EFFECTS OF MACROECONOMICS VARIABLES ON THE DIVIDEND PAYOUT OF FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

I declare that this is my original work and has not been presented for any award in any university.

Signed  **D**ate ……**15 November, 2022……...**

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This research project has been submitted for presentation with my approval as university supervisor.

Signed **……**  **……D**ate November 17, 2022**……...**

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DEDICATION

This work is ascribed to my family members and friends for standing with me in thickness and thinness. My family gave me unwavering love and kept cheering me even when I thought some things were impossible. That spirited cheers motivated me to keep focusing on academic excellence.

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ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
APT	Arbitrage Pricing Theory
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
CMA	Capital Market Authority
CPI	Consumer Price Index
DPO	Dividend Payout Ratio
EMH	Efficient Market Hypothesis
GDP	Gross Domestic Product
GOK	Government of Kenya
KNBS	Kenya National Bureau of Statistics
KRA	Kenya Revenue Authority
MV	Macroeconomic Variables
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Squares
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investments
SPSS	Statistical Package for Social Sciences

ABSTRACT

Macroeconomic variable crucial and responsible for deviations in the market. The macroeconomic factors have been changing periodically due to fast-paced globalization and proliferation. Additionally, the government has been formulating countering measures to improve stability of the macroeconomic elements. Additionally, business including commercial banks, among others institution in NSE, prefer a stable and conducive macroeconomic business environment. Consequently, the objective of the study is to assess the effect of macroeconomic variable on the dividend payout of firms listed at NSE. Therefore, the study optimized causal research design as was fundamental in guiding the study on data collection and prudent analysis. It conformed to the research topic and strived to increase accuracy by addressing the research problem. In addition, the researcher, constructed a reliable solution based on detailed and intensive data ranging from 1987-2021. In a nutshell, period chosen gave the most up-to date information, relevant, credible and sufficient dataset. As a result, the completed data was subjected to SPSS for extensive yet rigorous computation to give credible and authentic results. In addition, the soundness of the findings was replicated on the presentation and recommendation. Empirically, the model summary from the extensive calculation delineates R of 0.910. This exemplifies that there is a strong correlation of 91.0% among the variables in this study. The R-Square which is the correlation coefficient implies that 82.8% of deviation in dividend payout versus the microeconomics of firms listed in the Nairobi securities exchange is being triggered by Money Supply, Foreign Exchange, Inflation Rate and GDP Growth rate. As a result, the outcome exemplifies that the model was statistically significant since the significance value 0.000 beneath the P-Value of 0.05. In addition, the inferences present that foreign exchange exhibits a positive and significant relationship with dividend payout of (β=0.317; p=0.0.000< 0.05). Further, the T-Test indicates that the GDP growth rate evokes a positive and insignificant relationship towards DPO (regressed variable) of (β=0.033; p=0.261> 0.05). The results tabulated in 4.7 added that the inflation rate had positive and insignificant relationship with the DPO (regressed variable) as seen by (β=0.009; p=0.501> 0.05). Money supply depicted a positive and significant relationship towards the DPO (regressed variable). This was shown by (β=0.310; p=0.000< 0.05). To wrap-up, autonomous value is negative 0.014 hence meaning whenever all macroeconomics variables are maintained unchanged, the dividend payout was negative 0.046. In consequence, a positive single unit of change in foreign exchange triggers a significant increment in the DPO by 31.7% only when other determinants are held constant. Moreover, a unitary increment of GDP by singular unit, transpires an insignificant increment in the dividend payout by 3.3% whenever all other enablers are kept unchanged. Nevertheless, the solitary increment in the inflation rate translates to non-substantial increment of DPO by 0.9% when all enablers are maintained unchanged. Finally, the addition of solitary unit of money supply is pivotal in triggering 31% increment in the DPO only whenever all other enablers are maintained constant. As a consequence, the study advocates for deep analysis of past-presupposition while digitally-led presupposition due to the current proliferation. Additionally, making informed decision relies squarely on consideration of macroeconomic factors. As a ramification, the examination recommends for informed strategies that enhance business productivity by reaping from risky opportunities

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Macroeconomic factors have been changing periodically due to fast-paced globalization and proliferation. According to Nguku (2019) macroeconomic are critical for decision making especially for entities that operates regionally and globally. Moreover, Fredrick (2021) posit that stock prices are fluctuating in the market due to the varying and oscillating macroeconomic factors including inflation and interest rate. This translates to changes in the dividend payment due to deviation in the stock prices. Additionally, Kanwal and Nadeem (2013) delineates the fundamental role of macroeconomic in realization of performance.

Arbitrage theory is the anchor theory of the study. It was embedded by Ross (1976) and delineates that all market players in the market have a core intension of maximizing profit maximization. Moreover, it states a frictionless market. Moreover, the reinforcing theory is Efficient Market Hypothesis (Fama, 1970) coining how the new information is reflected and replicated in the market. Therefore, momentous investment and dividend payout can be influenced by the information available in the market. Modern Portfolio Theory (Markowitz, 1950) pinpoints the practical techniques for choosing investment with the objective of maximizing returns.

The firms listed at NSE have gained great reputation, access to capital and improve reputation (Otambo, 2016). Kirui, Wawire and Onono (2014) postulated the

importance of infusing funds to entities that have good reputation and transparent management. Additionally, the firms listed have capability of trading in the international market thereby widening their market and access to funds. NSE (2021) indicated the importance of listing which includes; opportunity for expanding business, prestigious brand building and easing the additional capital. Furthermore, the fair pricing based on the demand and supply enable the business to adhere to strict market rules.

1.1.1 Macroeconomics variables

Macroeconomics variables are factors that are typifying the economy of a country as well as business environment. In a business environment, the macroeconomic forces are not within the impacts of single entity Brueggeman and Fisher (2011). As a consequence, the macroeconomics factors can go beyond border, globally and regionally (Nguku, 2019). In the contrary, macroeconomics variables are frequently influenced by government through formulation and implementation of policies. These, macroeconomic variables are; Interest rates, foreign exchange rates, money supply, GDP, inflation rate among other elements (Simiyu & Ngile, 2015).

Macroeconomic elements affect the volatility and complexity of business context (San & Heng, 2013). As a result of enhanced technology and globalization, economic wildness in other sectors might expand into local markets. The government has countering measures in improving stability of the macroeconomic elements. Additionally, business including commercial banks, among others institution in NSE, prefer a stable and conducive macroeconomic business environment. Moreover, risk

in stable business environment is lower and under stable condition, it is easy to predict about tomorrow.

Interest rates, inflation rates and the market risk show the greater impact level on the economy (Kwon & Shin 1999). Gross Domestic Product takes the biggest macroeconomics variables. GDP is the total utility of finished products generated within a nation on specified period of time, normally 1 fiscal year. Exchange rate in the other side is the rate of changing one current to another. Further, inflation is the rate by which price of commodities and services increases. Finally, money supply is crucial macroeconomic element. It refers to total amount of money circulating in an economy. This study used interest rates, exchange rates, money supply and inflation as macroeconomic variables proxies.

1.1.2 Dividend Payout

DPO is the fund that is distributable to the investors (Chepkirui, 2021). Additionally, it gives chief concentration to amount given to shareholders as the payback for investing in the business. The payment is made in specific period and usually cover annually. The payment of dividend defines a business that has gain stability in its operation and mature in financial capability. The business needs to break-even before paying the dividend while business with minimal returns may not have sufficient funds to pay. Some business prefers the re-investment rather than dividend payment.

The dividend payout is supreme in decision making. The investment and financial decision incorporate wide-array of decisions to give bold objective of the company. It nails the brighter picture on how the firms gives back to shareholders. Therefore, the

DPO is fundamental metric for pinpointing entities' functionality and operations. The substantially great ratio of these DPO is a portrayal of maturity and business capability of adding value to shareholders' wealth Ahmed (2015).

The DPO is crucial metric for giving substantial information to the shareholders. The financial analysts and technical experts are always keen on the dividend payout and organization policies. The interrogation and comparison of companies paying dividend and those not paying them have registered puzzling information. Cheptoo (2018) posits that payment of dividend may not always define the company going concern or lack of it. This is because some organization are keen to invest in project that give higher return in the long-run. These are businesses possessing positive NPV. This study maximizes dividend payout ratio as the predicted variable.

1.1.3 Macroeconomics and Dividend Payout

A number of macroeconomic elements can relate differently with most companies due to their life-cycle, policies and the nature of operation among others. Equally, dividend payout can be affected by the organizational policies and the stage of business. The higher dividend payment is expected to stabilize when the business matures and stabilize its operation. These elements include macroeconomic variables, competitive strategies and government policies. Some of macroeconomic elements that significantly affects the dividend payout of organizations are GDP, inflation rates, interest rate and money supply need to be regulated accordingly (McKinnon & Shaw 1973). The APT for instance, gives a forecast of the expected payment and utilization amidst a security desired return and various macroeconomics elements

represented through systematic risk. In addition, supply and demand of market elements affects the discount rates, the entity's capacity to create cash flow and payment of dividends (2008).

Macroeconomics factors tend to sway the business context (Brueggeman & Fisher, 2011). As a consequence, these factors influence the intensity and nature of volatility of business environment. As per Markowitz (1952) the portfolio theory concept highlights that capitalist makes decision on the return risk tradeoff. This means investors are interested in investing where there are more returns than the low return and also interested in low risk investment than higher risk investment. Further, Gerlach, Peng & Shu (2005) macroeconomic factors influence companies' profitability.

An enhancement of company in the economy is impacted by the macroeconomic elements. Growth of an economy is the biggest component of macroeconomic elements that has ability of influencing not only organization's growth but also its dividend payment. Good economic environment results to great trading practices that involve the activities of investment within the economy and generation of wealth or return. Therefore, macroeconomic factors are backbone of risk elements in equity market.

1.1.4 Nairobi Securities Exchange

Nairobi Securities Exchange (NSE) was developed in 1954. This institution was established by middlemen, whose targets were to build stock exchange platform to aid them to get long term capital. The establishment of this institution were guided by

act of societies. The registration of this body was permitted by London Stock exchange to act as foreign branch. NSE attracting value of credibility and grow rapidly and staying at the top in East African. NSE was then registered in 1991 under the companies' Act Cap 489. Thus, Nairobi Securities exchange is regulated by CMA.

The Nairobi Securities exchange has various institution from different sectors of economy these include; construction, automobiles and manufacturing sector, telecommunication, banking and insurance sector. The key role of NSE are liquidity mitigation, assets transfer and improve mobilization of saving to enhance circulation of drowsing securities from agents who are not active (NSE, 2021). NSE declare the dividends annually for the return on stock. This declaration of dividends is of great significant to firms at NSE plus capitalists. Furthermore, declaration of dividend securities is important in coming up with strategy.

1.2 Research Problem

The macroeconomics is the cornerstone for the economy prosperity and efficiency in the management of resources Walde (2022). Furthermore, the dividend payout reflects the capability of the firms to generate return and repay the shareholders. The macroeconomics and dividend payout are pivotal in the market. The macroeconomics is cornerstone for upward and downward movement economic paradigms. Additionally, Cheptoo (2018) concluded the importance of dividend payout as a reward for shareholders investment. Therefore, the external environment causes adjustment in the prices, organizational policies and dividend payout on whether to

distribute divide or re-invest.

The firm listed at NSE are highly reputable and can transact globally (NSE, 2022). Besides providing avenues for expansion and raising capital, it enhances diversification, acquisition and investment. Kirui, Wawire and Onono (2014) concluded that importance of NSE in the provision of special platform for trading. Empirically, the firms quoted at NSE have won the confidence of the investors over time. Apart from providing ready market, it gives standardized comparison and practice for transformation and prosperity.

San and Hang (2013) scrutinized macroeconomics in Malaysia in conjunction with the performance. Kleen (2014) highlighted macroeconomics as the turn wheel for the profitability. Kanwal and Nadeem (2013) scrutinized the macroeconomics verses the profitability of the banking sector. Contextually, the study was expedited in Pakistan and concluded that inflation rates, GDP as well as interest rate posted positive association. Nevertheless, interest rate posted strong correlation while GDP had weak positive association with profitability. From the globally studies, it is worthwhile elucidating that several studies have considered different regressed variable apart from the dividend payout thereby opening debate on conceptual gap. In addition, the international conclusions cannot be generalized to coin the Kenya set-up.

Locally, the studies have been spearheaded to uncover the concept on macroeconomic variable. The economic stability of a nation has always been related with the macroeconomic variables (CBK, 2021). The negative economic growth and fluctuation of prices can post challenges to the economy. Simiyu and Ngile (2015)

correlated the macroeconomic stability with the increment in the profitability of the business. Fredrick (2021) analyzed macroeconomic verse the stock prices and concluded that money supply posted a positive correlation with stock price. Nevertheless, interest rate portrayed an insignificant negative correlation. Nguka (2019) pivotal area of assessment was macroeconomic verse the financial performance. The study delves into the commercial banks hence excluding the firms listed at NSE.

In summary the empirical overview analyzed have presented puzzling findings. The positive results, negative conclusion as well as the neutral findings depicting varying position amid the predictor and predictor calls for interrogation on the clear state of association. The global studies have provided the avenues for delineating fundamental information on macroeconomic variables. However, the conclusion is incapable of generalizing and expounding on Kenyan set-up due to the prevailing geopolitical and economic difference. Furthermore, numerous methods such as primary sourcing, secondary techniques, varying research design, different dataset analysis and wide-array of predictor variable have posted the empirical gaps. Based on these undertakings, the conceptual and contextual gaps have been observed in the conclusion. Hence, there is crucial need to answer the study query on; what is the effect of microeconomic variables on the dividend payout of the firm listed at Nairobi Securities Exchange?

1.3 Research Objective

The objective of the study is to assess the effect of macroeconomic variables on the dividend payout of firms listed at NSE?

1.4 Value of the Study

The study is the cornerstone for paramount understanding. It coins the clarification on the correlation amid the variables. Furthermore, the companies can predict the waves of macroeconomics waves and act accordingly and decisively. The study elucidates the theories constructing the foundation of the research. The researcher can determine the level of the achievement of the objective, variance recommend the corrective measures. The company is always in the process of adding value to the shareholders wealth.

The policy makers can increase the formulation, stipulation and postulations that gears the business towards stability and bridges the policies gaps. The inter-country trade and globalization can be understood through comprehensive understanding of this study. In a nutshell, the research will contribute significantly to the benchmarking and brainstorming to get the right policies, quality regulation, gearing stability and increasing awareness.

The study can give fundamental information to the future academicians. The researchers can refer to this study in their special undertakings. The firms can maximize the findings in getting accurate information on the macroeconomic forces in the market. Additionally, government institutions, including CMA, CBK and KNBS can find pivotal information to dictate their decisions.

The study provides the avenues for balancing between business re-investment and distributable dividends. Similarly, it coins the entrepreneurial development and inventions. The study builds a strong avenue for testing the assumptions, critiquing and stating their relevance. The study will give chief latitude to knowledge, testing validating, appraising and fostering knowhow.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is supreme in the comprehensive elucidation of theories constructing the foundation of the study. Furthermore, it exemplifies the enablers of dividend payout. Furthermore, the empirical scrutiny is spearheaded to assess the global, regional and local thereby establishing the research gaps. The study presents a flowchart elaboration of interaction in the midst of explanatory and regressed variables. The study ends by critiquing the past conclusion and pinpointing specific research gaps.

2.2 Theoretical Framework

The theory anchoring this study is Arbitrage Theory (Ross, 1976) to postulate that the model of pricing relies on macroeconomic variables. This is because it eliminates several questions while all important factors are considered. Moreover, it exhibits fewer restrictions on the information permitted to enhance predictions. Moreover, Efficient Market Hypothesis (Fama, 1970) pinpoint how the efficiency of the information is critical dividend payout and macroeconomics. Finally, Modern Portfolio Theory Markowitz (1950) encapsulates how the investors source asset portfolio and optimize expected returns in specified timeframe.

2.2.1 Arbitrage Portfolio Theory

APT model was developed by Ross (1976). This theory entails various assumptions. Firstly, it assumed that returns of investment are influenced by various forces as result of their influence on futuristic dividend as well as rates of discount (Subedi & Shrestha, 2015). It also assumes that portfolio of a project depends on systematic risk. Furthermore, the theory presupposes that there is no arbitrate chances that are readily existing in diversified portfolio. The theory presupposes that there are some risks that can be avoided by diversification.

Arbitrage theory has numerous challenges as follows. Firstly, the theory did not highlight variables for particular assets. The theory assumed that market environment is ideal, but in the business, there is no such perfect business surroundings. In addiction APT theory takes capitalists can forecast the risks source and divine variables well. In market, some stock can be more reactive to certain variable than other stocks.

The theory explains that discount rate and future's dividend return influence investment return. Moreover, the theory explains ways in which market are priced and this is very important for companies. It also put forward how expected investment returns can be described as distinct of macroeconomic variable. The substantial changes, relation and the immense adjustment in every single variable dividend and macroeconomic variables are therefore informed by arbitrage portfolio theory (Khan, Alam, Islam, Ullaj & Mohammad, 2017)

2.2.2 Modern portfolio theory

MPT is a capitalism theory that grants investor to collect stock portfolio that generates maximum return. The return of investment depends on level of calculated risk. The theory was developed by Markowitz (1950). The theory entails numerous assumptions. Foremost the theory assumes that there is no transaction cost and taxes. Furthermore, MPT theory assume that capitalist has no impacts on market place. It also has assumption that the investors have realistic goals.

The assumptions of modern portfolio theory have been criticized. Firstly, the assumption that there are no transactional costs has been criticized, since the capitalist need to incur cost of paying brokers. In addition to that assumption of investors having realistic goals is limited since many individuals can make wrong decision as result due to overconfidence. MPT postulates that the investors have no immense influence in the commercial and market activities which is misleading, since any procurement in stock do alter prices of the stock exchange. The forces associated with supplies and demands results from investor's participations. Therefore every purchase by capitalist has effects in the market.

In spite of above limitations, MPT is very important in evaluating effects of macroeconomic variables on DPO of entities listed at NSE. The theory give layout on how to maximize turnover of investment. Furthermore, the MPT theory assist companies in calculating portfolio. Further, it also indicates to what degree concentrated portfolio is risky. The modern portfolio theory do enhance diversification in investment.

2.2.3 Efficient Market Hypothesis

It is of immense importance to enhance market effective. The Efficient Markets Hypothesis is an important theory of investment. This theory was advanced by Eugene Fama (1970). The theory states that prices of share are an image of all information in the market. This theory entails various assumptions. Foremost, it assumes that information is priceless. It also assumes that in an ideal market there are no transactional cost. Moreover, it assumes that there is homogenous expectation by investors. Lastly, assume that capitalist is rational, therefore markets are efficient.

The Efficient Market Hypothesis faces numerous limitations. EMH theory dismisses existence of market crash and speculative bubbles. Furthermore, put into account the behavioral economics, since market participants are rational parties. In addition, the theory does not consider anomalies in the market for which is the big trajectory in the market. The theory presupposes that all the participants in the market are rational while in reality the participants are motivated by wide-arrays of issues hence end-up making varying decisions.

Investors have outperformed the market, and therefore it cannot subscribe to postulations of EMH.

Despite the above setbacks, EMH is crucial in the assessment of macroeconomic variable effects on dividend payout. This theory helps investors to understand the market paradigm well. It also provides more risk-averse persons to feel more comfortable capitalizing because they do not require new information to get higher returns. This theory also save time for the investors, simply because knowing the

stocks market are efficient, there is no need to spend more time scrutinizing the balance sheet

2.3 Determinants of Dividend Payout

The lifeblood of this investigation is on enablers guiding DPO. The study maximizes macroeconomic determinants of dividend payout to blueprint the association. The variables analyses foreign exchange, GDP, Inflation and Money supply.

2.3.1 Foreign Exchange Rate

Currencies are among the pointers of business stability. The exchange rate is the cost of one currency ration in terms of a different currency. It is the lowest number of units of one nation's currency need to procure same unit of the other nations' currency. Rate of exchanges has two currency characters; a 'primary currency' and 'counter currency'. Every country has the exchange rate regimes, this is a system in which a country controls its currency in regards to foreign currencies. There are two main systems utilized by countries; one is floating exchange regime and secondly, fixed or constant exchange rate. Banny and Enlaw (2000) explored associations between prices of stock as well as the rates of exchange in Malaysia. The researchers found out that there is insignificant relationship between the two variables.

Nyabute (2019) examined the influence of rate of exchange on performance of commercial banks in Kenya. As a result, the investigation uncovers that the rate of change registered a similar movement in the same point thought with insignificant consequence on financial performance of banks in Kenya. Researcher recommends

that CBK need to be extra vigilant in designing base rate, it must be minimal rather than higher as this influence negatively performance of banks. This current study aimed at examining how the exchange rates build impact on dividend payout on listed at NSE.

2.3.2 GDP

Gross Domestic Product is a crucial tool used to evaluate size of economy in a country. GDP is the aggregated monetary value of finished commodities as well as services yield in the country. Responsible bodies for calculating GDP need to follow international standards drafted by IMF (Nguku, 2019). Gross domestic product is divided into three; the production option, expenditure option and the income option.

Otambo (2016) assessed the influence of GDP on financial performance in banking sector. The assessment revealed that GDP posted positive consequence on banks' financial performance in Kenya. In addition, the study recommended that GDP need to be considered by commercial bank while designing policies. In addition, a study was conducted by Kamar (2013) to evaluate the influence of GDP on returns on commercial banks in Indonesia. Moreover, the study discovered that GDP lacks positive connection with returns on commercial banks in Indonesia. Therefore, GDP is key macroeconomic force that need to be examined in this study.

2.3.3 Inflation

Inflation is the rate of rising prices of products and commodities in an economic context. As a result, the inflation skyrockets because an increase in cost of

production, that include wages and raw materials. High demand of commodities and services can also result to inflation. Expansionary monetary policy by central banks can reduce rates of interest. Fredrick (2021) examined influence of inflation versus the performance of institution quoted at NSE. In that scenario, the researcher discovered that inflation rates moves significantly in the direction with the performance of stock price in organization registered at NSE.

Anzagi (2021) examined the influence of inflation on non-performing loans banks in Kenya. In a nutshell, the examination derived an inverse correspondence though significant influence of inflation on non-performing loans banks in the country. As a consequence, the study investigation that governance of the banks need to anticipate price level deviation as well as fluctuation in the administration of credit to help in limiting credit defaults. Therefore, inflation rate is crucial determinant among macroeconomic variables.

2.3.4 Money supply

Money supply is aggregate amount of money circulating in an economy. Money supply is fundamental macroeconomic variable. Kleen (2014) studied the influence of Money Supply on Indian firms' profitability. Findings from the study shows that Money Supply influence profitability of the firms.

Nyabute (2019) assessed how money supply influence performance of commercial banks in Kenya. Findings from the study shows that money supply has significant and positive association with financial performance of commercial bank. The study recommends that top regulatory body need to supply enough money in the economy,

as increase money supply yield positive performance of commercial banks' finances. Therefore, this macroeconomic force needs to be assessed in respect to dividend payout in companies registered at NSE.

2.4 Empirical Review

Kamar (2013) investigated association amid macroeconomics and ROA of commercial banks in Indonesia. The targeted firms were banks that are not listed within a period of 2002-2012. There were four variables that were examined namely; GDP, interest rates, inflation and rates of interest. The targeted population were 30 banks from total of 92 banks institution in Indonesia. The investigator utilized secondary data and maximized linear regression analysis plus Granger causality text to scrutinize interaction between the four variables and the ROA. The study found out that GDP, interest rates and inflation have inverse relationship on ROA of commercial banks. The study assessed banks in Indonesia, therefore the current study will focus on Kenya companies in NSE.

Nash (2015) evaluated the impacts of rate of interest regulations on banks' value in Pakistani. The timeframe of the study is 2011-2014. In the assessment, 87 banks were sampled for the scrutiny. The banks' value was determined by maximization of Tobin Q model. Furthermore, secondary data was gathered and analyzed using linear regression approach. The evident from that study shows that rates of interest had insignificant influence on banks' value as result of factors of supply and demand are no longer applicable. The study only considered Pakistan context therefore there is need to explore more analysis in Kenya.

Kleen (2014) studied how macroeconomic factors influence the profitability. The study aimed at manufacturing firms in India. The timeframe of the investigation was between 2010 and 2013. The aggregate number of firms utilize in the study were 102 institutions. In addition, secondary data were gathered from these institutions. Real GDP, treasury charges and supply of money were used as the determinant of macroeconomic forces whereas ROE as measuring profit. In addition, the examination concluded that macroeconomic portray a significant consequence on profitability of companies. This study focuses in India setting hence there is need to examine institutions listed in NSE in Kenya.

Zhang and Daly (2013) investigated how macroeconomic variables influence bank performance in China. Subsequently, the examination period was 2004-2010. In addition, the assessment pivotal sector were entire 124 banks in China with complete dataset. The data gathered were then analyzed by maximizing regression analysis. It is supreme to contend that this assessment shows that banks with less risk of credit and are better capitalized and exhibits a good shape to generate more profit. Furthermore, it indicates that banks with higher expenditure preference create negative influence on banks' performance. Moreover, banks expand as result of economy growth, better amalgamation of economy improves bank's profitability. There is a gap that need to be filled since the study focused on banks in China only.

San and Heng (2013) assessed impacts of macroeconomic variable and bank's particular attributes on performance of commercial banks. The experimentation was expedited in the Malaysian context. The period of the study spanned from2003-2009. Secondary data were utilized in this study. Total number of 23 commercial banks

were investigated but sample of 20 banks were put into use. The remaining 3 banks had missing data therefore they were omitted. In consequence, descriptive statistics in addition to regression analysis were exploited to analyze data collected. As a result, the outcome of the investigation shows that assets return ratio is the best measure for gains. Macroeconomic forces include; inflation and gross domestic growth did not have significant influence on profitability or gains. Banks' particular variables however influence banks performance. Hence, there is need for another extensive assessment delving into dividend payout and macroeconomics forces based on the prevailing market circumstances.

Simiyu & Ngile (2015) study impacts of macroeconomic forces that influence profitability in commercial banks. Empirically, the experimentation aimed at commercial banks in Kenya. Further, census study maximized sample of 10 banks and used secondary data covering timeframe of 2001-2012. Fixed effects panel data model was used to analyze data gathered. The macroeconomic forces assessed were; rate of exchange, rate of interest and GDP; profitability was evaluated by assets. The study uncovers that GDP had insignificant impact on profitability. Further it discovers that there is negative association amid rate of interest and profitability but a positive influence amidst rate of exchange and profitability. The study only aimed at commercial banks in Kenya thus current assessment looks into various firms from different industries in NSE.

Kiganda (2014) undertook an examination to evaluate influence of macroeconomic factors on commercial bank gains in Kenya. The researcher focuses mainly in Equity Bank limited utilized a correlation research design. The maximized secondary data

that was collected between 2008 and 2012. In addition, data collected were analyzed using ordinary least squares regression. The study discovered that macroeconomic determinants (rate of exchange, rate of inflation and GDP) have insignificant influence on profitability. As a result, the experimentation concluded that macroeconomic factors do not influence performance of bank in Kenya. This study majored only in one commercial bank entity therefore the findings as well as recommendations cannot be generalized to reflect other firms.

Kungu (2013) expedited a comprehensive inquiry to determine influence of macroeconomic variables on financial performance of private equity entities. The study examines private entities in Kenya. Further, the study examined these macroeconomic variables; rate of foreign exchange rate, GDP, interest rate and inflation rates. In addition, the research employed descriptive as well as correlation research model. The study sampled 28 companies and used secondary data from this institution, which were scrutinized by multiple regression analysis. The researcher found out that macroeconomic forces influences performance of private equity enterprises. However, rate of exchange was discovered that it had weak bond with investment return, while other forces had strong bond influence on investment return. The study focuses only on private enterprises, thus the current study focuses on both private and public enterprises in Nairobi securities exchange.

Nyathira (2012) investigated the impacts of innovation of finance on commercial banks in Kenya. As a consequence, the inquiry employed causal research design. A total sample examined were 43 commercial banks in Kenya. Further, a census assessment gathered secondary data from reports of finance and government

statistics. Thereafter regression analysis was maximized in scrutinizing the collected data. The assessment found out that 21 innovations of finance results in enhanced financial performance by banks in Kenya. This examination is relevant and appropriate for advancing the knowledge on the performance of commercial banks' finances. Thus, findings plus recommendation cannot be generalized.

Kanwal and Nadeem (2013) evaluated the association between macroeconomics forces and profitability of public banks. importantly, the inquiry focuses on public banks in Pakistan. In addition, the macroeconomics variables examined includes; inflation rates, GDP, rate of interest. The time framework of the study is between 2001 and 2011. Whereby total of 38 banks were targeted but 23 of the banks were sampled and studied. Moreover, the origin of the data used were from secondary sources. In addition, data collected were scrutinized by descriptive statistics, correlation analysis and ordinary least squares regression techniques. The study uncovers that there is strong positive bond amid profitability and rate of interest, weak positive association amidst GDP and profitability and weak association amid bank profitability and rate of inflation. To wrap-up, the examination established that there is weaker bond between macroeconomic forces and banks' earning. The study mainly targeted commercial banks but the current study targets various institutions in NSE.

Kirui, Wawire and Onono (2014) examined the association amid GDP, rate of exchange, rate of Treasury bill, rate of inflation as well as stock market return in NSE limited. The study examined the influence of each macroeconomic variables on stock market returns. Further, the study evaluates the impacts of changes in every single

variable on the volatility of stock market return in NSE. Subsequently, the scrutiny employed Engle-Granger two step approach to determine association amidst macroeconomic factors and stock return. In addition, TGARCH (Threshold Generalized Autoregressive Conditional Heteroscedasticity) approach was utilized to capture volatility and leverage impacts at the NSE. Published time series data between 2002 and 2012 were used. Furthermore, the origin of data for the study were collected from KNBS and Central Bank of Kenya. The study found out that rate of exchange had significant association with stock returns. Moreover, the study reveals that an inverse association between depreciation of local currency and stock return. The rate of Treasury bill, GDP and inflation shows insignificant association with stock return. In conclusion, there were no volatility perseverance amidst all the macroeconomic forces. The study utilized data that cannot reflect the current market forces since business environment is dynamic therefore there is need to do another assessment.

Walde (2022) assessed the influence of macroeconomic variables on performance of finance in Deposit Taking Microfinance Institutions in Kenya. The macroeconomic variables focused in the study were, rate of inflation, GDP, rate of interest and rate of exchange. The study utilized census and 13 Deposit Taking Microfinance Institution that were active were assessed. Secondary data were maximized in the study, the data were sourced from yearly supervisory reports on DMTFIs by CBK and KNBS for a period of 10 years between 2010 and 2019. The diagnostic tests used are; normality test, autocorrelation test, linearity test, multicollinearity test and heteroscedasticity test. The data were then analyzed by utilization of Karl Pearson correlation moment

and multi-regression analysis techniques. In addition, mean and standard deviation were used as descriptive statistics tool and later data were presented using tables. Multicollinearity indicated that there were weak bond amid interest rate and performance of finance. Furthermore, the study found out weak correlation amidst financial performance and rate of inflation, moderate correlation were found between financial performance and rate of exchange, whereas correlation amid GDP and financial performance was stronger. Linearity assessment showed that data satisfied the linearity threshold because all the macroeconomic variables were in linear form. The data did not pass heteroscedasticity evaluation and all the VIFs were less than one, therefore the study concluded presence of abnormality in set of data. Further, data succeeded the stationary test as per unit root test. As per regression analysis, interest rate and exchange expounded insignificant negative influence on financial performance whereas rate of inflation registered insignificant positive influence on financial performance of DMTFIs. Moreover, GDP had significant positive interrelation impacted on financial performance of DMTFIs. Furthermore, the inquiry focused mainly on DMTFIs but the current study aimed to assess all entities from various sectors in NSE.

Fredrick (2021) examined the macroeconomic variables and their influence on stock price performance for firms listed at NSE, Kenya. The researcher used descriptive survey and aimed at all the entities recorded as at 2018 December. The data were collected from the NSE in regards to performance of stock prices using the NSE all-share index. The data gathered were put to diagnostic test. Further, regression, descriptive and inferential statistics scrutiny were executed. Additionally, the charts

and tables were used to project the findings. The study discovered that money supply had greater positive influence on stock price performance followed by inflation. Subsequently, the study uncover that GDP had the least positive influence on performance of stock prices. Further, it established that interest rate were the only variable with insignificant negative influence on stock price performance. The study postulates that other assessment can be carried out to involve other variable and to verify the findings, hence, this is the driving mandate of the current study.

Nguku (2019) carried out a study to evaluate the impacts of macroeconomic variables on financial performance of commercial banks at NSE, Kenya. The macroeconomic variables examined includes; exchange rate, interest rate, inflation and size of banks. The commercial banks' financial performance were measured by ROE. The evaluation targeted 11 listed commercial bank in NSE that were active between 2012 and 2017. Therefore, the descriptive research design were exploited for the assessment and secondary data were gathered. Additionally, data were sourced from a KNBS, CBK and audited financial statement form the sampled banks. The study further maximized a number of tests namely; stationarity, normality, Hausman, correlation and panel regression to examine data, thereafter, there was projection of tables to coin the outcome. The findings from the inquiry showed that inflation have insignificant impacts on financial performance of banks. They also found out that interest rate had positive significant influence when it comes to financial performance of banks. Further, the study uncovered that exchange rate have inverse and significant influence on commercial banks' financial performance. The study also revealed that bank size has insignificant regulating influence on association between inflation and

financial performance of commercial bank listed at NSE. It also coined that banks size has positive significance in regulating impacts on association amid interest rate and commercial banks' financial performance registered at NSE. Furthermore, the study discovered that bank size posted negative significant on regulating influence on the association amid rate of exchange and financial performance of banks. This study assessed only commercial banks in NSE despite the presence of different sectors in. Therefore, there is need to evaluate macroeconomic factors by considering various firms from various economy sectors.

2.5 Conceptual Framework

The conceptual model is crucial in providing interconnection amid the predictor and predicted. The explained variable is the foreign exchange, Inflation rate, GDP and money supply. A bold illustration via conceptual framework as postulated in figure 2.1 below.

Independent Variable **Dependent Variable**

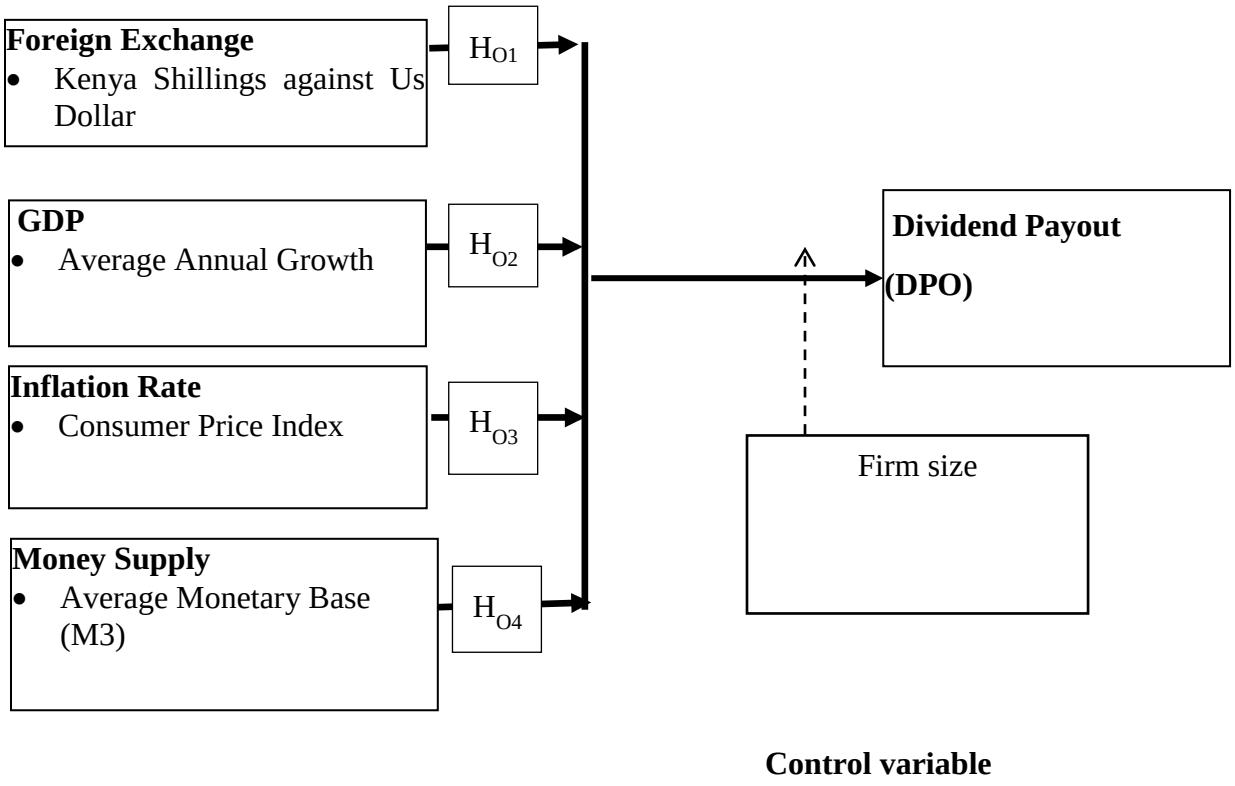

Figure 2.1 Conceptual Framework

Source: Researcher (2022)

2.6 Summary of the Literature, Critique and Knowledge Gap

Nguku (2019) concentrated on the macroeconomics as the predictor variables while predicted variable was performance. The findings coined insignificant association between the two variables. Fredrick (2021) focused on the macroeconomics variables verse the stock pricing on the other side Kleen (2014) linked macroeconomics with the profitability in India. From these studies it is supreme to postulate that majority of the researchers have considered performance and profitability as the regressed variable while this study concentrates on dividend payout as the predicted variable.

Kanwal and Nadeem (2013) analyzed the importance of macroeconomics forces as the explanatory variables while the explained variable was profitability while the current study focused on the DPO as the predicted variable. Zhang and Daily (2013) concentrated on the macroeconomic variables in china. Its predicted variable was banks performance. The findings opined a positive association. Nevertheless, Kirui, Wawire and Onono (2014) delve into GDP, Treasury Bills and rates while the prevailing study in maximizing the inflation, money supply and foreign exchange. Finally, Wadde (2022) stated the crucial blueprints of macroeconomics in the financial performance. Therefore, based on the preceding studies it is paramount to elucidate that their findings have been both puzzling and controversial. These assessments have tried substantially to solve the prevailing problems and knowledge, nonetheless, they have led to conceptual gaps, contextual and empirical gap. The study is driven by the need to solve the existing problem and get exhaustive answers.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter was critical rationale in approaching the research. Besides giving chief latitude to the appropriate and relevance research design, it stated the adequate population size. Additionally, the study exemplifies the credible data collection. Furthermore, it stipulated the data analysis which factored in empirical model, diagnostic and significance. The study enhanced the factual proposition results which is the pillar of the study.

3.2 Research Design

This was fundamental in exemplification of structure and the layout of the study. The design was fundamental in guiding the study on data collection and prudent analysis. It conformed to the research topic and strived to increase accuracy by addressing the research problem. Creswell and Creswell (2017) postulates that the quality of research design is reflected on the credible and accurate results. Therefore, it reinforced the verifiability through systematic and logical undertakings that helps in summarizing dataset and describing the chief details. The study maximizes causal research design. The design signifies a roadmap towards a conclusion by seeking solutions to research gaps. The design is fundamental in analyzing the effect of macroeconomic variables of dividend payout for firms listed at NSE.

3.3 Target Population

The population is the cornerstone of the assessment since it brings on board all the elements exhibiting same traits (Cooper & Schindler, 2014). The study targeted the 64 entities listed at NSE as the unit of analysis as posted in the appendix I. Therefore, it was deemed to be appropriate due to the active trading role of the firm. The assessment was guided by the availability and activity of the firms.

3.4 Data Collection

Secondary sourcing was the lifeblood of this study. Kothari (2015) postulates that garnering and generating data is fundamental undertaking that blueprints factual proposition. Apart from increasing credibility and accuracy through adequate data sourcing, it reinforced the systematic procedure which the roadmap for comprehensive analysis. The secondary data relating to foreign exchange and money supply was generated. In addition, the inflation and GDP were also assembled within a span of 35years. In a nutshell, it constructed a reliable solution based on detailed and intensive data ranging from 1987-2021. The period chosen gave the most up-to date information, relevant, credible and sufficient dataset. The time series data was sourced from KNBS for expounding inflation rate, NSE for elaborating dividend payout while CBK will present dataset for the GDP, money supply and foreign exchange rate.

3.5 Operationalization of Variables

Operationalization was the supreme process of encapsulating the variables into defined and measurable indicators. It was fundamental for measurement, quantification and empirical calculation. The variables are summarized below.

Table 3.5 Operationalization of Variables

Variable	Type and Nature	Indicator	Measurement	Preceding Researchers
Dividend Payout	Predicted	Dividend Payout	Measured by DPS divided by EPS	Chepkirui (2021) and Cheptoo (2018)
Macroeconomic Variables	Predictor	Foreign Exchange	Kenyan shillings against US Dollars	Nyabute (2019)
		GDP	Average annual GDP growth rate	KNBS (2021), Walde (2022)
		Inflation Rate	Consumer Price Index (Price of goods and services divided by same price in a base year x 100)	Otambo (2016)
		Money Supply	Average annual monetary base (M3) (Sum of M2 plus Large time deposits and liquid assets)	Wagwa (2021)

3.6 Data Analysis

Data analysis is procedural undertaking that incorporates recording, analyzing, disseminating and presenting the results thereof. Therefore, it synthesis data into meaningful results Fredrick (2021). It anchors possibility of modifying and strengthening firms through problem-solving, addressing loopholes and creating innovative measures that enhance dividend payout even in the presence of external macroeconomic determinants.

The data analysis was useful for effective undertaking through procedural milestone of reviewing, classifying, editing and coding. The completed data was subjected to SPSS for extensive yet rigorous computation to give credible and authentic results. In addition, the soundness of the findings was replicated on the presentation and recommendation.

3.6.1 Diagnostic Tests

The study ensured full compliance with research requirement. The failure to meet set stipulation run the risk of giving misleading, bias, inconveniencing and inconsistent results. The study factored in multicollinearity to test association among the explanatory variables, normality to pinpoint the behavior of the data and autocorrelation to expound on the linkage amid the regressor verse the regressed variable. VIF was very important in the multicollinearity testing while Kolmogorov-Smirnova stipulated the linkage amid the predictor variables (autocorrelation). Finally, normality was executed via Durbin-Watson.

Multicollinearity testing aided in the avoidance of both infinite standard errors and indeterminate regression. This are the great latitudes for establishing the rejection and not to reject the prevailing null hypothesis. The errors relating to multicollinearity results in wrong presentation, conclusion and inferences. Great level of collinearity gave the research an opportunity to drop highly correlated regressor variable.

Normality calculation was done to pinpoint the distribution pattern. This was informed by wrong inferences and conclusion in cases of abnormal distribution. The presence of severe abnormality demands for more data testing. Autocorrelation was spearheaded to give magnitude and direction of movement for regressors against regressed variables. The absence of autocorrelation demands for more test such as Breusch-Godfrey.

3.6.2 Analytical Model

The analytical model signifies the relation amid the variables. It gave quality link that tries to identify the line of best fit. Consequently, empirical model was a cornerstone for defining the linearity trait thereby exemplifying the nature and pattern of correlation in snapshot. The correlation can be summarized as;

$$Y=\alpha_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+ \beta_4X_4\varepsilon +\mathcal{E}$$

Whereby

Y= Dividend Payout (Measured by DPS divided by EPS)

A_0=y intercept of the regression (constant variable)

X_1= Foreign Exchange (Kenya shillings against US Dollars)

X_2= GDP (Sum of Gross value added by population, minus subsidies)

X_3= Inflation (Annual Consumer price index)

X_4= Money Supply (Sum of M2 plus Large time deposits and liquid asset)

ε= error term

3.6.3 Inferential Statistics

The Pearson relation computation was prioritized to coin the directional movement, magnitude and the strength. Therefore, the study started by analyzing ANOVA. Thereafter, did T-Test and F-Test computation to define association. Therefore, $P \leq 5\%$ signified statistical significance, and $P > 5\%$ blueprinted a statistical insignificance.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter is a keystone for discussion of data analysis. Subsequently, it scrutinizes the results and give in-depth inferences. The assessment made quality incorporation of secondary data to reinforce the apprehension of firm cited at NSE. The data generated was channeled via a systematic and coherent review, coding and summary through the assistance of SPSS computation. Therefore, it was pivotal to support the outcome scientifically through extensive analysis. In general, the descriptive and inferential scientific computation assisted the large-scale viewpoint to decree condensed inferences. In summary, the section dealt with the discussion and the interpretation of the outcome of this research. This study sought to explore the effects of microeconomics variables on the DPO of firms listed at the Nairobi Securities Exchange.

4.2 Descriptive Statistics

It is imperative to set forth that expressive postulation of the dataset is accentuated through descriptive computations. Therefore, the descriptive calculation assisted in the explanation of traits of dataset factored in the study. It exemplifies the summary and pictorial data relating to particular variables factored in the assessment. In fact, it is a leeway for determining data structure stemming from average, highest to lowest value. It also coins the pattern of dataset and elucidates the discussion about the variable utilized

in the investigation. In a nutshell, it encapsulates the standard deviation hence expounding about variability.

The descriptive statistics portrayed the nature and the characteristics of dataset for specific variable. The data was collected between the years of 1987 and 2021 as seen from the table below. In that period, dividend payout registered a lowest of 0.0173 and greatest value of 0.0485. Its mean was 0.03299 and the SD was 0.0084. This implied that over the 35 year period the average dividend payout was 0.03229. The findings also showed that foreign exchange least value recorded was 0.0798, maximum of 0.1188 and an average of 0.09435. In that period GDP growth rate registered a mean of 0.03038 and standard deviation of 0.02639. This implied that the average GDP growth rate in that period was 3.038%. Inflation rate between the time span of 1987 and 2021 for these firms represented an average of 6.291% and standard deviation of 0.05150. Money supply within the firms registered the lowest value at 0.1063 and maximum of 0.1975.

From the keen examination and diverse analysis, it is worth evoking that the data did not post a substantial outliner. In addition, a quick check of SD for DPO was 0.0084542 hence this was the least compared with other variables. Nevertheless, foreign exchange posted 0.0113951, GDP was represented by 0.0263968, Inflation rate was delineated by 0.0514980 and finally money supply was represented by 0.0260573. Grounded on the SD outcome after comparison with averages, it implies that there was least variability hence the dataset was good for forecasting.

4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Years	35	1987	2021		
Dividend Payout	35	.0173	.0485	.032991	.0084542
Foreign Exchange	35	.0798	.1188	.094354	.0113951
GDP Growth	35	-.0025	.0806	.030383	.0263968
Inflation Rate	35	.0030	.2624	.062909	.0514980
Money Supply	35	.1063	.1975	.154063	.0260573
Valid N (listwise)	35				

4.3 Trend Analysis

The macroeconomics variables exhibit changes periodically grounded on several fiscal policies and global changes. The trend analysis is paramount for contrasting and comparing behaviour and the pattern. As a result, it delves into the coherent, consistency and their behaviour in particular years of analysis. Importantly, the businesses are the cornerstone portraying the information and trends about the macroeconomic variables. From this analysis, the period was abundant for sound decisions.

4.3.1 Dividend Pay-Out

As seen from this trend analysis, there has been a steady rise in dividend payout over the past 35 years. Therefore, the average in 2021 is higher than any of the previous years.

From extensive and rigorous analysis, the dividend payout has been increasing periodically among the firms listed at NSE. However, there are some years with erratic changes and substantial deviation. In the longevity, the dividend payout has been represented by periodic increase as coined in the figure 4.1.

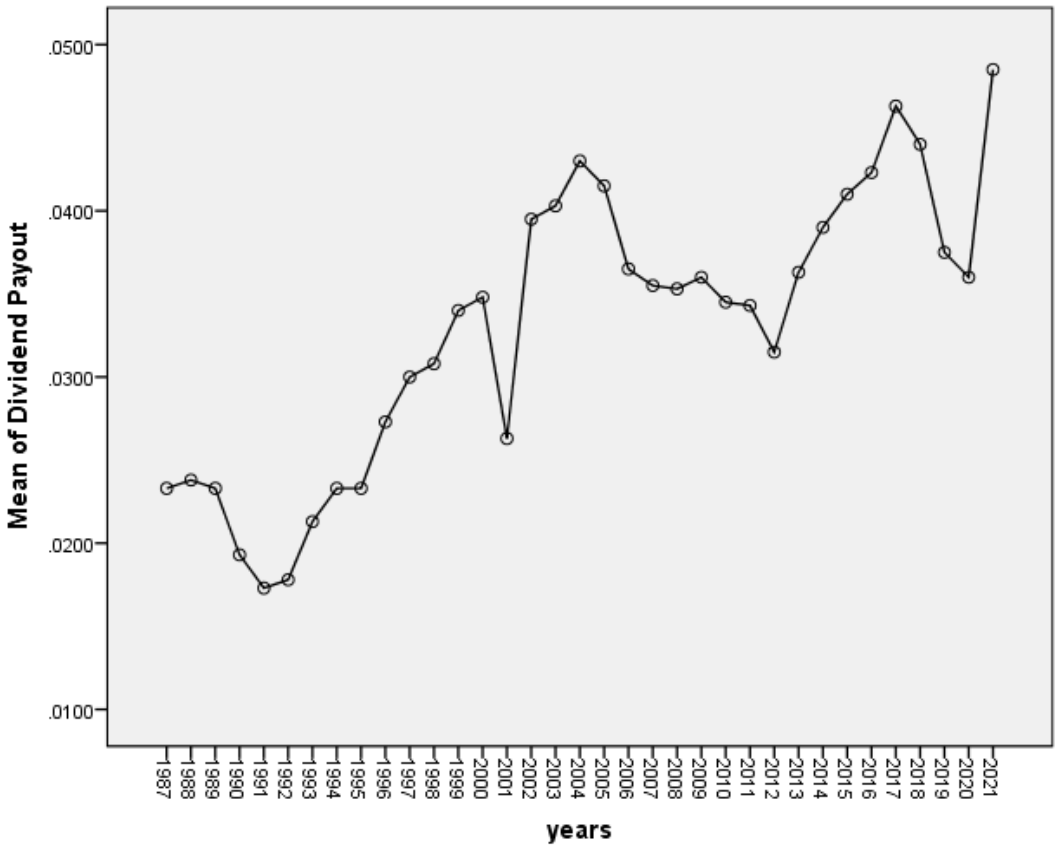

Figure 4.1 Dividend Payout Trend

4.3.2 Foreign Exchange

Foreign exchange depicts a decrease over the years. In the years 2003, 2004 and 2005 there was an increase in the foreign exchange. The outcome set forth in figure 4.2 communicates that dataset was unpredictable hence kept changing and varying with immense differences. In worthwhile, the foreign exchange is the cornerstone for explaining the stability and key role in informing the dividend payout among firms quoted at NSE. Hence, it is a lightning bolt for risk mitigation and gives a firm a leeway to enhance their operation and compact macroeconomics changes

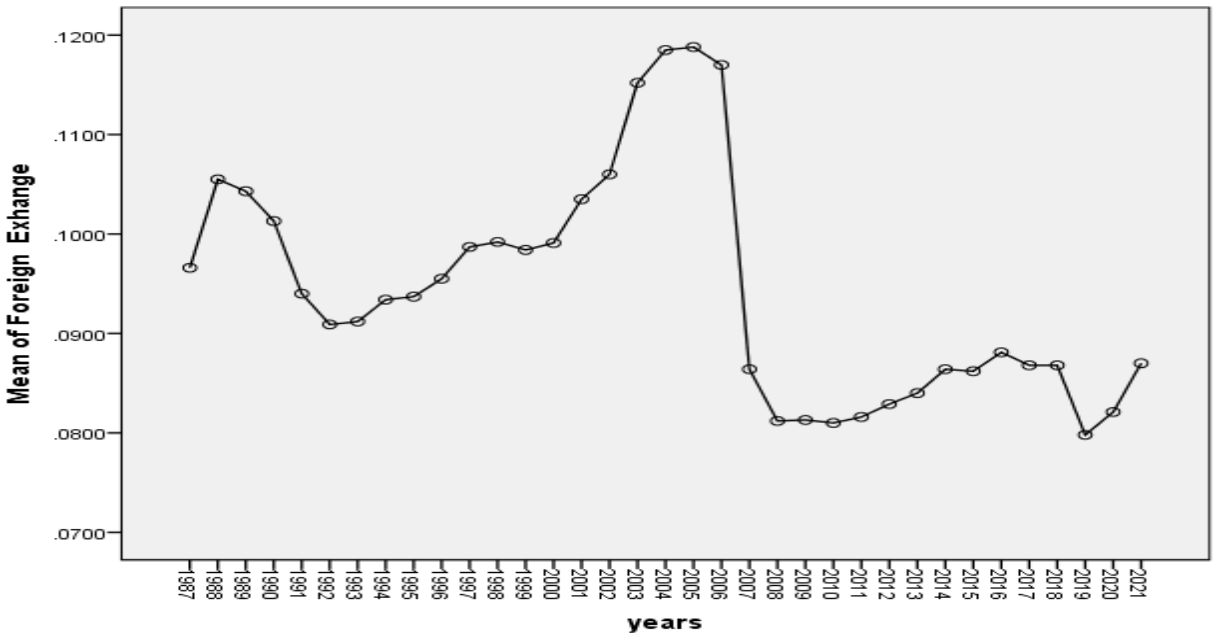

Figure 4.2 Foreign Exchange Trend

4.3.3 GDP

Over the years GDP has fluctuated with some points registering a higher GDP while others presented a lower value. Between 1989 and 2000 GDP remained almost the same in the years. Additionally, the experimentation inferences encapsulated in the figure 4.3 below defines the large-scale variability of changes in GDP. As a consequence, this is well portrayed on the erratic deviation. Consequently, unprecedented and unpredictable changes were witnessed from 1987 to 2021. Hence, making futuristic forecasting a problematic. It is worthwhile elucidating that macroeconomics and DPO are key for firms listed at NSE.

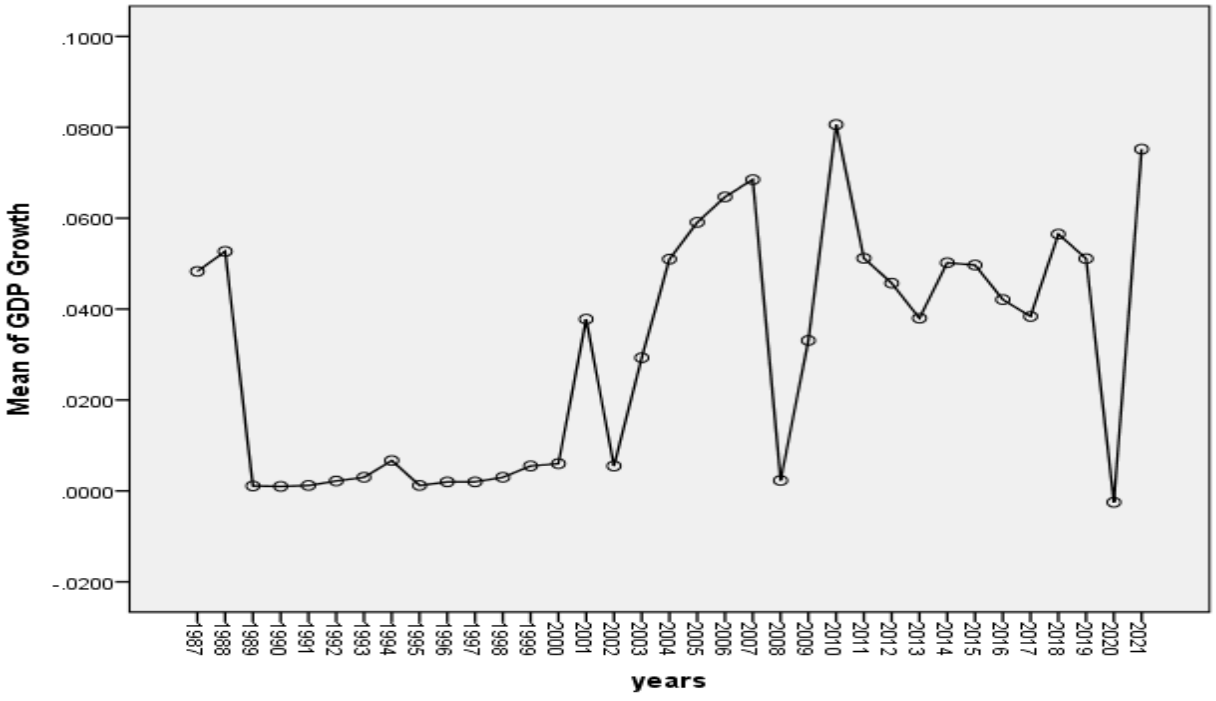

Figure 4.3 GDP Trend

4.3.4 Inflation Rate

The rate of inflation was higher in 2008 compared to other years. In 1987, inflation rate was the lowest. The inference was evoked by figure 4.4 pinpointing that the dataset was rising and falling over the timeframe of the assessment. In some years such as 2008 it was skyrocketing. Additionally, the deviation has shown great instability on Inflation Rate.

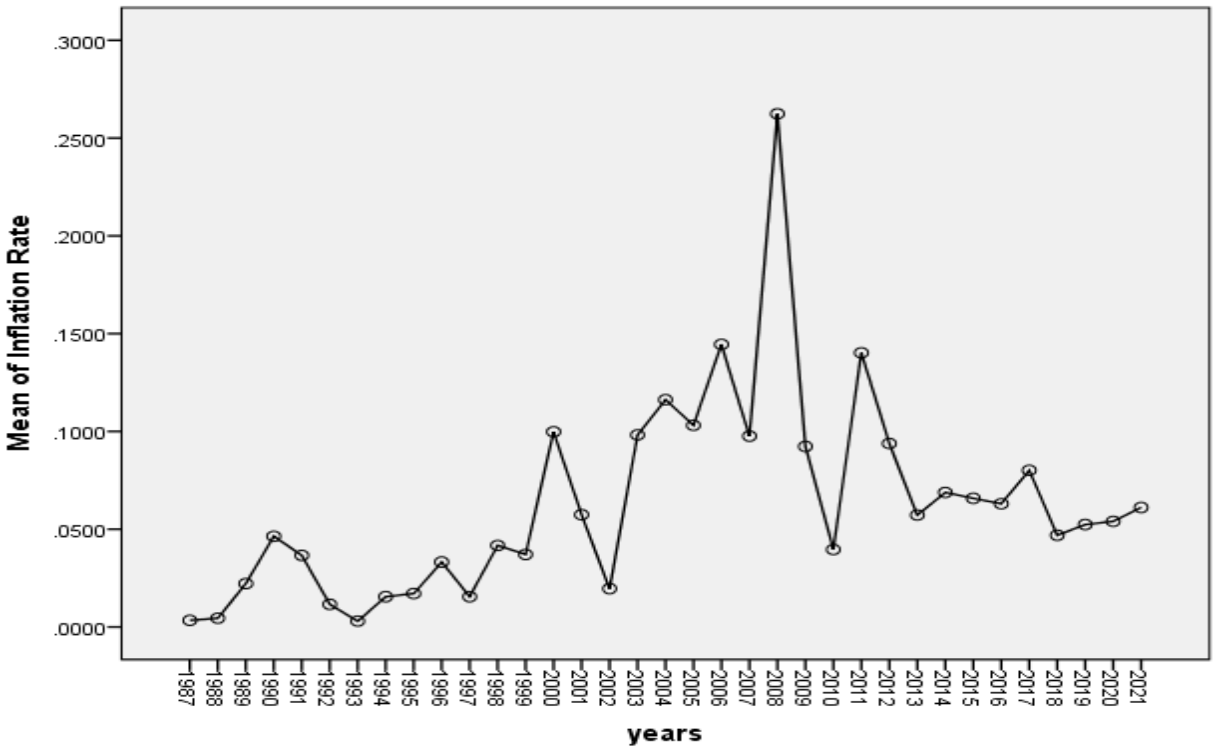

Figure 4.4 Inflation Rate Trend

4.3.5 Money supply

From representation set forth in figure 4.5 below, it renders a continuous increase in the money supply. Additionally, the money supply is the chief pointer of the dividend payout due to the availability of the money for circulation. As a consequence, it is a fundamental for estimating the amount payable to the shareholders. Over the years, money supply, has continued to rise in the firms. In 1987 the mean of money supply was less than 12% while in 2021, money supply mean stood at approximately 20.00%

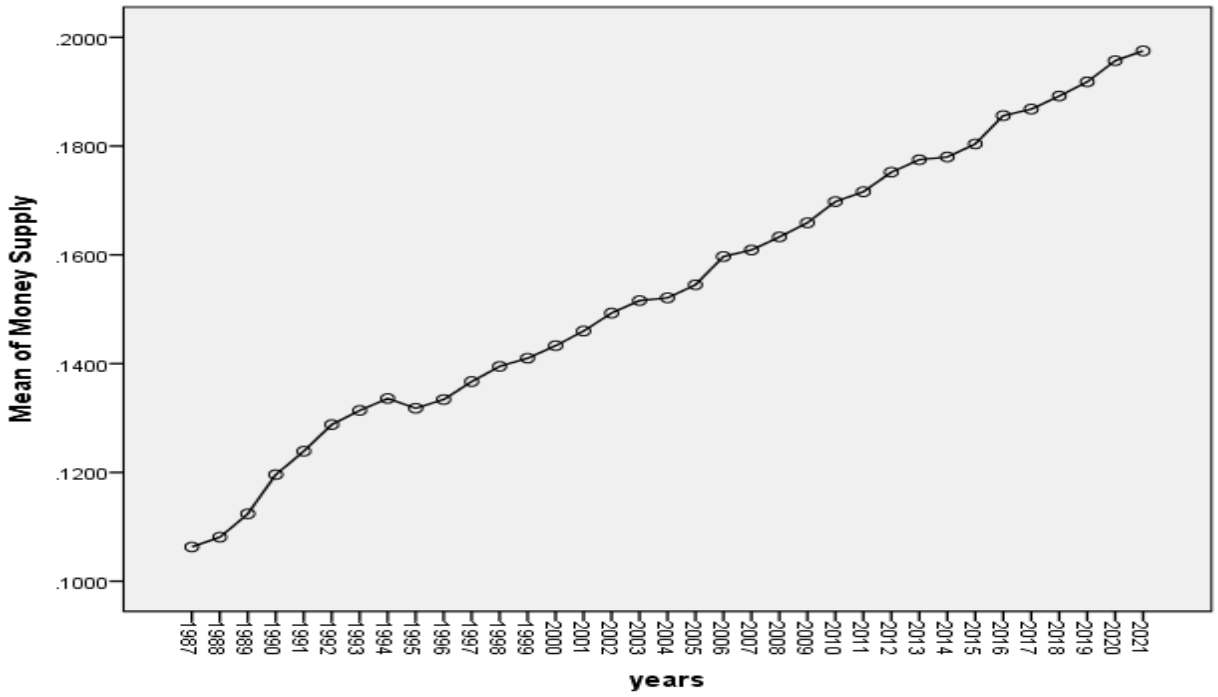

Figure 4.5 Money Supply Trend

4.4 Correlation Analysis

This rigorous undertaking was eminent and salient in giving exactitude of association. It was incorporated due to its substantiality in diagnosing obstructions and calling extensive sophisticated analysis (Alela & Lulia, 2010). Furthermore, it increases the determination of relationship and comprehension of its magnitude (Saunder & Lewis, 2012). Researcher conducted the correlation test among the variables in this study; Dividend Payout, Foreign Exchange, GDP, Inflation Rate and the Money Supply. The Pearson correlation matrix was utilized. As a consequence, correlation findings range from strong positive to negative.

The results delineate that the foreign exchange rendered a negative correlation of (r=-0.07381) towards the dividend payout while the other explanatory variables GDP Growth Rate, Inflation rate and the Money Supply) painted positive correlation towards the regressed variable (DPO). Both GDP Growth rate and money supply depicted strong positive correlation of r=0.5569 and r=0.81193 respectively, while inflation rate presented a weak positive correlation of (r=0.455967) towards the DPO (explained variable).

Table 4.2 Correlation Analysis

	Dividend Payout	**Foreign Exchange**	**GDP Growth**	**Inflation Rate**	**Money Supply**
Dividend Payout	1				
Foreign Exchange	-0.07381	1			
GDP Growth	0.556912	-0.076	1		
Inflation Rate	0.455967	-0.04437	0.232385	1	
Money Supply	0.811931	-0.51271	0.494899	0.411223	1

4.5 Diagnostic Analysis

The accuracy and relevance of the dataset is well-defined on the diagnostic analysis. Therefore, it sought to pinpoint the capacity of data to meet the statistical set threshold. Consequently, it assisted in the explanation of the data was tandem with requirement. According to Olweny and Kimani (2011) diagnostic test aids the decision making and capacity to honor the set standards while gaining in-depth knowledge. Hence, it can be concluded as the bedrock of successive analysis. Researcher performed this pivotal diagnostic test to explore the suitability of the data in modelling a prediction and equation. Normality test, multicollinearity analysis and the autocorrelation test were expedited.

4.5.1 Normality test.

Consequently, notoriety of normality test was chiefly utilized in the explanation of dataset. It dominated the concrete determination of quality estimation of series of discrete in the study. Normality delineates the pattern and behavior of data. As a consequence, it was conducted through plotting of the Q-Q plots. The inference is well represented in the figure below.

4.5.1.1 Dividend payout

From the results, observations are distributed along the trend line. This implies that the dataset was collected from a normally distributed population.

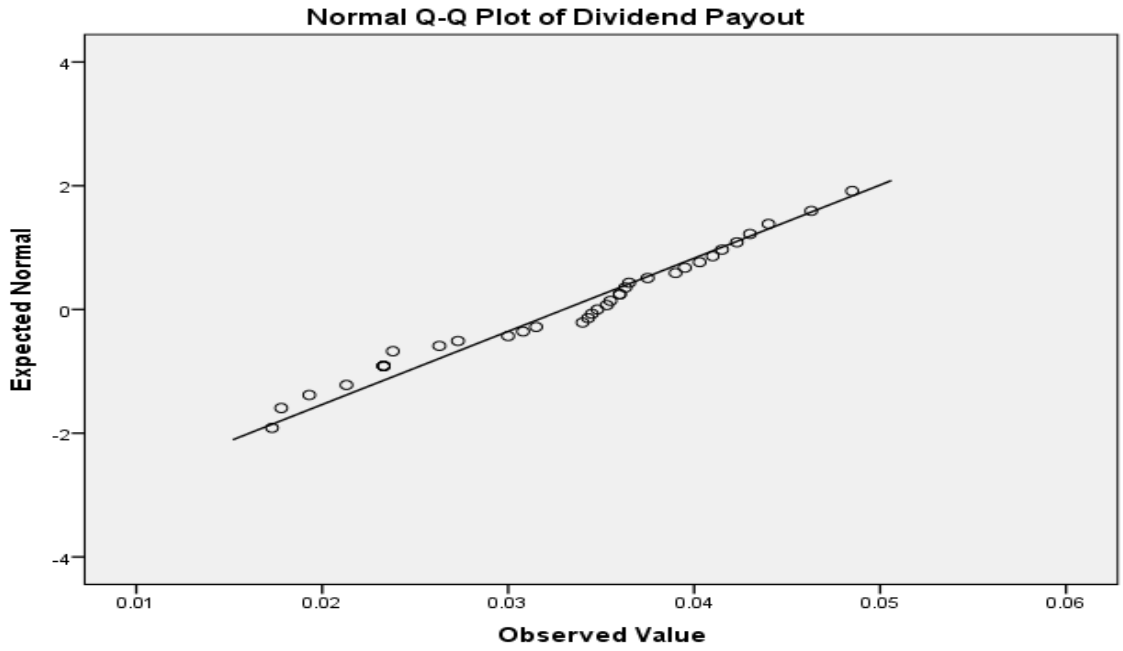

Figure 4.6 Normal Q-Q Plot Dividend Payout

4.5.1.2 Foreign Exchange

From keen analysis and apprehension, the phenomena followed a straight line. Importantly, observations exhibited linearity through its distribution along the straight line. This implies that the dataset was garnered from a normally distributed population.

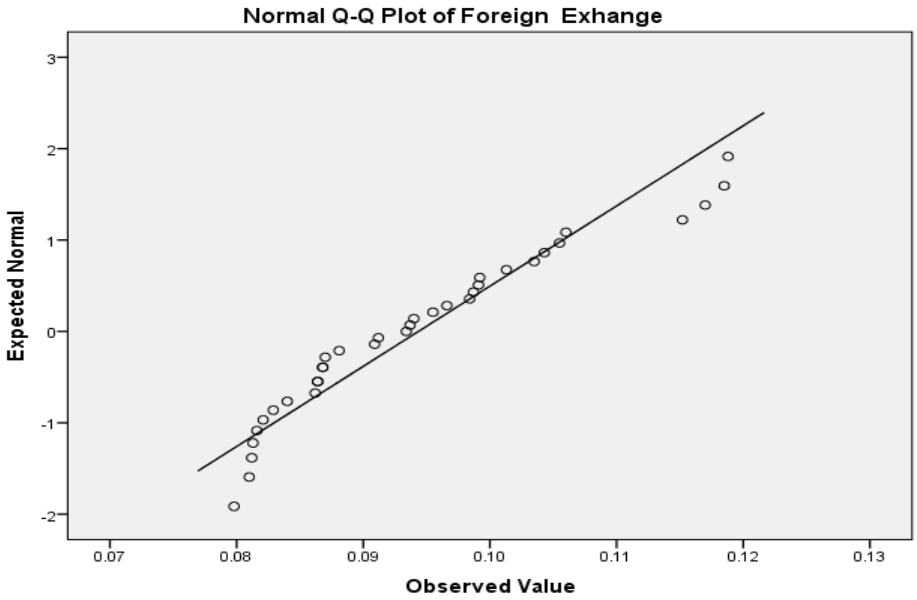

Figure 4.7 Normal Q-Q Plot Foreign Exchange Rate

4.5.1.3 GDP Growth Rate

The findings delineate that the observable datasets are distributed along the straight line. This implies that the data was registered from a normally distributed dataset. This is coined by distribution along the straight line.

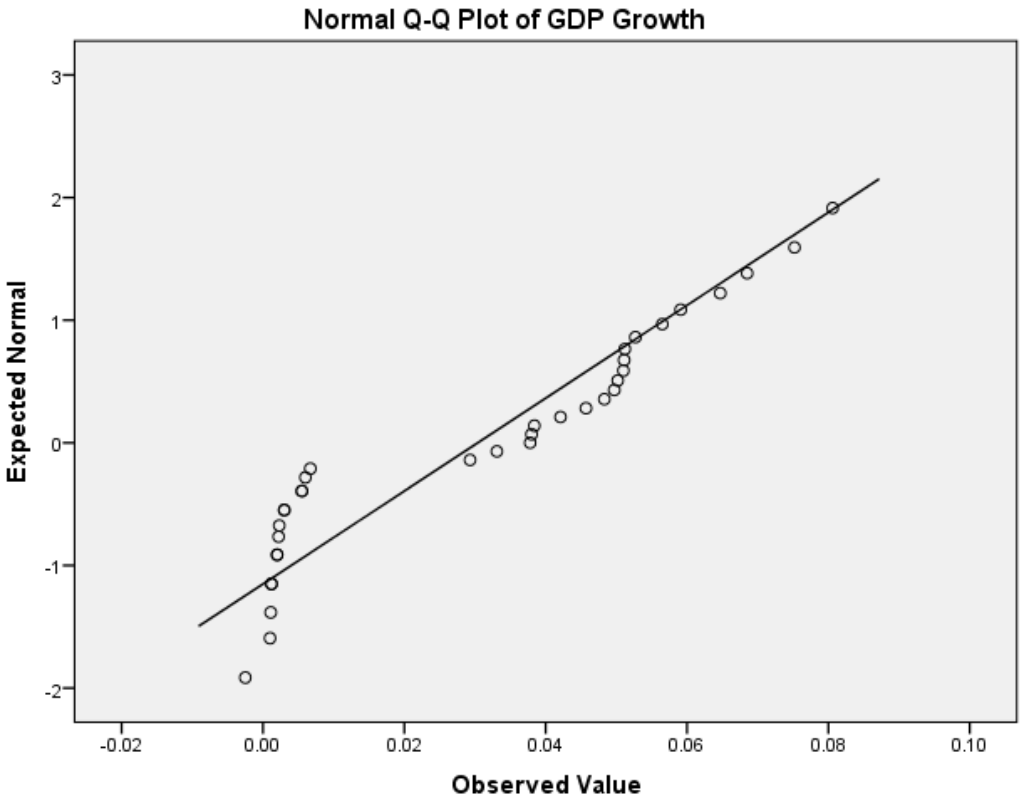

Figure 4.8 Normal Q-Q Plot GDP Growth

4.5.1.4 Inflation Rate

Observations on inflation rate evokes that the data is distributed along the straight line. This depicts that the observations were done on a normally distributed population.

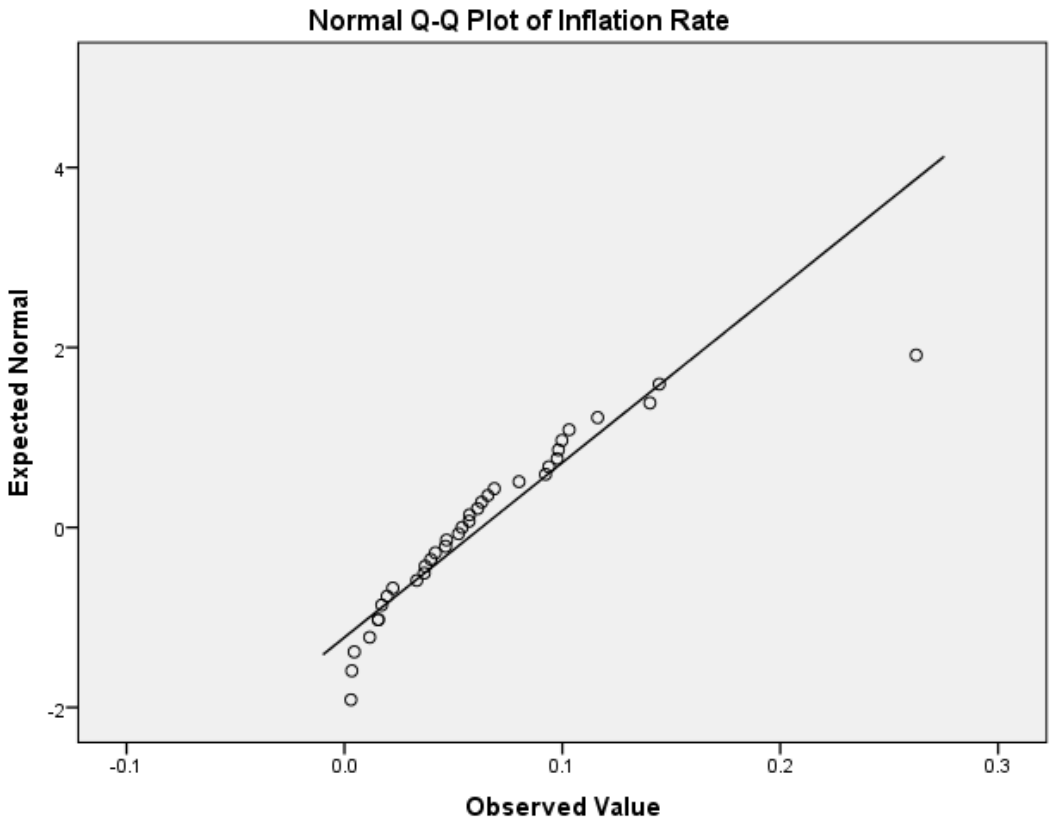

Figure 4.9 Normal Q-Q Plot of Inflation Rate

4.5.1.5 Money supply

The plot below posits that observations are distributed along the straight line. This implies that the dataset was recorded from a normally distributed population.

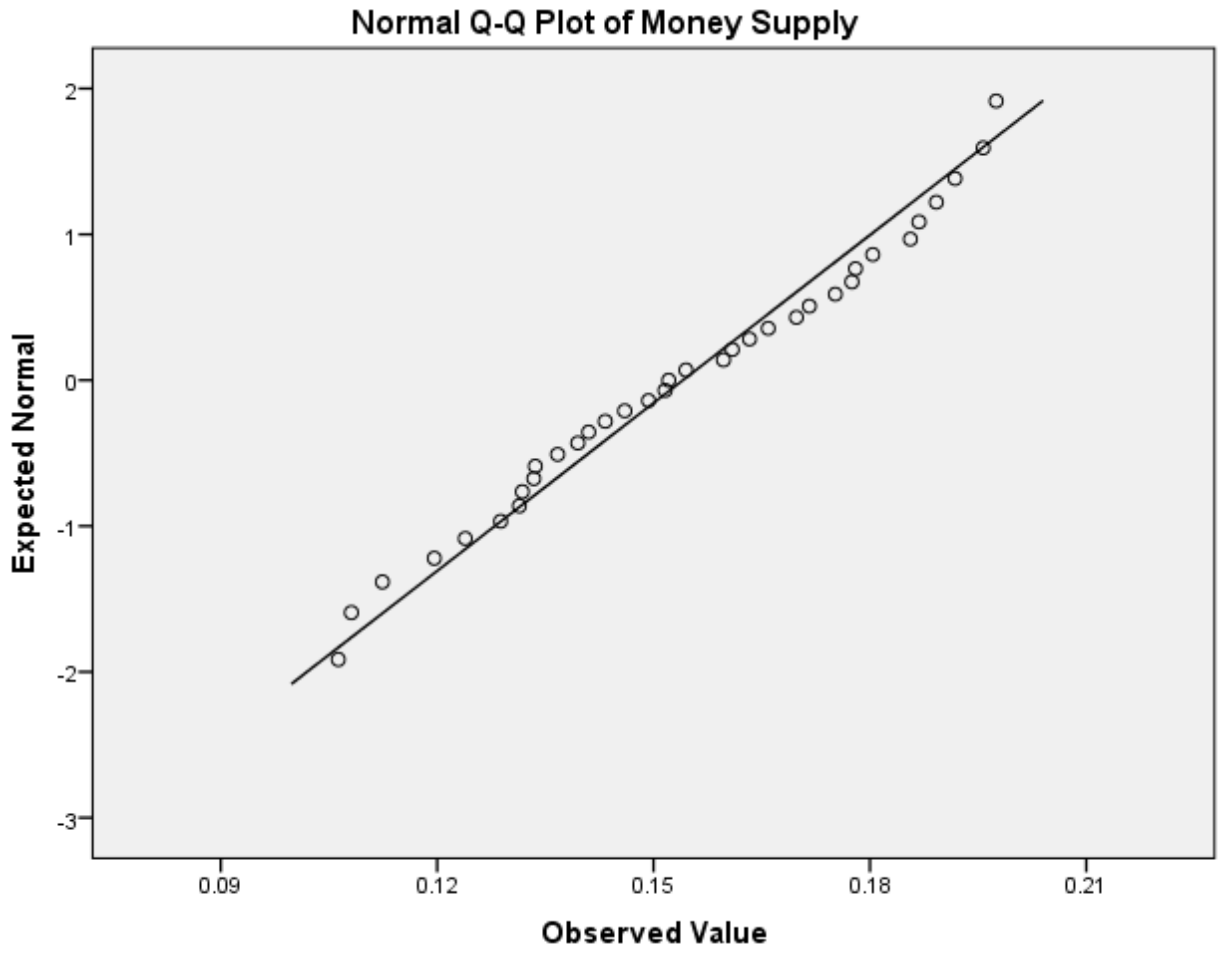

Figure 4.10 Normal Q-Q Plot of Money Supply

4.5.2 Multicollinearity test

The test for multicollinearity was performed so as to ascertain if the independent variables had a multicollinearity issue. Researchers utilized the VIF and the Tolerance values in the coefficient of determination so as to come up with the findings. The rule for deciding the multicollinearity is that if Tolerance figures of every variable is beyond 0.2 whereas VIF values are less than 10, then the multicollinearity problem does not exist, but if the tolerance values are less than 0.2 and the VIF values are greater than 10, then it is concluded that there is a multicollinearity problem that needs to be fixed first before the analysis proceeds.

The analysis was expedited to ensure minimal obstruction, violation and breach of the basic requirement in the scientific statistics that encapsulates a constant error term. According to Resnik (2003) prediction may register minimal interference, however, interpretation is substantially affected due to wrong conclusions and inaccurate outcome. Burns and Groove (2010) posits that erratic and drastic adjustment results from minimal deviation in dataset

From the table below, the variables have tolerance values greater than 0.2 hence lying within stipulated range. Additionally, VIF values below 10 are acceptable. This implies that there is absence of the multicollinearity problem affecting the variables.

Table 4.3 Collinearity Analysis

Model		Collinearity Statistics	
		Tolerance	**VIF**
	(Constant)		
	Foreign Exchange	.789	1.267
1	GDP Growth	.668	1.497
	Inflation Rate	.778	1.285
	Money Supply	.467	2.141

4.5.3 Autocorrelation test

The autocorrelation analysis was performed using the Durbin-Watson statistic. The Durbin value in the table below was 1.609. This value lies within the required values of the Durbin.

Table 4.4 Autocorrelation

Model	Durbin-Watson
1	1.609

The autocorrelation was expedited to examine the degree of error terms in the series of years under the study. This was expedited successfully via the efficiency of Durbin Watson test. Importantly, the inferences presented non-violation of the autocorrelation

blueprints with DW of 1.609 hence ranging within acceptable and preferred limits is 1.5 to 2.5.

4.6 Regression Analysis

This computation of regression was unique in the determination of existing association. As a consequence, it involved the quantification of dataset to depict direction and magnitude of movement. Researcher hastened the regression analysis to institute the degree of correlation among the variables and the percentage of the correlation coefficient. On top of collinearity, the study developed a mathematical model that was essential for predicting the future of the dividend payouts among the firms cited at NSE with key focus on aforementioned predictor variables.

4.6.1 Model summary

The model summary below delineates R of 0.910. This exemplifies that there is a strong correlation of 91.0% among the variables in this study. The R-Square which is the correlation coefficient implies that 82.8% of deviation in dividend payout versus the microeconomics variables for firms listed in the NSE is being triggered by Money Supply, Foreign Exchange, Inflation Rate and GDP Growth rate. The remaining 17.2% changes in dividend payout are caused by factors not captured in this study.

Table 4.5 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.910[a]	.828	.806	.0037284	1.609

a. Predictors: (Constant), Money Supply, Inflation Rate, GDP Growth, Foreign Exchange

b. Dependent Variable: Dividend Payout

4.6.2 ANOVA

This test is pivotal in elucidation of differences in the averages among many groupings. The ANOVA table in the regression findings delineates an F-Statistics of 36.203 and significance of 0.000. The outcome was widened and deepened by affirmation of the sum of squared regression as 0.002 and mean squared as 0.001 with 4 degrees of freedom while, sum of square residual is 0.000 and 0.000 mean square with 30 degrees of freedom. As a result, the outcome exemplifies that the model was statistically significant since the significance value 0.000 beneath the P-Value of 0.05.

Table 4.6 ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	.002	4	.001	36.203	.000[b]
1	Residual	.000	30	.000		
	Total	.002	34			

a. Dependent Variable: Dividend Payout

b. Predictors: (Constant), Money Supply, Inflation Rate, GDP Growth, Foreign Exchange

4.6.3 Regression Coefficients

Researcher utilized the unstandardized coefficients column B to generate the mathematically model. From the findings if all the factors are held at constant, the effect of dividend payout on microeconomics variables is -0.046. In addition, the inferences present that foreign exchange exhibits a positive and significant relationship with dividend payout of (β=0.317; p=0.0.000< 0.05). Further, the T-Test indicated that the GDP growth rate evokes a positive and insignificant relationship towards DPO (regressed variable) of (β=0.033; p=0.261> 0.05). The results tabulated in 4.7 added that the inflation rate had positive and insignificant relationship with the DPO (regressed variable) as seen by (β=0.009; p=0.501> 0.05). Money supply depicted a positive and

significant relationship towards the DPO (regressed variable). This was shown by (β=0.310; p=0.000< 0.05).

Table 4.7 Coefficients[a] of determination

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-.046	.010		-4.518	.000	-.067	-.025		
	Foreign Exchange	.317	.069	.427	4.600	.000	.176	.457	.665	1.505
	GDP Growth	.033	.029	.103	1.146	.261	-.026	.092	.712	1.404
	Inflation Rate	.009	.014	.058	.681	.501	-.019	.038	.793	1.261
	Money Supply	.310	.037	.956	8.414	.000	.235	.386	.443	2.257

a. Dependent Variable: Dividend Payout

With the above findings, researchers generated a mathematical model as

$Y=-0.046 + 0.317 X_1 + 0.033 X_2 + 0.009 X_3 + 0.310 X_4 + Ɛ$

This posit that the autonomous value is negative 0.014 hence meaning whenever all macroeconomics variable are maintained unchanged, the dividend payout was negative 0.014. In consequence, a positive single unit of change in foreign exchange triggers a

significant increment in the DPO by 31.7% only when other determinants are held constant. Moreover, a unitary increment of GDP by singular unit, transpires an insignificant increment in the DPO by 3.3% whenever all other enablers are kept unchanged. Nevertheless, the solitary increment in the inflation rate translates to non-substantial increment of DPO by 0.9% when all enablers are maintained unchanged. Finally, the addition of solitary unit of money supply is pivotal in triggering 31% increment in the DPO only whenever all other enablers are maintained constant.

In cognizance of significance findings, it worthwhile pinpointing that a meaningful and conclusive findings can be well articulated through;

$$\mathbf{Y=-0.046 + 0.317\ X_1 + 0.310\ X_4 + \mathcal{E}}$$

This is because the other two variables are insignificant. Empirically, the T test posits that the GDP growth rate posted a positive and insignificant connection towards DPO of (β=0.033; p=0.261> 0.05). In addition, the outcome coined that the inflation rate registered positive and insignificant correlation with the DPO as seen by (β=0.009; p=0.501> 0.05).

Whereby

Y= Dividend Payout (Measured by DPS divided by EPS)

A0=y intercept of the regression (constant variable)

X_1= Foreign Exchange (Kenya shillings against US Dollars)

X_2= GDP (Sum of Gross value added by population, minus subsidies)

X_3= Inflation (Annual change Consumer price index)

X_4= Money Supply (Change Sum of M2 plus Large time deposits and liquid asset)

ε= error term

4.7 Discussion and Conclusion

The results in the model summary posited that the four regressor variables explained 82.8% of change in the dividend payout of the sample firms. This therefore indicated that 17.2% of changes in dividend payout were explained by other enablers not incorporated in the model. Further, the ANOVA test postulated that the model was significant and useful in predicting the DPO of the firms in that the (F statistics was 36.203; $p<0.05$).

Empirically, Zhang and Daly (2013) concludes that macroeconomics are epicenter for both performance and DPO hence affirming the current study. Kamar (2013) instantiated that GDP, interest rate has inverse relation versus performance and DPO hence not in tandem with prevailing diligent inquiry. However, the prevailing study extended the analysis by comparing it with DPO over wider timeframe. Nash (2015) elucidated that interest rate is insignificant hence inconsistent with the current outcome. Kleen (2014) Posits that money supply is significant hence concurring with the current study. San and Heng (2013) illustrates that inflation and GDP are crucial and significant hence not concurring with the current study which coined non-substantial correlation.

The correlation upshot delineated that there was a weak negative connection between dividend payout and foreign exchange (r=-0.07381). GDP growth rate, Inflation rate and money supply showed positive correlation towards the dividend payout. However, the calculated coefficient of determination manifested that GDP Growth and Inflation Rate

depicted positive but insignificant relation towards the regressed variable (DPO) of (β=0.033; p=0.16) and (β=0.009; p=0.268> 0.05) respectively. Foreign exchange and Money supply on the other hand depicted positive and significant relation towards the explained variable (DPO) of (β=0.317; p=0.000< 0.05) and (β=0.202; p=0.001< 0.05) respectively. These findings showed that in the 35 year period, money supply had a great positive effect on the dividend payout of 31.0 % while inflation rate proved to have least positive effect of 0.9% on dividend payout.

The observation in this study had been obtained from a normally distributed population. This was evident by data that had been distributed along the straight line in the Q-Q plots of each variable. The tolerance values (0.789, 0.668, 0.778 and 0.467) > 0.2 and tolerance values (1.267, 1.497, 1.285 and 2.141) < 10 showed that the independent variables had no multicollinearity

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter gives a compendium of research inferences in a sequential, logical and coherent way. Therefore, the instantiation of the conclusion of this assessment is featured on this part. This section presents a summary of the results on the effects of macroeconomics variables on the dividend payout of firms listed at Nairobi Securities Exchange. Focusing on the previous chapter, this study gives recommendations on what the firms can do to improve dividend payout. In addition, the culmination and denouncement of periodic changes are pre-eminence for bridging the loopholes, reaching conclusive inferences, underscoring the drawbacks as well as foregrounding recommendations towards practice and execution of policies. In consequence, the extensive results generated are applied to keep business abreast.

5.2 Summary

The examination was principally executed to explore the effect of macroeconomic variables on the dividend payout. This was well-articulated to give massive relationship for comprehensive outcome hence enabling firms to understand the pattern hence can maintain their buoyance. The research period was satisfactory for extensive summary. Hence, conclusive outcome was registered on money supply, foreign exchange, inflation and GDP.

The descriptive statistics in this research study was conducted focusing on timespan stemming from 1987 to 2021. As a result, the findings delineated that during this period dividend payout registered an average of 3.299% and standard deviation of 0.008454. Foreign exchange average was 9.435% and standard deviation of 0.01139. GDP growth rate average in that period was 3.03% while the inflation rate average for the 35 year period was 6.29%. Money supply, showed an average of 15.41% with a standard deviation of 0.0250.

As a consequence, the diagnostic detections were expedited and quickened to ascertain if the phenomena met the threshold, appearance and the pattern. In addition, the correlation and regression arithmetic calculations reinforced in-depth determination. From the diagnostic findings, normality test proved that all the five variables data were assembled originated from a normally distributed population. The Q-Q plots of data for each variable were distributed along the straight line. The multicollinearity test showed that the predictor variables registered no multicollinearity issue this was shown by values of VIF being less than 10 and those of tolerance being greater than 0.2. The Durbin Watson value obtained is 1.069 which lies within the required values of the autocorrelation.

The correlation analysis showed that GDP Growth rate, Inflation rate and the Money supply had positive correlation towards the dividend payout. GDP growth rate and money supply, showed strong positive correlation of (r=0.5569 and r=0.8119) respectively while Inflation rate registered a positive but weak relation towards the dependent variable as shown by (r=0.4559). Foreign exchange showed a weak negative correlation towards the dividend payout as seen by r=-0.07381). Simiyu and Ngile (2015) defined a crucial mandate of macroeconomic factors in expounding the relationship with performance and

DPO. Kiganda (2014) concluded that exchange and inflation rate have insignificant impact on performance. Hence minimal interference with DPO hence inconsistent with these inferences. Kungu (2013) elucidated that macroeconomics variables are epicenter for wealth maximization hence critical for DPO.

The regression computation in this investigation posted R of 0.91 consequently outlining that there was 91.0% degree of connection. This is a strong correlation in regard to the determined and captured variable in this assessment. As a consequence, the coefficient correlation was valued at 0.828 arithmetically, showing that 82.8% deviation in DPO was generated by Money Supply, Foreign Exchange, Inflation Rate and GDP Growth, while the remaining 17.8% deviation in DPO were as a result of factors not captured in this computation among the firms listed at NSE. The significance value 0.000 in the ANOVA test was less than the P-Value of 0.05 implying that the model was statistically significant and consequently meaningful and useful in predicting the future.

Arithmetically, the autonomous figure is negative 0.014 therefore pinpointing that if all macroeconomic variables are kept constant, DPO was negative 1.4%. In addition, an increment on single unit of variation in foreign exchange registers a substantial increment in the DPO by 31.7% only whenever other enablers are maintained unchanged. In consequence, a unit increment of GDP transpires a non-substantial addition of the DPO by 3.3% only when all other determinants are kept unchanged. Nonetheless, the solitary increase in the inflation rate translates to non-substantial increment of DPO by 0.9% when all the enabling variables are maintained unchanged. In conclusion, the addition of single unit of money supply is fundamental in spearheading 31% increase in the DPO only if all other determining variable are maintained constant.

$Y=-0.046 + 0.317 X_1 + 0.033 X_2 + 0.009 X_3 + 0.310 X_4 + Ɛ$

In apprehension of significance outcome, it is imperative to coin that meaningful, accurate and credible inference can be exemplified via;

Y= Dividend Payout (Measured by DPS divided by EPS)

A0=y intercept of the regression (constant variable)

X_1= Foreign Exchange (β=0.317; p=0.0.000< 0.05)

X_2= GDP (β=0.033; p=0.261> 0.05)

X_3= Inflation (β=0.009; p=0.501> 0.05)

X_4= Money Supply (β=0.310; p=0.000< 0.05)

ε= error term

Hence for significance values**; $Y=-0.046 + 0.317 X_1 + 0.310 X_4 + Ɛ$**

5.3 Conclusion

The assembled data originated published and audited information from KNBS, CBK and NSE. In addition, CMA was also the pivotal for data generation. The extensive dataset was channeled through broad-gauge review, editing and completion before classification via SPSS. As a consequence, descriptive computation, trend analysis and inferential calculation were hastened. The descriptive called attention to nature of dataset in snapshot through accentuation of least, average as well as highest values. Additionally,

the standard deviation aided informed undertaking. Nevertheless, the standard deviation brought out the magnitude and degree of variability.

In comparison with preceding comprehensive study, it can be wrapped-up that this experimentation is supreme in shedding greater light. Kirui, Wawire and Onono (2014) exemplify that GDP, Inflation as well as treasury are epicenter of stock price. Nevertheless, this study enhanced the outcome by examining varying variables and specifically the regressed variable (DPO). These inferences are in tandem with Kanwal and Nadeem (2013) and Otambo (2016). Nonetheless, it contradicts Nash (2015) position on Macroeconomic variables. The mixed preceding outcome has been associated with difference in the applied concepts, utilized context and justified methods.

Consequently, the conclusions are based on the research findings above. Money supply is particularly important in the firms' DPO. This variable depicted a higher positive effect of 31.0% on dividend payout. It was also significant to dividend payout in that $p < 0.05$ as articulated below. Further, foreign exchange explained a positive and significant effect on the DPO of r= 31.7% and $p<0.05$. Hence can conclusively and empirically explained as;

$$\mathbf{Y=-0.046 + 0.317\ X_1 + 0.310\ X_4 + Ɛ}$$

X_1= Foreign Exchange ($\beta=0.317$; $p=0.0.000< 0.05$)

X_4= Money Supply ($\beta=0.310$; $p=0.000< 0.05$)

GDP growth rate and the inflation rate both had positive and insignificant relationship towards the DPO (regressed variable). Nevertheless, these factors were insignificant to

the dividend payout, firms were advised to comprehensively and keenly monitor the foreign exchange, GDP Growth, money supply and inflation reap immensely from opportunities. The insignificant value of GDP and inflation are explained in snapshot below;

X_2= GDP (β=0.033; p=0.261> 0.05)

X_3= Inflation (β=0.009; p=0.501> 0.05)

5.4 Recommendation for Policy and Practice

The extensive study was expedited through lengthy analysis of GDP, inflation, foreign exchange and money supply. Money supply and Foreign Exchange are important to all firms especially to the ones operating under the NSE. Extensively, the firms should analyze the external factors and adjust accordingly to fuel their buoyancy in the market. The firms should always strategize futuristically to remain as a going concern, maximize shareholder's wealth, increase profitability and remain stable in the fast-paced business environment.

The driving force of the assessment was paradoxical preceding outcomes. As a consequence, the study advocates for deep analysis of past-presupposition while applying the digitally-led presumptions due to the current proliferation. Additionally, making informed decision relies squarely on consideration of macroeconomic factors. Typically, the GDP and inflation posted an insignificant correlation which is a clarion demand for consistent examination overtime to elucidate if the inference can withstand technological innovations.

The macroeconomics variables portrayed their preponderance in the DPO. In that scenario, the firms listed at NSE needs to speed-up their adjustment to the fast-changing business environment. Correspondingly and proportionately, the business can expand their operation, enhance DPO and increase their capability via exploitation of the macroeconomic variables that are favorable including foreign exchange and money supply. However, grounded on GDP and inflation, the findings posted positive but insignificant association with dividend payout. Subsequently, this examination recommends for robust examination to reap enormously from these macroeconomic variables. In that scenario, the inflation rate and the GDP growth rate should not be neglected in decision making but incorporated through intensification and comprehensive analysis of their pattern.

Consequently, the macroeconomic variables should be timely, comprehensively and extensively evaluated and monitored to prevent operational inefficiency and management predicaments. This can enhance productivity and efficacy. In the fullness of time, it eliminates wastage and reinforce the performance and growth of the organization. In a nutshell, the balance-check techniques can be built. DPO is fundamental in decision-making on; if and when to reward shareholders for their sacrifices made as well as prioritizing investment in the company. As a result, it boosts confidence since it is a portrayal of going-concern of the firm, quality performance and dynamic environmental changes. As a repercussion, the business can expound on the strategies that can stabilize the firm's activities to meet the prevailing demands in the fast-growing and dynamic environment.

As a ramification, the examination recommends for informed strategies that enhance business productivity by reaping from risky opportunities. Moreover, the study recommends stringent measures to managing inflation by the government. It worthy to state that the government should speed-up the formulation of fiscal and monetary policies. Furthermore, the firms listed in NSE should be managed adequately and comprehensively to reach a visionary goal. Hence, it can gear the firms towards the productivity and achievement of the objective. Of great importance, the policy gives a leeway way towards enhancement of competency and credible solutions.

5.5 Limitations of the study

The examination period spanned from 1987 to 2021 thereby giving a wider timespan. In addition, this timeframe was bigger enough for conclusive results hence generating reliable results. However, the secondary sourcing of data gave second-hand information. Hence the study did not include the primary data to explain numerous changes. Second-Hand information is characteristic by historical information with minimal futuristic blueprints hence may be prone of errors.

The study incorporated only four regressor variables to explain the dividend payout. In consequence, GDP, foreign exchange, inflation and money supply were captured. Therefore, incorporation of mediating and control variable. The study focused on all firms listed at NSE hence a study of specific sector can ramify the outcome.

5.6 Suggestions for Further Study

Even though the dataset timeframe was large-scale enough for conclusive outcome. Moreover, updated information can give greater knowledge by looking at different predicator variables. It is paramount to contend that savings, investment and performance of firms is informed by the macroeconomics variables. A study in this same topic needs to be done with main focus being on the primary data at the same time including other regions of the country. In this way credible and reliable inferences can be generated

Researcher also recommend a further study on the relationship between dividend payout and the above variables using different methods in this way research can get the exact picture on the state of the firms. This examination of fiscal policy and dividend payout as well as effects of microeconomics variables on financial performance. Moreover, the scrutiny of effect of macroeconomics variables on the financial stability of firms.

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APPENDICES

Appendix I: Firms Listed at NSE

Nairobi Securities Exchange (NSE) – Listed companies	
Company	
Absa-Bank Kenya	
ARM-Cement	
B OCKenya	
Bamburi-Cement	
BATKenya	
BKGroup	
Britam	
Car & General (K)	
Carbacid-Investments	
CentumInvestment	
CIC Insurance Group	
Co-operative Bank of Kenya	
CrownPaints Kenya	
Deacons (East Africa)	
DiamondTrust Bank Kenya	
Eaagads	
EastAfrican Breweries	
EastAfrican Cables	
EastAfrican Portland Cement	
EquityGroup Holdings	
Eveready East Africa	
ExpressKenya	
FlameTree Group Holdings	

HF Group	
HomeAfrika	
I&M Holdings	
JubileeHoldings	
Kakuzi	
KapchoruaTea Kenya	
KCB Group	
KenGen Company	
KenyaAirways	
KenyaOrchards	
Kenya Power & Lighting	
Kenya Re-Insurance Corporation	
KurwituVentures	
Liberty Kenya Holdings	
LimuruTea	
Longhorn Publishers	
MumiasSugar Co	
Nairobi Business Ventures	
Nairobi Securities Exchange	
NationMedia Group	
NationalBank of Kenya	
NIC Group	
OlympiaCapital Holdings	
Safaricom	
Sameer Africa	
Sanlam Kenya	
Sasini	
Stanbic Holdings	
StandardChartered Bank Kenya	
Standard Group	

Stanlib Fahari I-REIT	
Total Kenya	
TPS Eastern Africa	
Trans Century	
UchumiSupermarkets	
Umeme	
UngaGroup	
Williamson Tea Kenya	
WPPScangroup	

Appendix II: Data Collection Instrument

years	Dividend Payout	Foreign Exchange	GDP Growth	Inflation Rate	Money Supply
2021	0.0485	0.0870	0.0752	0.0611	0.1975
2020	0.0360	0.0821	-0.0025	0.0540	0.1957
2019	0.0375	0.0798	0.0511	0.0524	0.1918
2018	0.0440	0.0868	0.0565	0.0469	0.1892
2017	0.0463	0.0868	0.0384	0.0801	0.1868
2016	0.0423	0.0881	0.0421	0.0630	0.1856
2015	0.0410	0.0862	0.0497	0.0658	0.1804
2014	0.0390	0.0864	0.0502	0.0688	0.1780
2013	0.0363	0.0840	0.0380	0.0572	0.1775
2012	0.0315	0.0829	0.0457	0.0938	0.1752
2011	0.0343	0.0816	0.0512	0.1402	0.1716
2010	0.0345	0.0810	0.0806	0.0396	0.1698
2009	0.0360	0.0813	0.0331	0.0923	0.1659
2008	0.0353	0.0812	0.0023	0.2624	0.1633
2007	0.0355	0.0864	0.0685	0.0976	0.1609
2006	0.0365	0.1170	0.0647	0.1445	0.1597
2005	0.0415	0.1188	0.0591	0.1031	0.1545
2004	0.0430	0.1185	0.0510	0.1162	0.1521
2003	0.0403	0.1152	0.0293	0.0982	0.1516
2002	0.0395	0.1060	0.0055	0.0196	0.1493
2001	0.0263	0.1035	0.0378	0.0574	0.1460
2000	0.0348	0.0991	0.0060	0.0998	0.1433
1999	0.0340	0.0984	0.0055	0.0371	0.1410
1998	0.0308	0.0992	0.0030	0.0417	0.1395
1997	0.0300	0.0987	0.0020	0.0155	0.1367

1996	0.0273	0.0955	0.0020	0.0332	0.1334
1995	0.0233	0.0937	0.0012	0.0171	0.1318
1994	0.0233	0.0934	0.0067	0.0155	0.1336
1993	0.0213	0.0912	0.0030	0.0030	0.1314
1992	0.0178	0.0909	0.0022	0.0116	0.1288
1991	0.0173	0.0940	0.0012	0.0366	0.1239
1990	0.0193	0.1013	0.0010	0.0464	0.1196
1989	0.0233	0.1043	0.0011	0.0222	0.1124
1988	0.0238	0.1055	0.0527	0.0045	0.1081
1987	0.0233	0.0966	0.0483	0.0034	0.1063