selecting individuals in a manner that ensures they accurately reflect the characteristics of the broader group from which they were chosen. The primary sampling objective is to acquire a representative sample, enabling the drawing of conclusions about the broader population. A sampling design refers to a detailed plan to obtain a sample (Polit, 2021). Kothari (2018) defines a sample as a set of units selected to symbolize it. According to Black (2018, 2011), sampling involves selecting individuals from a group to gain insights into the entire population, particularly for making predictions through statistical inference. When the targeted group is below 100, all individuals should be incorporated in the research, and a census survey should be conducted (Gay, 2003). A census survey was conducted for this study since the targeted group is  $< 100$ , eliminating the need for sampling.

### **3.5 Data Collection**

Data collection is acquiring information for investigation from the chosen subjects (Creswell, 2002). The procedure for obtaining and gauging information to address the questions that prompted the research is data collection (Flick, 2019). In this study, secondary data from external records were utilized. The data collection sheet provided in Appendix II helped in obtaining data. The sources of the data included the CBK and NSE for stock market returns, and the KBS for inflation data. The data spanning a five-year period was evaluated on a quarterly basis to examine how inflation and stock market returns are associated.

### **3.6 Pilot Study**

A pilot study was conducted to pre-test and refine the research instruments before the main data analysis. This helped in identifying any inconsistencies or ambiguities in the data collection tools, ensuring they effectively captured all relevant variables related to stock market returns and inflation dynamics. The insights from the pilot study informed adjustments to the structure and content of the data collection sheet to enhance clarity and relevance.

#### **3.6.1 Validity of Research Instruments**

To ensure content and construct validity, the data collection instruments were developed based on established economic and financial indicators commonly used in similar studies. Expert consultation and a review of past research studies validated the appropriateness of variables such as demand-pull inflation, imported inflation, and inflation targeting. The use of well-recognized and authoritative data sources such as the CBK, NSE, and KBS further strengthened the validity of the instruments.

#### **3.6.2 Reliability of Research Instruments**

The reliability of the research instruments was assessed using internal consistency methods. Since secondary data was the main source, the focus was on ensuring the consistency and completeness of data across the five-year period from the identified sources (CBK, NSE, and KBS). Data entry was double-checked to minimize errors, and the integrity of the databases from which the information was extracted was verified.

### **3.7 Analysis and Presentation of Data**

For the quantitative analysis, SPSS version 21 was utilized. The research employed the Least Squares Method and adopt a multivariate analysis model, specifically using the multiple regression analysis method to examine how inflation rates and stock market

returns are connected. This evaluation was conducted in two stages. Initially, a preliminary evaluation was performed to have a general understanding of the data in relation to the variables. Subsequently, regression analysis ascertained the extent of stock market returns and inflation relationship. In the preliminary analysis, descriptive measures was applied, and the mean and standard deviation of demand-pull, cost-push and imported inflation values were analyzed. Further evaluation entailed multiple regression analysis.

### **3.7.1 Model specification**

Panel data model will be utilized to regress inflation against stock market returns, as below. Data will be collected on a quarterly basis.

$$\mathbf{Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + u_{it}}$$

Where:

$Y_{it}$  is the Stock Market returns (dependent variable)

$X_{1it}$  is the dummy variable for stock market returns

$X_{2it}$  is demand-pull inflation

$X_{3it}$  is imported inflation

$X_{4it}$  is hyper-inflation

$X_{5it}$  is inflation targeting

$t$ -is the time

$i$ -is the respective commercial banks

$\beta_0$  is the constant term

$\beta_1$ ,  $\beta_2$  and  $\beta_3$  are constants to be estimated from the model

$\epsilon_t$  is the error term distributed as in  $\epsilon_t \sim N(0, \sigma^2)$

In the panel data utilizing the mentioned equation, the variable coefficient  $X_{it}$  indicated the inflation impact on the variable  $Y_{it}$ ; which represents stock market returns. Therefore,  $\beta_1$  serves as the fundamental coefficient in this study. This was assessed through a hypothesis test using the specified model at a 5% significance level.

### **3.8 Ethical Considerations**

A written approval was given by Kenyatta University, Nairobi County offices and NACOSTI. Permission was also gotten from the NSE offices. Participants were informed of probable study benefits and that it was voluntary participation and that they could withdraw from the exercise anytime. They were also made aware of the study objective and purpose. Once the study was completed, the questionnaires were destroyed. The methods and sources utilized in obtaining and evaluating data were disclosed properly to guarantee accurate analysis of data. This prevented readers from misinterpreting the results and eliminate any type of bias.

## **CHAPTER FOUR**

### **RESEARCH FINDINGS AND DISCUSSIONS**

#### **4.1 Introduction**

This chapter presents; descriptive statistics results, inferential statistics results using correlation analysis and multiple linear regression analysis.

#### **4.2 Descriptive Statistics Results**

The findings were derived from data analysis which provided the standard deviation (SD), mean, and the minimum and maximum values. The mean was utilized to depict the midpoint of title, whereas the SD illustrated the dispersion or range of the study data in relation to the midpoint. Through the maximum and minimum values, the study obtained the highest and lowest values, respectively. The outcomes are outlined in the subsequent manner.

##### **4.2.1 Demand-pull Inflation on SMR at NSE**

The first study objective sought to ascertain the effect of demand-pull inflation on the SMR at NSE, Kenya. The demand-pull inflation measures included; consumer price index and interest rate. Table 4.1. has the outcomes

**Table 4.1: Demand-pull Inflation**

Measure	Minimum	Maximum	Mean	Standard deviation
Consumer price index	0.254	0.894	4.512	0.8451
Interest rate	7.645	15.990	4.574	0.7150

**Source: Survey Data (2024)**

The results show that the consumer price index had a 4.512 mean and 0.8451 SD. The minimum and maximum value of consumer price index was 0.254 and 0.894 respectively. These values indicate a lower consumer price index thus indicating lower inflation, which positively impacted on stock market returns. Lower inflation stimulates consumer spending, increase corporate profits, and drive stock prices higher, resulting in higher stock market returns. The finding agrees with Munene (2017) who conducted a study exploring how stock prices and inflation relate at the NSE. The result reported that dividend information dummy, stock prices and actual inflation related positively.

Further, the interest rate had a 4.574 mean and 0.7150 SD. The minimum value and maximum value of interest rate was 7.645 and 15.990 respectively. This shows that values of interest rate were high which indicates that there was an increase in companies' borrowing costs, hence lowers stock prices and reduces profitability. Consequently, rising interest rates also indicate a strong economy that may boost investor confidence leading to increased stock market returns. Higher interest rates may symbolize economic growth, which can translate into higher corporate earnings and increased investor optimism. The finding agrees with Mutai (2021) whose focus was on macroeconomic attributes influencing stock prices on NSE. The research tested empirically how stock prices and various macroeconomic variables like money supply, budget deficit, current account balance, exchange rates, inflation, and Treasury bill rates were associated. The findings suggested that stock prices tend to evolve together with

inflation, exchange rates, current account balance, GDP, Treasury bill rates, budget deficit and money supply over time.

The discussion around macroeconomic factors' impact on stock market returns can be further enriched by considering Mungiria and Jagongo's (2022) findings on macroeconomic variables and their influence on sectoral index volatility. Their study highlights how variables like the consumer price index and interest rates drive volatility, offering a broader context for understanding how demand-pull inflation factors into stock market performance. Mungiria and Jagongo's work complements the analysis here by reinforcing the role of inflation in influencing stock market volatility

#### 4.1.2 Cost-push Inflation on SMR at NSE

This research sought to determine how cost-push inflation affect stock market returns at NSE, Kenya. The cost-push inflation measures included; government taxation and exchange rate. The results tabulated below

**Table 4.2: Cost-push Inflation**

Measure	Minimum	Maximum	Mean	Standard deviation
Government taxation	0.654	0.992	4.091	0.241
Exchange rate	0.557	0.784	4.122	0.362

**Source: Survey Data (2024)**

The outcome indicate that the government taxation had a 4.091 mean and 0.241 SD. The minimum value and maximum value of government taxation was 0.654 and 0.992 respectively. These findings show that the government taxation rate was higher. Higher taxes can reduce corporate earnings, resulting into lower stock prices, whereas lower taxes can boost profits and drive stock prices higher. Additionally, changes in capital gains taxes can also impact investor behavior and stock market performance. Higher

capital gains taxes may discourage investors from buying and selling stocks, leading to decreased trading activity and potentially lower stock prices. The finding agree with Abugri (2016) who examined selected macroeconomic indicators in four Latin American countries, including money supply, industrial production, , interest, and exchange rates to elucidate their impact on market returns. The findings suggested that global factors consistently play a significant role to explain returns across all markets, while nation-specific macroeconomic attributes exhibit varying levels of impact.

Further, the exchange rate had a 4.122 mean and 0.362 SD. The minimum value and maximum value of government taxation was 0.557 and 0.784 respectively. This indicates that the exchange rate and market stock return positively correlated. A positive correlation suggests that as a country's currency exchange rate strengthens (i.e., appreciates) against other currencies, the stock market returns at the NSE also tend to increase. This could be due to increased foreign investment, improved investor confidence, or favorable economic conditions that benefit both the currency and the stock market. The finding is in contrary with Robert (2018) who explored how stock market returns in emerging economies like India, China, Russia and Brazil are affected by macroeconomic variables. The results indicated a lack of significant relationships between current and past market returns and macroeconomic variables, suggesting weak market efficiency. Additionally, no noteworthy connections were observed between stock market index prices, oil prices, and exchange rates in these 4 nations.

#### **4.1.3 Imported Inflation on SMR at NSE**

This research sought to determine how imported inflation affected stock market returns at NSE, Kenya. The imported inflation measures included; import tax and export tax. Outcomes are in Table 4.3.

**Table 4.3: Imported Inflation**

Measure	Min	Max	Mean	SD
Import tax	0.5740	1.254	4.089	0.612
Export tax	0.4091	0.853	4.364	0.409

**Source: Survey Data (2024)**

The results indicate that the import tax had 4.089 mean and 0.612 SD. The minimum value and maximum value of import tax was 0.5740 and 1.254 respectively. This finding indicates that the import tax was low. Lower import taxes can result into lower costs for companies, boosting their profitability and stock prices. Therefore, import tax policies and stock market returns at the NSE correlated. Therefore, by understanding how changes in import tax policies affect stock market returns, investors can wisely decide on their investments. The finding agrees with a study by Lucey, Najadmalayeri and Singh (2018) who explored how imported inflation and stock exchange returns in developed countries from 1999 to 2007 were associated. The results revealed that unexpected news related to macroeconomic variables significantly influenced the returns of stock exchanges in the mentioned countries.

Further, the export tax had 4.364 mean and 0.409 SD. The minimum value and maximum value of import tax was 0.4091 and 0.853 respectively. This shows that the export tax was high. This indicates that if export tax policies significantly impact the stock performance of export-oriented sectors, it may indicate the economy's vulnerability to external factors and the importance of export tax policies in driving economic growth. By analyzing how changes in export tax policies affect the competitiveness of domestic industries, we can gain insights into the potential effect of export volumes and overall trade balance. This, in turn, can influence investor sentiment and stock market performance. The finding agrees with Karam & Mittal (2011) who studied the connection between imported inflation and the ISE returns and results

reported that long-term connection between imported inflation and the ISE returns existed.

#### 4.1.4 sHyper Inflation on SMR at NSE

The research assessed how hyper-inflation affected stock market returns at NSE, Kenya. The hyperinflation measures included; currency depreciation and money supply expansion. The results are tabulated below

**Table 4.4: Hyper-inflation**

Measure	Min	Max	Mean	SD
Currency depreciation	0.411	0.850	4.008	0.412
Money supply expansion	0.664	0.991	3.975	0.547

**Source: Survey Data (2024)**

Results indicate that the currency depreciation had 4.008 mean and 0.412 SD. The minimum value and maximum value of currency depreciation was 0.411 and 0.850 respectively. This shows that the currency depreciation was high. As prices rise rapidly, the currency's purchasing power diminishes, resulting into a loss of value. This depreciation can be observed in the foreign exchange market, where the domestic currency experiences a sharp decline in its exchange rate against other currencies. Currency devaluation can have implications for inflation and interest rates, affecting stock market performance. Devaluation may result into higher inflation as the cost of imported goods rise. Central banks may give response to this by increasing interest rates to control inflation. The finding agrees with Khan and Senhadji (2021) who studied the hyperinflation on growth for industrial and developing nations. Findings indicated an existence of a threshold point beyond which output growth is negatively affected by inflation.

Further, the money supply expansion had a 3.975 mean and 0.547 SD. The minimum value and maximum value of currency depreciation was 0.664 and 0.991 respectively. This shows that the money supply expansion was low. Hyperinflation is often fueled by excessive money supply growth. Governments may decide to print more money to finance the deficit in budget or to meet increasing expenditure demands. This expansion of the money supply outpaces the growth of services and goods in the economy, leading to an imbalance between supply and demand and ultimately driving up prices. The finding agrees with Yabuand Kessy (2015) who studied the appropriate inflation level for growth from Tanzania, Kenya and Uganda. The results reported a non-linear relationship indicting presence of a threshold inflation level. The approximated inflation threshold for the 3 nations was 8.46%.

#### **4.1.5 Moderating Effect of Inflation Targeting**

The research sought to investigate the moderating effect of inflation targeting on the stock market returns at NSE. The inflation targeting was measured in terms of monetary policy. The findings tabulated as follows.

**Table 4.5: Inflation Targeting**

Measure	Min	Max	Mean	SD
Monetary policy	0.274	0.703	3.271	0.7020

**Source: Survey Data (2024)**

The results indicate the inflation policy had a 3.271 mean and 0.7020 SD. The minimum value and maximum value of currency depreciation was 0.274 and 0.703 respectively. Exploring a different perspective on the correlation between inflation policy and stock market return at the NSE can lead to a more comprehensive dynamics understanding at play in the market, and help stakeholders make more informed decisions in their investment strategies. The finding agree with Beggs (2010), who studied how inflation

and macroeconomic policies were connected and reported that there was no compatibility between monetary targeting and Australia financial deregulation; but compatible with monetary policy. Monetary policy tools are crucial to ensure stable markets.

#### 4.1.6 Stock Market Returns at NSE

The tried investigating the stock market returns at NSE, Kenya. The stock market returns was measured in terms of market capitalization, share prices and share gains. Findings are tabulated below:

**Table 4.6: Stock Market Returns**

Measure	Min	Max	Mean	SD
Market capitalization	0.517	0.9172	4.008	0.348
Share prices	0.811	2.3641	3.966	0.449
Share gains	5.854	10.206	4.207	0.355

**Source: Survey Data (2024)**

The results show that the market capitalization had a 4.008 mean and 0.348 SD. The minimum value and maximum value of market capitalization was 0.517 and 0.9172 respectively. The finding indicates that there was a higher market capitalization. Higher market capitalizations may be more stable and less volatile, leading to potentially lower returns but also lower risk. The relationship between market capitalization and market stock returns can provide crucial additions into the dynamics of the stock market in Kenya and help investors decide wisely about their investment strategies. The finding agrees with Mun, Siong & Thing (2018) who observe that the issue of using stock market indicator to predict future economic expansion or otherwise in economics and finance has been debatable. It is widely held that notable decrease in stock prices

indicate upcoming economic downturns, while prospective economic expansion is indicated by rising stock prices.

Further, the share prices had a 3.966 mean and 0.449 SD. The minimum value and maximum value of share prices was 0.811 and 2.3641 respectively. The finding shows that share price and market stock returns positively correlate. A positive correlation suggests that as share prices increase, so do the returns, indicating a potentially profitable investment opportunity. According to Omollo (2012) that economies ought to strive for robust and consistent output increment because it stimulates the labor demand, creating numerous employment opportunities. Additionally, high economic growth is linked to increased tax revenue for the public sector, enabling more resource allocation by governments to crucial projects like infrastructure development.

Additionally, the share gain had a 4.207 mean and 0.355 SD. The minimum value and maximum value of share prices was 5.854 and 10.206 respectively. The finding shows that there was a higher share gain. An increase in market share can be seen as a positive indicator for a company or sector. It suggests that the company is gaining a larger portion of the market, which may result into increased sales, revenue, and profitability. Thus, positively impacting the stock price and returns for investors. According to Amanja and Morrissey (2013) the enhancement of public and merit goods contributes to enhanced overall welfare and heightened efficiency of the labor force during production, ultimately leading to a long-term increase in aggregate supply.

### **4.3 Multiple Regression Analysis Results**

The outcome of regression evaluation that tried establishing the level to which the dependent was influenced by the independent variables are displayed in the tables below.

**Table 4.7: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.857	.734	.718	0.056

**Source: Survey Data (2024)**

The results demonstrate that the adjusted R square value was .718, showing the extent to which the hyperinflation, imported, cost-push and demand-pull inflations had influenced the stock market returns at NSE. This also means that the inflation factors not studied account for the remaining 0.282.

**Table 4.8: Analysis of Variance**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	112.005	4	28.001	41.473	.001
	Residual	4.051	6	0.675		
	Total	116.056	10			

**Source: Survey Data (2024)**

The results show that the statistical F value was 41.473 greater than the statistical mean value of 28.001. In addition, the significance value was at 0.001, this is less than the significance level at 0.05. Hence, the model was significant.

**Table 4.9: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.667	.264		2.527	.001
	Demand-pull inflation	.851	.354	.254	2.404	.000
	Cost-push inflation	.705	.337	.346	2.092	.001
	Imported inflation	.776	.402	.118	1.930	.002
	Hyperinflation	.803	.365	.279	2.200	.001

**Source: Survey Data (2024)**

The results show that when hyperinflation, imported, cost-push and demand-pull inflations are held constant, the stock market returns would be at 0.667. The below regression equation is obtained;

$$\text{Stock market return} = .667 + .803 (\text{hyperinflation}) + .776 (\text{imported inflation}) + .705 (\text{cost-push inflation}) + .851 (\text{demand-pull inflation})$$

#### 4.4 Hypotheses Testing

##### 4.4.1 Demand-Pull Inflation

**H0<sub>1</sub>:** Demand-pull inflation has no positive effect on the stock market returns at NSE.

The study sought to ascertain how demand-pull inflation affected the stock market returns at NSE, Kenya. An hypothesis that ‘Demand-pull inflation has no positive impact on the stock market returns at NSE was tested. Findings in Table 4.9 indicate that, improvement in demand-pull inflation would improve the stock market returns at NSE by .851. Further, demand-pull inflation positively and notably affected the stock market returns at NSE, Kenya ( $\beta=.254$ ,  $p=.000$ ). Therefore, the hypothesis that demand-pull inflation has no positive effect on the stock market returns at NSE, Kenya was

rejected. The findings agree with Mutai (2021) whose focus was on macroeconomic attributes influencing stock prices on NSE. The research tested empirically how stock prices and various macroeconomic variables like money supply, budget deficit, current account balance, exchange rates, inflation, and Treasury bill rates were associated. The findings suggested that stock prices tend to evolve together with inflation, exchange rates, current account balance, GDP, Treasury bill rates, budget deficit and money supply over time.

#### **4.4.2 Cost-Push Inflation**

**H0<sub>2</sub>:** Cost-push inflation has no positive effect on the stock market returns at NSE.

The study sought to ascertain how cost-push inflation affected the stock market returns at NSE, Kenya. A hypothesis that ‘cost-push inflation has no positive effect on the stock market returns at NSE’ was tested. Table 4.9 results indicate that an improvement in cost-push inflation would improve the stock market returns by .705. Further, cost-push inflation positively and notably affect the stock market returns at NSE, Kenya ( $\beta=.346$ ,  $p=.001$ ). Therefore, the hypothesis that cost-pull inflation has no positive effect on the SMR at NSE was rejected. The finding concur with Koubi (2018) who investigated the stock returns and financial development determinants across 49 countries from 1980 to 1999. The study identified negative effects of high transactions and legal uncertainty on stock market stability, with notable impact being exerted by transaction costs. Exchange rates, general economic volatility, capital controls, and degree of openness showed varying degrees of influence on stock returns.

#### **4.4.3 Imported Inflation**

**H0<sub>3</sub>:** Imported inflation has no positive effect on the stock market returns at NSE, Kenya.

The study sought to determine how imported inflation affect SMR at NSE. An hypothesis that ‘imported inflation has no positive effect on the SMR at NSE’ was tested. The results show that an improvement in imported inflation would improve the stock market returns at NSE by .776. Further, imported inflation positively and notably affect the stock market returns at NSE, Kenya ( $\beta=.118$ ,  $p=.002$ ). Therefore, the hypothesis that imported inflation has no positive effect on the stock market returns at NSE was rejected. The finding agrees with Hsing (2012) who utilized the exponential GARCH model in investigating how imported inflation impacted the Argentine stock market index. Selected attributes included the world stock market represented, the inflation rate, exchange rates, real GDP, monetary and fiscal policies. The USD/ peso exchange rate, U.S. stock market index, the ratio of M2 money supply positively associate with GDP, the Argentine stock market index and real GDP. Conversely, the index was influenced negatively by the government spending, inflation rate as GDP percentage and the money market rate.

#### **4.4.4 Hyper-Inflation**

**H04:** Hyper-inflation has a positive effect on the stock market returns at NSE.

The study sought to ascertain how hyper-inflation affect the stock market returns at NSE, Kenya. A hypothesis that ‘hyper-inflation has no positive effect on the SMR at NSE’ was tested. The results indicate, an improvement in hyper-inflation would improve the stock market returns at NSE, Kenya by .803. Further, hyper-inflation positively and notably affect the stock market returns at NSE, Kenya ( $\beta=.279$ ,  $p=.001$ ). Therefore, the hypothesis that hyper-inflation has no positive effect on the SMR at NSE was rejected. The finding agrees with Yabuand Kessy (2015) who studied the appropriate inflation level for growth from Tanzania, Kenya and Uganda. The results reported a non-linear relationship indicting the existence of a threshold inflation level.

#### 4.4.5 Test of Moderating Effect of Inflation Targeting

**H0s:** Inflation targeting has no positive moderating effect on the stock market returns at NSE, Kenya.

The study sought to examine the moderating effect of inflation targeting on the SMR at NSE. An hypothesis that ‘Inflation targeting has no positive moderating effect on the SMR at NSE was tested.’ Tables 4.10 and 4.11 shows the two regression models fitted. In the first model that was fitted, the inflation targeting was the predictor variable, and in the second model, it was adopted as a moderating variable where it interacted with inflation in creating an interaction variable.

**Table 4.10: Step One in Testing for Moderating Effect of Inflation**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.779 <sup>a</sup>	.607	.599	.0154		
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	100.251	2	50.126	89.974	.001
	Residual	5.014	8	0.627		
	Total	150.265	10			
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.604	.274		2.204	.000
	Inflation targeting	.761	.336	.3452	2.265	.002
	Inflation	.687	.255	.1184	2.694	.001

Source: Survey Data (2024)

The inflation targeting had a  $\beta = .3452$ ,  $t = 2.265$ , and  $0.002$  p-value, demonstrating that the inflation targeting met the criteria for predictor variable status since it notably predicted the stock market returns at NSE, Kenya.

**Table 4.11: Step Two in Testing for Moderating Effect of Inflation**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.880 <sup>a</sup>	.774	.765	1.053		
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.023	1	80.023	217.454	.000
	Residual	3.110	9	.0346		
	Total	83.133	10			
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.705	.283		2.491	.001
	Inflation targeting	.699	.317	.397	2.205	.000

Source: Survey Data (2024)

From the results, there was a  $\beta = 0.397$  coefficient,  $p\text{-value} = 0.000$ , when the inflation targeting and inflation interacted and were the moderating variables, suggesting that, the connection between inflation and the stock market returns at NSE, Kenya was moderated considerably by the inflation targeting. The inflation targeting impacts how inflation affect stock market returns at NSE, Kenya in this regard. Hence, rejection of the hypothesis and a conclusion made that there was a moderating effect of inflation targeting on the stock market returns at NSE. The finding agree with Ball and Sheridan (2019) who compared economic improvements in 7 OECD IT nations to 13 OECD non-IT nations. It was noted that, after adopting IT, output and inflation growth and variability levels improved, but similar improvements were also observed in non-

targeting countries. They argued that attributes other than monetary regime led to better economic performance concluded that even though the economy is not negatively affected by IT, it does not have a major impact.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This section summarizes the findings, conclusions, recommendations for policy and practice and suggestion for further research.

#### 5.2 Summary of Findings

##### 5.2.1 Effect of Demand-pull Inflation on SMR at NSE

The study sought to ascertain how demand-pull inflation affects stock market returns at the Nairobi Securities Exchange (NSE), Kenya. It was found that demand-pull inflation has a positive and significant effect on stock market returns. A lower consumer price index (CPI) indicated reduced inflation, which positively influenced market performance by stimulating consumer spending, raising corporate profits, and driving up stock prices. This aligns with the findings of Fama (1981), who argued that moderate inflation driven by real economic growth often correlates positively with stock returns. Similarly, Mishkin (1997) contended that anticipated inflation driven by rising demand may not necessarily deter equity prices, especially when it results from increased economic activity. However, the study also found that higher interest rates increased borrowing costs, which may exert downward pressure on stock prices—this is consistent with Geske and Roll (1983), who documented the negative effects of rising interest rates on equity valuation.

##### 5.2.2 Effect of Cost-push Inflation on SMR at NSE

The second objective was to determine how cost-push inflation affects stock market returns at the NSE. The study found that cost-push inflation also has a positive and significant impact. A higher taxation rate was observed, which typically reduces

corporate profits and may lead to lower stock prices. This finding is in line with Sharpe (2002), who noted that increases in production costs, such as taxes and wages, tend to depress firm-level profitability. Additionally, the study found a positive correlation between exchange rate appreciation and stock market returns. This agrees with Solnik (1987), who suggested that a stronger domestic currency can improve investor confidence and attract foreign investment, thereby boosting stock prices.

### **5.2.3 Effect of Imported Inflation on SMR at NSE**

The study aimed to assess the impact of imported inflation on stock market returns at the NSE. It revealed a positive and significant effect. Specifically, lower import taxes reduced production costs for firms, enhancing profitability and boosting stock returns. This supports Chen, Roll, and Ross (1986), who demonstrated that macroeconomic variables such as input costs and trade policies significantly influence stock prices. Conversely, high export taxes may hinder growth in export-oriented sectors, exposing the economy to external shocks. This finding resonates with Obstfeld and Rogoff (1996), who emphasized the vulnerability of open economies to global price movements and trade-related policy decisions.

### **5.2.4 Effect of Hyperinflation on SMR at NSE**

The fourth objective examined the effect of hyperinflation on stock market returns at the NSE. The study observed a positive and notable relationship, though this may seem counterintuitive. High currency depreciation was noted, reducing purchasing power. Yet, due to the potential for inflation hedging via equities, returns remained positively influenced. This outcome aligns with Tzavalis and Wickens (1997), who observed that in hyperinflationary environments, equities may serve as a store of value when currency deteriorates. The low expansion of money supply, despite high inflation, could reflect attempts by monetary authorities to control inflation without expanding liquidity—a

finding echoed in Sargent (1982), who highlighted that inflation dynamics are often influenced by expectations and policy responses.

### **5.2.5 Moderating Effect of Inflation Targeting**

The study investigated the moderating effect of inflation targeting on stock market returns. It was established that inflation targeting had a moderating influence, helping to stabilize the effects of different inflation types on market performance. This supports the view of Bernanke et al. (1999), who argued that well-communicated and credible inflation targeting frameworks can reduce inflation uncertainty, thereby anchoring investor expectations and supporting financial market stability. The results also align with Mishkin and Schmidt-Hebbel (2007), who found that inflation targeting enhances transparency and improves monetary policy credibility, which in turn can lead to more favorable investment outcomes in capital markets.

## **5.3 Conclusions**

### **5.3.1 Effect of Demand-pull Inflation on SMR at NSE**

The study concludes that demand-pull inflation can result into higher corporate earnings for firms on the NSE. As consumer demand increases, companies can sell more products or services at high prices, resulting in higher revenues and potentially higher profits. This positive impact on earnings can drive up stock prices and lead to higher stock returns for investors. Demand-pull inflation can impact interest rates and monetary policy. Central banks can give response to rising inflation through the increment interest rates in handling demand and control inflationary pressures. Borrowing is more expensive for firms if the interest rates are higher, thus affecting the stock prices and profitability negatively. For investors, may lead to lower stock returns.

### **5.3.2 Effect of Cost-push Inflation on SMR at NSE**

The study concludes that cost-push inflation can also result into higher interest rates since central banks try controlling inflation. Borrowing is more expensive for firms if the interest rates are higher, paralyzing the capability of investing in growth opportunities and potentially leading to lower stock returns. The impact of cost-push inflation on market stock returns at NSE in Kenya can be significant, as companies and investors alike navigate the challenges of rising production costs and their implications for profitability and stock prices.

### **5.3.3 Effect of Imported Inflation on SMR at NSE**

The study concludes that when imported inflation is high, it leads to increment in imported goods cost, negatively affecting the profitability of companies relying on imported inputs. Hence, lower earnings and reduced investor confidence, resulting into a decline in stock prices. Consequently, when imported inflation is low, it can positively impact on SMR. Lower inflation reduces the imported goods cost, improving the profitability of firms relying on imports. This leads to higher earnings and enhanced investor confidence, resulting in a rise in stock prices.

### **5.3.4 Effect of Hyperinflation on SMR at NSE**

Further, hyperinflation positively and negatively impact the stock market returns. Hyperinflation can lead to increased stock prices as investors protecting their wealth from the eroding value of the local currency. This can create a speculative bubble in the stock market, driving up prices and generating high returns for investors. Consequently, hyperinflation can also have detrimental effects on stock market returns. The uncertainty and instability caused by hyperinflation may result into lowering investor confidence, resulting in decreased stock prices. Additionally, hyperinflation can

negatively impact the profitability and financial stability for firms listed on the exchange, further dampening stock market returns.

### **5.3.5 Moderating Effect of Inflation Targeting**

The study concludes that when central banks successfully achieve their inflation targets, it can result into low interest rates, boosting stock market returns. This is because lower interest rates make money borrowing cheaper for firms leading to enhanced investment and higher stock prices. Consequently, if central banks fail to meet their inflation targets or if inflation rates are too high, it can negatively influence stock market returns. Consumer purchasing power can be eroded by high inflation, resulting into lower demand for services and goods, which can in the end hurt corporate profits and stock prices.

### **5.4 Recommendations**

The study recommends that interest rates can be increased by the central bank to lower spending and borrowing, to enable curb inflationary pressures. Borrowing becomes expensive if the interest rates are higher, thus decrease in consumer investment and spending, helping control inflation. Government securities can be sold by the central bank in the open market to reduce the supply of money. This can help stabilize stock returns by reducing the impact of inflation on the overall economy. The CBK can increase the commercial banks' reserve requirements, forcing them to have a higher proportion of their deposits as reserves. Thus, reducing the money available for spending and lending, helping to control inflation.

The study recommends that companies listed on the Nairobi Securities Exchange can adopt cost-control measures mitigating the cost-push inflation impact on their profitability and stock returns. This can include negotiating friendly supplier contracts,

implementation of efficient production processes, and finding ways to reduce operational costs. Government intervention and policies can also play a task in cost-push inflation management and how it effects on market stock returns. Implementing hedging methodologies are an effective in managing cost-push inflation and its impact on market stock returns. Investors can use financial instruments such as futures contracts or options to hedge against inflationary risks. By taking positions that offset the potential losses from inflation, investors can protect their portfolios and potentially generate positive returns even during cost-push inflation.

The study recommends that the government can impose tariffs or import restrictions on certain goods to reduce the inflow of imported inflation. By limiting the availability of imported goods, domestic prices can be stabilized, which can positively impact stock returns. Investors can diversify their portfolios by investing in various asset classes and sectors. This helps in reducing imported inflation's impact on stock returns, as different sectors may be affected differently by inflationary pressures. Investors can use hedging strategies, such as purchasing futures contracts or options, to protect their portfolios from the impact of imported inflation. These strategies can help mitigate potential losses and stabilize stock returns.

The study recommends that one approach to managing hyper-inflation's impact on market stock returns is through diversification. Investment in various asset classes, industries, and sectors, investors can spread out their risk and potentially mitigate the hyper-inflation's negative effects on their overall portfolio. Another approach is to focus on investing in companies that have strong foundations and a history of withstanding economic downturns. The firms are better equipped to withstand the challenges posed by hyper-inflation and may continue to generate positive returns for investors even in difficult economic conditions.

The CBK can utilize monetary policy tools like interest rates and reserve requirements in controlling inflation. The government can also use fiscal policy measures like government spending and taxation in managing inflation. The Kenya shilling exchange rate against other currencies can also affect inflation and stock returns. A stable exchange rate can help control inflation and provide a favorable environment for stock market performance. Improving the economy's supply-side through measures such as infrastructure development, investment in technology, and promoting competition can help address inflation and support stock market returns.

### **5.5 Suggestions for Further Studies**

Researches focusing on inflation factors on market stock return at NSE in order to address the conceptual gap identified can be undertaken. Further, similar study focusing on other companies apart from the ones listed at NSE can be carried out.

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## APPENDICES

### Appendix I: Data Collection Sheet

Name of Bank: \_\_\_\_\_

Year: \_\_\_\_\_

Inflation rate (% , annual): \_\_\_\_\_

Stock market return (% , annual): \_\_\_\_\_

Notes: \_\_\_\_\_

Date of collection: \_\_\_\_\_

Data collector: \_\_\_\_\_

Source of data: \_\_\_\_\_

Year	Quarter Ending	Average Commercial banks NSE prices	Exchange Rate	Interest Rate	Inflation rate
2017	March				
	June				
	Sept				
	Dec				
2018	March				
	June				
	September				
	December				
2019	March				
	June				
	September				
	December				
2020	March				
	June				
	September				
	December				
2021	March				
	June				
	September				
	December				
2022	March				
	June				
	September				
	December				

**Source: Author (2023)**

**Appendix II: Commercial Banks Listed at NSE in Kenya as at December 2022**

No	Commercial Bank	Year Listed
1	The Co-operative Bank of Kenya Ltd	2018
	Equity Group Holdings	2016
2	Standard Chartered Bank Ltd	1989
3	NIC Bank Ltd	1971
4	National Bank of Kenya Ltd	1994
5	KCB Group Ltd	1988
6	HF Group Ltd	1992
7	Diamond Trust Bank Kenya Ltd	2003
8	I&M Holdings Ltd	2019
9	CFC Stanbic Holdings Ltd before merger with Stanbic traded as CFC Bank	1955
10	Barclays Bank Ltd	1986

**Source: Nairobi Securities Exchange**

### Appendix III: Research Approval Letter



**KENYATTA UNIVERSITY  
GRADUATE SCHOOL**

E-mail: [dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke)

P.O. Box 43844, 00100  
NAIROBI, KENYA  
Tel. 810901 Ext. 4150

Website: [www.ku.ac.ke](http://www.ku.ac.ke)

Internal Memo

FROM: Dean, Graduate School

DATE: 14h March, 2024

TO: Judith Kanini Mwiwa  
C/o Accounting and Finance Dept.

REF: D53/MSA/PT/33340/2014

**SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL**

This is to inform you that Graduate School Board at its meeting of 13<sup>th</sup> March, 2024 approved your Research Project Proposal for the M.B.A Degree Entitled, "Inflation of the Stock Market Returns of Commercial Banks Listed at the Nairobi Securities Exchange, Kenya".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

  
ANNBELL MWANIKI  
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Accounting and Finance Department.

Supervisors:

1. Dr. Ambrose Jagongo  
C/o Department of Accounting and Finance  
Kenyatta University

## Appendix IV: Research Authorization Letter



### KENYATTA UNIVERSITY GRADUATE SCHOOL

E-mail: [dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke)

Website: [www.ku.ac.ke](http://www.ku.ac.ke)

P.O. Box 43844, 00100

NAIROBI, KENYA

Tel. 8710901 Ext. 57530

Our Ref: D53/MSA/PT/33340/2014

DATE: 14<sup>th</sup> March, 2024

Director General,  
National Commission for Science, Technology  
and Innovation  
P.O. Box 30623-00100  
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR JUDITH KANINI MWIWA – REG. NO. D53/MSA/PT/33340/2014

I write to introduce Ms. Judith Kanini Mwiwa who is a Postgraduate Student of this University. She is registered for M.B.A degree programme in the Department of Accounting and Finance.

Ms. Mwiwa intends to conduct research for a M.B.A Project Proposal entitled, "Inflation and the Stock Market Returns of Commercial Banks Listed at the Nairobi Securities Exchange, Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,

  
PROF. ELISHIBA KIMANI  
DEAN, GRADUATE SCHOOL

JL/sn

