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EFFECT OF MACROECONOMIC INDICATORS ON NAIROBI SECURITIES EXCHANGE PERFORMANCE

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Abstract: **Over the years, Nairobi Securities Exchange has experienced significant variations in stock price movements which have greatly impacted on the stock exchange performance. This research paper intends to investigate the effect of macroeconomic indicators on Nairobi Securities Exchange Performance. To realise this, a few specific objectives were used to guide this study which were i) to determine the effect of inflation on NSE performance; ii) to examine the effect of interest rate NSE performance; iii) to assess the effect of money supply changes on NSE performance; and iv) to establish the effect of foreign exchange rate movements on NSE performance. The data analysed corresponded to time series secondary data collected in the period from October 1998 until October 2017.The study adopted a casual research design and targeted the NSE 20 share index from October 1998 to October 2017. The Auto-Regressive Distributed Lag (ARDL) model was used to determine the effect of the macroeconomic indicators on NSE performance. The results from the ARDL Long Run Form and Bound test found that the macroeconomic indicators exhibited only a short run relationship with NSE performance with no indication of a long run relationship with NSE performance. These findings led to the conclusion that presence of short run shocks in the macroeconomic indicators, which affect movement in the individual series, did not converge over time. Hence there existed only a short run relationship with no significant long relationship between NSE performance and the macroeconomic indicators. In view of this, macroeconomic policy frameworks should be reviewed by policy makers with the expectation that, as the capital markets evolve, the depth created in the financial market will have a significant impact on the NSE performance in the long run. This will enable policy makers to measure the relevance of the policies they implement as well as enkindle the desire to come up with other financial products and strategies that would increase the depth and vibrancy of the financial markets.**

Keywords: **Macroeconomic Indicators, Nairobi Securities Exchange, Auto-Regressive Distributed Lag (ARDL).**

1. INTRODUCTION

Background of the study:

The stock exchange has been a vital avenue through which fundamental information regarding a country's macro economy can be reflected thus making it useful to investors, governments and the economy at large. The stock exchange is considered as one of the leading indicators used to predict changes in overall output and activity in an economy (Reuters, 2003).The securities exchange is an organized financial market governed with standardized rules and regulations where securities such as bonds, equities are traded and whose movements are governed by demand and supply forces (Butler et al., 1997). It is also considered a channel through which corporations, governments and other incorporated bodies use to raise capital by selling securities to investors (Butler et al., 1997). This capital is then used for productive ventures that will maximize shareholders 'investors' wealth.

The securities market comprises of the primary market and the secondary market (Butler et al., 1997). The primary market is where public corporations and government bodies launch new issues of bonds, stock through Initial Public Offers (IPOs) and other securities to the securities exchange while the secondary market is where existing securities are traded with investors with a view to spread risk as well as realize capital gain (Butler et al., (1997). This enables

maintenance liquidity in the financial system as well as reducing the risks associated with investment. This trading activity and performance of the securities traded in the exchange are tracked by a stock market index which is a system that shows the level of price movements of the securities traded after close of every trading session so that they can be compared with those of previous dates (Hornby & Wehmeier, 2001).

The securities market indices are key to economists, to financial analysts as well as to investors in the financial market (Hautcoeur, 2006). Hautcoeur (2006) reiterates that indices are essential in enabling interested parties assess and understand the behavior of investors, the economic evolution of a country as well as have a point of comparison with the international markets. Indices are useful in determining the volumes traded, market capitalization and tracking performance of traded stock.

Therefore financial indices are still more useful for traders or investors seeking summary, accurate, easily and rapidly available information on stock markets. Furthermore empirical studies cited show that the performance of financial indices are adversely affected various macroeconomic factors (Olweny & Omondi, 2011). The stock markets have been seen to be highly sensitive to the business cycle stages and wider economic factors such as developments or changes in market structures within an economy (Richards, Simpson, & Evans, 2009 cited in Ramasamy and Yeung's 2005).

Statement of the problem:

Over time, the NSE has experienced significant variations in stock price movements which in turn affect the NSE performance. The NSE 20 share index once recorded a high of 5336 points by end of April 2008 (CBK). The NSE 20 share index then edged lower by end of May 2008 to close at 5175 points indicating a 3% drop (CBK). The NSE 20 share index thereafter gradually dropped in the succeeding months to close at 5158 points in June 2008, then down to 4865 points in July 2008, then down to 4648 points in August 2008 and soon after eased further lower to 2813 points in April 2009, indicating a 47% decline in as span of one year (CBK). This kind of volatility in stock exchange performance elicits a lot of uncertainty and eroding investor confidence in stock trading in the long term.

When financial markets experience such high levels of volatility in stock exchange performance, investors and institutions become very wary about their exposure in stock markets, consequently affecting the performance of security market indices (Mlambo, Maredza, & Sibanda, 2013). In the process, investors' especially multinational organizations and local organizations are impelled to raise capital through other means rather than through Initial Public Offerings (IPO) or issuing bonds due to the loss of investor confidence in the performance of the stock markets and uncertainty created by volatility. These doubts evoke more unrest in the financial markets triggering credit crunches as witnessed in the aftermath of the 2008/2009 global financial crisis that emanated from the United States. In the end, as empirical studies indicate, stock market volatility stands to be a risk not only in the developed financial markets but also in developing financial markets like Kenya.

Prior studies carried on the same differ as they have used different number of variables in their research analysis. The researchers have also differed in the choice of variables used in their studies. The scope of study selected in most the researches are limited to shorter time periods. Most of the researches have also dwelled on developed and frontier markets, giving little emphasis on developing markets like Kenya. Methodologies used to cover the studies were different, and conclusions that were drawn somehow differed. Other studies undertaken in the Kenyan context have only covered two governments in office while others have covered only one government in office thus missing to capture the impact of monetary policies implemented by the regimes in power. Therefore this study endeavors to fill in these research gaps identified with a view to broaden the subject to developing markets like Kenya. It looks to analyze the macroeconomic variables and their effect on Nairobi Securities Exchange (NSE) performance.

Research Objectives:

The main objective of this study is to determine the effect of macroeconomic indicators on Nairobi Securities Exchange performance.

This study is guided by the following specific objectives:

i. To determine the effect of interest rate change on NSE performance

ii. To examine the effect of inflation rate movements on NSE performance.

iii. To assess the effect of money supply changes on NSE performance.

iv. To establish the effect of foreign exchange movements on NSE performance.

2. LITERATURE REVIEW

Empirical review:

Inflation is the general rise in the price level of goods and services in a given economy consequently leading to loss in the purchasing value of money (Reuters, 2003). Inflation is caused by an increase in money supply (due to government spending or printing of money) or money demand (due to a contraction in the supply of goods).

Mutuku (2013) investigated the inflation dynamics on the overall performance of the Nairobi Securities Exchange. The study analyzed quarterly data from the Central Bank of Kenya (CBK) and the Nairobi Stock Exchange (NSE) for the period December 1998 to June 2010. By using the co integrating model, a negative relationship between inflation and stock market performance in Kenya was deduced.

Chidothi & Sheefeni (2013) investigated the relationship between inflation and stock prices for Zambia over a period of 1999-2011 using monthly all share stock prices and inflation rates. By Employing Augmented- Dickey-Fuller and Phillip-Perron for testing the stationarity of the series, Graunger-causality test was used to determine the causality long run association between the variables, along with VAR and Co-integration techniques to detect presence of short run and long run association respectively between the two variables. The unit root test results showed that the series were non stationary at level form but after differentiation they became stationary, the causality tests results showed a unidirectional causal relationship moving from inflation to stock prices and not vice versa. There was no co-integration found among the two variables indicating that only a short run relationship existed. The general results depicted showed that inflation and stock prices have an inverse relationship.

Bai (2014) analyzed the impact of inflation on China's stock market over a 10 year period using Excel and the least square method so as to fit the trend toward the index of stock prices from the Shanghai Composite and the CPI index of inflation. The results showed that the relationship between Shanghai composite index and CPI to be negative over that period.

3. METHODOLOGY

Here the research part deals with which and how the methods are used in the study, it provides a comprehensive discussion by outlining how the data was obtained, validated and verified, the population of the study, sampling frame and sampling techniques, research design strategies. According to Sekaran and Roger (2011), research design is a master plan that specifies the methods and procedures for collecting and analyzing the needed information. ". Causal research design was used. Causal research is also referred to as explanatory research. This research design will be carried out in order to discover the degree and nature of cause-and-effect associations between variables (Mugenda & Mugenda, 1999). A causal research aims to assess the impacts of specific changes on existing norms, the different processes undertaken as well as determine reasons or causes for the current status under study. Causal studies focus on an analysis of a situation or a specific problem to explain the patterns of relationships between variables (Mugenda & Mugenda, 1999).

Osir,(2015) define target population as all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the results. The target population was the Nairobi Securities Exchange from which the NSE 20 share index was derived and studied over a period of time.

Data Processing and analysis:

Econometric models were used in the study to analyze the collected data in order to get accurate Results. Data was processed using tables and analyses using Auto-Regressive Distributed Lag (ARDL) model. This methodology was useful in modelling time series data as it analyzed both the endogenous variable and exogenous variables. The endogenous variable was influenced by its lagged, or past, values and the past values of all other exogenous variables in the model. Eviews 10.0 was used to aid in the analysis of the ARDL model for this study.

A multivariate model was used to analyze the relationship between the variables.

4. CONCLUSIONS

The results from the study conducted portend that presence of short run shocks in the Macroeconomic indicators, which affected movement in the individual series, did not converge over time thus no long run relationship. Hence there exists only a short run association with no Significant long relationship between NSE performance and the macroeconomic indicators Represented in this research (inflation, money supply, interest rates and foreign exchange). As a Result, this

indicates how the Kenyan capital markets lack the financial depth that the developed Markets exhibit in making the capital market as efficient. Markets are considered efficient when Prices react instantly to new information and according to market efficiency theory, a market riding on stale information is informationally inefficient (Rifat, 2015).

5. RECOMMENDATIONS OF THE STUDY

In view of this, macroeconomic policy frameworks related to inflation, foreign exchange, money supply and interest rates should be reviewed by policy makers regularly with the expectation that, as the capital markets evolve, the depth created by the implemented policies will have a significant impact on the NSE performance not only in the short run but long run as well. This will in the long run enable policy makers measure the relevance of the policies they implement as well as enkindle the desire to come up with other financial products and strategies that would increase the depth and vibrancy of the financial markets. This development will also lead to greater investor participation translating to improved performance of the Nairobi Securities Exchange. Policy makers should promote transparency and integrity of capital markets so as have more investor participation. Policy makers should work to implement the right policies that will propel growth of Financial Markets and market efficiency rather than stifle financial market growth. Financial education and innovation should be encouraged in order to equip seasoned and potential investors with the financial knowledge that will improve capital market depth

Suggestion for further research:

Further studies should explore using other econometric models to determine the effect of macroeconomic indicators on NSE performance by examining the association of the macroeconomic indicators over a longer period to investigate whether a long run relationship will be established as well. In addition, other macroeconomic indicators like Gross Domestic Product (GDP) growth can be examined to explore the effect on NSE performance.

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