MACROECONOMIC VARIABLE AND STOCK MARKET PERFORMANCE IN KENYA

Issack Gure.
Department of Accounting and Finance, Kenyatta University, Kenya.
Dr. Vincent Shiundu Mutswenje.
Department of Accounting and Finance, Kenyatta University, Kenya.

International Academic Journal of Economics and Finance (IAJEF) | ISSN 2518-2366

Received: 13th November 2023

Published: 17th November 2023

Full Length Research

Available Online at: https://iajournals.org/articles/iajef_v4_i1_87_98.pdf

Citation: Gure, I., Mutswenje, V. S. (2023). Macroeconomic variable and stock market performance in Kenya. *International Academic Journal of Economics and Finance*, *4*(1), 87-98.

ABSTRACT

The stock market is essential to a country's economic growth as it provides platforms that enable the companies to trade publicly and raise capital. This enables the transfer of capital and ownership to be regulated and secure environment for trade, thus promoting investment. This implies that strong performance positively affects business growth and expansion operations, which in turn generates jobs for the economy. Given the significance of stock market performance to the economy, any changes to that performance undoubtedly had an impact on the economy. Because of this, the researcher examined the effects that changes to macroeconomic conditions have on Kenya's stock market performance with specific focus on how inflation affect the stock market performance. The arbitrage pricing theory and Fisher theory were applicable. Explanatory research design was employed. Secondary data was gathered from the years 2017 through 2021 from the Nairobi Securities Exchange as well as the Kenya National Bureau of Statistic. Diagnostic tests were run to check for any violation of the regression analysis. Time series regression model was applicable for this study where both descriptive (mean and standard deviation) and inferential statistics were analyzed. The researcher kept ethics in mind throughout the investigation. The study findings were presented through graphical, pictorial representation, tables, and percentages. Inflation had a statistically significant impact on Kenya's stock market performance and was thus the hypothesis was rejected. In order to combat inflation, the study recommends employing a contractionary monetary policy, which is a method for doing so. A contractionary policy aims to lower the quantity of money available in an economy by lowering bond prices and boosting interest rates. Price decreases, slower inflation, and less consumption follow as a result.

Keywords: Macroeconomic Variables, GDP, Inflation, Interest Rate, Stock Market Performance.

INTRODUCTION

Without a question, the stock market is essential to obtaining funds for both private and public organizations to support the expansion of their operations. The potential for gains in the form of value growth and bonuses draws investors into the stock market. The stock market, which is referred to as a place where shares of publicly traded companies are traded, plays a significant role in the financial sector in both developed and developing nations. Through the primary market, where companies flog shares to the public in an initial public offering or IPO, the stock market makes long-term capital available to listed firms. This is accomplished by combining funds from several

investors, which then allows the businesses to grow by providing investors with a variety of investment opportunities for their extra cash (Mohammed, 2011).

It follows that the growth of a nation and its economic indicators, including its gross domestic product, foreign direct investment, inflation, interest rate, money supply, and exchange rate, are positively correlated. These factors influence stock returns in addition to being crucial for economic growth. The greatest instrument for assessing a market's success over time is seen to be the stock market. Stock market indices offer historical stock performance data that is useful in comparing the results of various portfolios. For investors or managers comparing their returns to the market return, the indices can be used as a benchmark. Because of this, corporations and investors would benefit greatly from knowing about these factors and how they affect share prices (Aurangzeb, 2012).

As it affects, for instance, the stability of the global economy, the stock market's performance is a worldwide concern. Early trading in October 2022 saw shares in Taiwan drop 158 points, or 1.21%, to a close-to-two-year low of 12,924. This decline was prompted by new US export curbs relating to technology against China. The limits came into effect when the semiconductor sector experienced a slowdown, turning the global scarcity of chips that existed during the epidemic into an oversupply, according to Bloomberg (2022), The first quarter of 2022 has been tumultuous for the global economy as it remains restrained by recession worries, monetary policy concerns, China's lockdown, and the effects of Russia's invasion of Ukraine, which took the brunt of the surge in oil prices.

Study conducted in the Republic of Colombia by Andres Gonzalez et al. in 2021 with the aim of determining the impact of Covid 19 on the country's economy established the existence of a permanent contraction in GDP as a result of the loss of jobs and businesses, lower productivity, and lower oil prices. This led to a considerable reduction in imports, which more than compensated the decline in exports, and a narrowing of the trade imbalance. In response to the reduction in inflation and the negative production gap, the monetary policy rate fell, and the public debt increased to 65.5% of GDP and the fiscal deficit increased to 8.2% of GDP. The budgetary result is explained by greater interest payments on the national debt, higher government expenditure, and reduced tax receipts.

Recognizing the importance of the stock market in a country's economic growth is essential because it offers a platform for the pooling of significant sums of money through the issue of shares, stock, and other equities for businesses in need of funding. Empirical research has shown that the stock market's success has a direct impact on a country's overall economic development (Asaolu and Ogunmuyiwa, 2010). The majority of individuals concur that some fundamental macroeconomic factors, such as the loan rate, inflation, money supply, exchange rate, and GDP. Data back up this association between the stock market's ascent and the expansion of the economy (GDP).

According to a new economics research, Kenya has seen ten years of rapid economic development, which allowed it to achieve middle-income status in 2016. The economy of the nation has one of the highest rates of growth in Sub-Saharan Africa. The COVID-19 epidemic, however, caused GDP growth to decelerate from a projected 5.4% in 2019 to -0.1% in 2020. Subject to the post-pandemic

global economic recovery, the IMF anticipates economic growth to rise up to 7.6% in 2021 (latest projections). Even this decline in growth may be attributed to the subpar stock market performance, which is propelled by a shift in macroeconomic variables. In comparison to 2011, the Nairobi Stock Exchange 20 Share Index increased by 928 in 2012. Moreover, compared to 2011, the annual rate of inflation fell by 4.6% in 2012.

Nonetheless, the value of the Kenyan shilling fell in 2012, which led to a greater proportion of international investment than domestic investment. As stated by Mark Hulbert (2019), the stock market maintained stability in 2017 before taking a downward turn, in 2018, which raises serious concerns about the decline of stock performance that has been realized since 2017. There appears to have been a carryover of volatility from 2018 in the first few days of 2019, but there was also a carryover of gains from 2017 in the beginning of 2018, and those obviously didn't endure. How rapidly regimes may shift is one of the market's most intriguing characteristics. The previous two years have played out very differently and have provided investors with very distinct experiences. In terms of losses and volatility, the differences between 2018 and 2017 are evident, but there are other ways that the two years are very different. For instance, there wasn't a single month of declines in the S&P 500 in 2017. Contrary to what was demonstrated in 2018, where there were 4 down months and they were all quite significant decreases (-3.6%, -2.8%, -6.8%, and -9.0%), that has never occurred in the history of the stock market going back to 1926.

Statement of the Problem

Stock market performance has traditionally been seen as a leading indication of the stock market as a whole. It informs investors about their next move, and movement in stock prices and indexes provides insight into the future direction of the stock, industry, or economy. A bullish market boosts the confidence of the investors in the market while a bearish market demoralizes the investors as it portrays negativity about the future, Stock market underperformance is more likely if economic performance falls short of expectations, the relationship between the factors under examination. This therefore show how important the stock market performance is to the economy as all eyes are on the movement as shown by the indexes, however much effort the government and the relevant bodies have put in ensuring the bullish trend in the stock performance, however, still the negative indications are evident as shown below.

From the Nairobi security exchange report the stock market performance have been showing a declining trend from 2016, 2017,2018 and 2019, and the figure were portrayed by NASI a mean of measure in percentage as 48%,46%, 41% and 17%, this demonstrate that some consideration should be given to the fueling factors behind the evidenced decline.

However much effort that has been put forth in an attempt to avoid a bearish market still a declining trend is evidenced, in order to do away with the bearish market several scholars have tried to validate the factors behind the declining trend in order to boost the confident of the investors for example Mutuku & Ng'eng(2019) established some macroeconomic element such, trade rate, GDP do have positive correlation with stock market performance so their address means addressing the problem.

Alil and Jamil (2020) concluded from their research in Pakistan that there was only a shaky correlation between stock market performance and macroeconomic issues.

According to Ouma and Muriu (2019), the Kenyan stock market was impacted by changes in the inflation rate, money supply, and currency rate. The GDP, interest rates, inflation, and currency exchange rates are only a few macroeconomic variables that affect share prices, according to Mwai (2021). The aforementioned makes it evident that there is no consensus about how macroeconomic factors impact stock market performance. The studies that have been done have also focused mostly on stock price and stock return, leaving out the depth as a measure of volumes. The persistence of the decline of the performance as indicated by the statistic just calls for further research to establish the real force behind the evidenced bearish market. Therefore, this schoolwork pursued to respond the question of what could be the factor behind the bearish trend in stock performance. Why the bearish trend of stock market despite much effort put on macroeconomic factors?

Objective of the Study

To evaluate the effect of macro-economic variables on stock market performance in Kenya

Specific Objective

To ascertain the effect of inflation on stock market performance in Kenya.

THEORETICAL REVIEW

Arbitrage Pricing Theory

This theory was pioneered by Stephen Ross (1976), who clarifies the expected return from a financial investment or a commercial commodity. A linear relationship between a number of macroeconomic variables may be described, with the beta coefficient of each variable reflecting how differently the variables' correlations vary from one another. The 18 price or asset value will be exactly determined using the produced model's rate of return. An asset's value ought to generally match projections. APT agrees that while a variety of unique, idiosyncratic characteristics may affect the return of a single company; this influence may be diminished in skillfully constructed portfolios. The idea of diversity influences the performance of stocks for a similar reason.

Chen, Roll, and Ross were among the first to substitute all of the perplexing parts of APT (1986) with macroeconomic factors. These researchers endeavored to describe fairness as a major macroeconomic determinant. This is due to the fact that anticipated surpluses are impacted by monetary factors such as Treasury bills, interest rates, and the rebate rate. Contrary to popular opinion, Roll and Ross (1995) believe that only a few systematic factors determine the long-term aggregate returns of financial assets. APT emphasizes attention on the significant elements that drive aggregation in large portfolios while ignoring the numerous factors that daily effect stock price volatility. Interest rate is one of the components of the macroeconomic variable in this context, and the study considers this theory to be relevant to the study and used it as a tool to guide this

research because the study's objective is to evaluate the impact of macroeconomic variables on the performance of the NSE All Share Index.

Fisher Theory

Researchers and practitioners have been interested in the relationship, if any, between inflation and stock market performance, especially in the 20th century. The Fisher (1930) equity stock statement serves as the discussion's conceptual center. According to the generalized Fisher (1930) hypothesis, equity stocks can act as an inflation hedge since they reflect claims on the physical assets that comprise a company's core assets. As the anticipated inflation intensifies, investors have the option of exchanging their financial assets for real assets if this is the case.

In this instance, the nominal stock price should appropriately represent expected inflation, and the two variables should have a positive connection (Toanide et al, 2015). This assertion that the stock market functions as a buffer against inflation may also imply that investors are fully compensated for increases in general prices through increases in nominal stock market performance, while real performance remains unchanged. According to a further extension of the edge hypothesis, the stock market should serve as an equal buffer against inflation over the long run, as equities reflect claims on current and future revenues. Because the study's purpose is to analyze the influence of macroeconomic variables on the performance of the NSE All Share Index, and because inflation was included, this hypothesis is incredibly relevant because it ties inflation to stock performance

Empirical literature Review

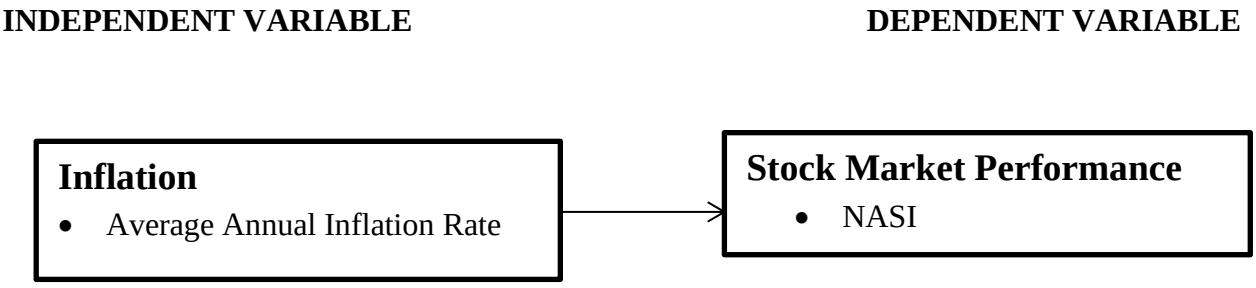
Inflation and Stock Market Performance

Jepkemei (2017) carried out the study with aim of establishing the effect of inflation on the stock market performance in the stock exchange of Ghana between 2014 to 2017,secondary data was used, quantitative data analysis and regression analysis was used in which the study validated that stock market are worst affected by inflation, thus concluded that inflation adversely affects the stock market performance which in turn affects the economic growth, however the study only narrowed on inflations ignoring other factors that also play major roles in determining the performance of stock market and are unavoidable. This study bridged this gap by not only looking into the impact of inflation in isolation but inconsideration of other unavoidable factors too.

Gachuchi (2018) investigated the Nairobi Stock Exchange to identify the influence of macroeconomic variables on stock market performance. The NSE 20 share was utilized in the study to assess the success of the Nairobi Stock Exchange's operations during a ten-year period, from 2007 to 2017. The study employed numerous regressions, and the scrutiny was performed using SPSS. The association turned out to be negative. The study's finding was that inflation significantly affects stock market performance; however, the study only used NSE20 shares to measure stock market performance, which limited the results because NSE20 only measures the share of the first 20 trading shares and does not capture all share trading, so the conclusion drawn from this may be misleading, this was addressed in this study the use of NASI which gives a more accurate results.

Kori (2019) conducted a study with the goal of determining the effect of macroeconomic variables on stock market performance. The jurisdiction of the study was the NSE and its performance from 2008 to 2013, and NSE20 share was used to measure stock market performance. Study a adopted descriptive and inferential data analysis, SPSS was used to carry out analysis in which the study established the existence of negative correlation of the variables, thus study concluded that inflation affects the performance of stock market , the study only used NSE20 shares to portion stock market performance, which only measures the share of the first 20 trading shares and does not capture all share trading, so the conclusion drawn from this may be misleading, this was addressed by the of NASI to measure the performance hence more accurate finding drown.

Figure 1: Conceptual Framework



Source: Researcher (2023)

Research Design

The organization of research instruments to provide an exploratory strategy from the beginning to the end of a study is defined by the research design (Cohen, Manion, & Morrison, 2013). How successfully a research project accomplishes its goals depends on its design. Also, it enables many instruments and participants to properly contribute when requested, enabling the research to be fruitful and conclusive. The research design for this study was meticulously developed and created to attain relevance and satisfy the specific requirements.

Causative and explanatory research designs are utilized to investigate the cause-and-effect relationship between two variables, according to Hitesh Bhasin (2020). These designs were employed to fulfill the study's objectives. In order to demonstrate a cause-and-effect link between two or more variables, this form of conclusive study is employed primarily to ascertain the origin of the observed behavior. It does, however, allow the researcher the chance to choose which changes in an independent variable correspond to changes in the dependent variable. To maintain accuracy, other factors are assumed to remain constant. It can help in figuring out the precise relationship between one variable and another.

Target Population

According to Creswell Miller (2010), the population is the study topic or problem of interest. Consider the variables in the study to be a representation of the population. The term "population" is widely used to refer to a group of people, places, things, or even living beings. A complete descriptive investigation is essential when comparing intangible phenomena such as economic

results, natural catastrophes, and unexpected scenarios. This study's principal emphasis was the Nairobi Securities Exchange, with an index of all the shares listed there between 2018 and 2022 acting as the core focus.

Data Collection Instruments

Secondary data was needed because the phenomena under examination are mostly of a numerical nature. So, to acquire important data on every aspect of stock market performance, the research employed secondary data gathering techniques such the usage of journals, magazines, websites, and other publications. The researcher regarded data from 2017 to 2021 as relevant to the study. Secondary data from the Nairobi Securities Exchange was taken into account in the study. Ayayi (2017) defines secondary data as information that has already been gathered and is available through a variety of publications or websites. Data was congregated from the websites of the NSE and the internet for the period from 2018 to 2022, which is comparable to 5 years upon getting clearance by Kenyatta University and NACOSTI. After receiving approval from Kenyatta University and NACOSTI, data was gathered from the websites of the Nairobi Securities Exchange and the internet for the five-year period between 2018 and 2022.

Data Analysis and presentation

Lecompte and Schensual (2017) define data analysis as the process of translating data into a narrative and applying it to improve decision-making. To do this, data must be cleansed, processed, and modelled. Time series analysis was employed in the investigation. Means and standard deviations were made clearer thanks to descriptive statistics. In contrast, time series regression analysis was used to do inferential statistics in order to predict the associations between output and predictor variables.

Occurrence tables and graphs were subsequently used to show the results.
The study has stock market performance as response parameter and inflation as the predictor parameter. The study used a time series model where the general model was taken in the form:
$Y= f(INF)$……i
The first model only shows how the dependent variable (stock market performance) and independent variable are related.
$Y=\beta 0 + \beta 1\ X1+\varepsilon$……ii
Where Y represents stock market performance, β0 is a constant term, β1 is the coefficient of the estimate parameter, and X1 is inflation, and ε is the error term. The outcomes were given in the arrangement of extensive explanations with tables and pie charts.

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive Statistics

Table 1: Microfinance Credit Services Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
NASI	60	112.164	.8142901	110	113
Inflation	60	5.763667	1.85983	2.34	11.7

Source: Field Study (2023)

The NASI mean is 112.164, the standard deviation is 0.8142901, and the range of values is 110-113, according to the results. This demonstrates the NASI's consistency and stability across the course of the investigation. It had an average of 5.763667 and a variation of 1.85983, with the lowest figure being 2.34 and the highest being 11.7, similar to how inflation stayed stable over time. This was consistent with Koris (2019), who used NASI as a measure of performance when establishing the connection of the variables because of its consistency and stability, which yielded a more accurate conclusion.

Correlation Analysis

The researcher created a correlation matrix between the variables utilizing the STATA software. The results are summarized in Table 2.

Table 3: Correlation Results

	NASI	Inflation rate
NASI	1.0000 60	
Inflation	0.0190 0.8856 60	1.0000 60

Source: Field Data (2023)

The Pearson correlation coefficient for the relationship between Kenyan inflation and stock market performance was extremely low, positive, and 0.8856 ($p>0.05$), negligible. These findings go against those of Kori (2019), who discovered a bad relationship between the variables.

Time Series Regression Analysis

Time series data was found to be stationary without differencing I(0) as indicated in table 4.6, thus, in such a case data can be analyzed using Ordinary Least Squares (OLS) or Vector Autoregressive (VAR) model (Shrestha & Bhatta, 2018). Additionally, since all the variables were stationary at I(0), cointegration is not required at this level. The results of this investigation, which employed an ordinary least squares model and a time series regression built on an empirical model, are shown in Table 4.9.

Table 4.9: Regression Coefficients

Equation	Obs	Parms	RMSE	"R-sq."	F	P
NASI	60	4	.6918043	0.3149	8.580576	0.0001
NASI	**Coef.**		**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**
Inflation	.0837583		.0524299	1.60	0.016	-.0212714 .188788
cons	109.5936		6.366286	17.21	0.000	96.84043 122.3468

Source: Researcher (2023)

The equation obtained was:

$$\mathbf{NASI_t=109.5936+4.392745GDP_t+0.0837583INF_t-0.2432366INT_t}$$

The findings indicate that the independent variables in the model determined the stock market performance by 31.49%, as shown by the simultaneous impacts of independent variables evaluated using the R Square (0.3149). As a result, 68.51% of the stock market performance outcome could not be explained by the elements in the model and could only be the result of outside factors that were not included in the study. The p value of 0.00010.05 specified that this finding was statistically significant. The estimated F=8.580576 was not higher than the tabulated value of 4.2 using the F* test table (5%, 4), further demonstrating the importance of the model.

When the predictor factors were ignored, the stock market's NASI increased by 109.5936. The rise is substantial, as shown by the p value of 0.000. The NASI increases by 0.0837583 for every unit increase in inflation, and the gain is significant given the p value of 0.016. The results differ from those of Kori (2019), whose research at the NSE on the impact of macroeconomic factors on stock market performance revealed a lack of positive correlation between the variables and led to the conclusion that inflation influences stock market performance.

CONCLUSION AND RECOMMENDATIONS

Conclusion

According to the study's findings, inflation had a major impact on Kenya's stock market performance. As a result, inflation has an independent impact on Kenya's stock market performance. This implies that fixing the economy's inflationary situation will have an impact on stock market performance. Inflation is important because it causes uncertainty in the markets. During periods of rising inflation, firms' profit and growth margins may suffer, affecting investor confidence and, as a result, their willingness to accept risks by investing in stocks.

Recommendations

The study found that inflation has a considerable influence on Kenya's stock market performance. In order to reduce inflation, this paper advises implementing a contractionary monetary strategy.

REFERENCES

Al-Malkawi, H., Rafferty, M., & Pillai, R. (2010). Dividend Policy: A Review of Theories and Empirical Evidence. *Euro journals*, 24,145-201.

Amidu, M. (2007). How does dividend policy affect performance of the firm on Ghana stock Exchange.*Investment Management and Financial Innovations*, 4(2), 104- 112.

Balagobei .S. (2022). Impact of macroeconomic variables on the stock market Performance in Srilanka *Wayamba Journal management Volume 13*

Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education*.Routledge.

Creswell, J. W., & Miller, D. L. (2010). Determining validity in qualitative inquiry.*Theory into practice*, *39*(3), 124-130.

DR. S. Santhyanarayana. Effect of inflation on the stock market return, *international journal of management and social science(2018) 13(02) 48-64*

Hoover, R. (2015). Kenya's Dividend Kings. Retrieved June 5, 2017 from http://investing in Africa.net/2013/03/kenyas-dividend-kings/.

Kanwal, M., & Hameed, S. (2017). The Relationship between Dividend Payout and Firm Financial Performance.*Research in Business and Management*, 4 (1), 5-13.

Kothari, C.R. (2014). *Research Methodology: Methods and techniques*. (2nd ed). New AgeInternationalPublishers:NewDelhi

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., &Vishny, R. (2000). Investor protection and corporate governance.*Journal of financial economics*, *58*(1), 3-27.

Michael, N.B., (2011). Dividend payouts and shareholders' satisfaction in quoted firms in Nigeria. *European Journal of Social Sciences*, 22(4), 541-549.

Mokaya, S., Nyangara, D., & James, L. (2013). The effect of dividend policy on market share value in banking industry: the case of national bank of kenya. *International journal of arts and commerce*, *2*(2).

Mukora, M. Y. (2014). *The Effect of Dividend Announcement on Stock Returns of Firms Listed at the Nairobi Securities Exchange*. Unpublished Masters Research Project, University of Nairobi.

Musiega, M. G., Alala, O. B., Douglas, M., Christopher, M. O., & Robert, E. (2013). Determinants of Dividend Payout Policy Among Non-Financial Firms on Nairobi Securities Exchange, Kenya. *International journal of scientific & Technology Research*, *2*(10), 253-266.

Mwangi, L. W., Makau, M. S., &Kosimbei, G. (2014). Relationship between capital structure and performance of non-financial companies listed in the Nairobi Securities Exchange, Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, *1*(2), 72-90.

Obradovich, J., & Gill, A. (2017).Coporate Governance, Institutional Ownership, and the Decision to Pay the Amount of Dividends: Evidence from USA 2120.

Ouma, O. P. (2012). The relationship between dividend payout and firm performance: a study of listed companies in Kenya. *European Scientific Journal, ESJ*, *8*(9). from India.*Emerging Markets Finance and Trade*, 41(6), 58-82.

Ross, S. A., Westerfield, R. W., & Jaffe, J. (2012). *Corporate Finance* (6th ed.). McGraw-Hill Companies.

Said, H. B., (2013). Impact of Ownership Structure on Debt Equity Ratio: A Static and a Dynamic Analytical Framework. *International Business Research*, *6*(6), 162.

Salih, A. A. (2010). *The effect of dividend policy on market value: UK empirical study*. Doctoral thesis Durham University. Retrieved from http:// etheses.dur.ac.uk/556/

Tirunillai, S., &Tellis, G. J. (2012). Does chatter really matter? Dynamics of user-generated content and stock performance. *Marketing Science*, *31*(2), 198-215.

Waithaka, S. M., Ngugi, J. K., Aiyabei, J. K., Itunga, J. K., &Kirago, P. (2012). Effects of Dividend Policy on Share Prices: A Case of Companies in Nairobi Securities Exchange. *Prime Journal of Business Administration*, 2(8), 642-648

Wang, D. H. M. (2010). Corporate investment, financing, and dividend policies in the high-tech industry.*Journal of Business Research*, *63*(5), 486-489.

Yegon, C., Cheruiyot, J., & Sang, J. (2014). Effects of dividend policy on firm's financial performance