2021

Predictability of stock returns at Nairobi Securities Exchange.

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Predictability of Stock Returns at Nairobi Securities Exchange

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Submitted in partial fulfillment for the Degree of Master of Science in Mathematical Finance at Strathmore University

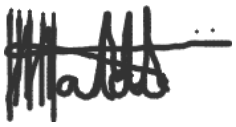
Institute of Mathematical Sciences
Strathmore University
Nairobi, Kenya

November 2021

Declaration

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Omar Matano Mrabu



5th November 2021

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Abstract

Stock market is regarded as a leading indicator of all possible changes in the economy as it reflects investors' expectations of future economic conditions. In this regard, stock investors are always concerned about the direction of stock price movement because this directly determines their future wealth through capital gains and losses. They constantly study and review the market to understand the emerging trends which can affect firm performance. While extensive literature provides evidence that firm characteristics are essential in forecasting stock returns hence play pivotal role in determining the profitability of listed firms, this study sought to assess the role of key valuation ratios i.e., book to market ratio, price to earnings ratio and dividend per share in predicting stock returns of selected firms at the Nairobi Securities Exchange (NSE). Using seven listed firms and daily data spanning 1st January 2015 to 31st December 2019 and a static pooled panel data model, and controlling for firm size, leverage and beta, the study established that the selected valuation ratios do not depict significant effects on stock returns and recommends that these ratios can be ignored when predicting future stock returns of the selected firms.

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Acknowledgement

First and foremost, am obliged to give thanks to Allah for his divine intervention in equipping me with unmatched strength and endless desire to ensure that I successfully complete my Masters degree program.

Secondly, I acknowledge and extend special thanks to my Supervisor, Dr. Samuel Tiriongo for his purposeful unwavering support and guidance in ensuring that the research work is correctly and successfully completed. Abundance recognition goes to all my lecturers, Prof. Livingstone Luboobi, Prof.Ivivi Mwaniki, Dr. Samuel Chege, Dr. Lucy Muthoni, Dr. Collins Odhiambo, Mr. Ferdinand Othieno and Mr. Meleah Oleche for their impactful positive knowledge in Mathematical Finance.

Lastly, I wish to recognize and acknowledge every member of the Strathmore family for their contributions towards the completion of my Masters Degree program.

Dedication

This research work is dedicated to my family for their inestimable support, patience and prayers during the last two years while undertaking my masters program. My heartfelt gratitude to my mother, Mwanapole Chizi Juma for her ever encouraging words which greatly boosted my morale to keep going. I wish to recognize my guardian and uncle, Hassan Ngoka Dzombo who I believe is behind my success story in school.

Abbreviations

ASEA	African Securities Exchange Association
ADF	Augmented Dicky-Fuller test
BL	Book Leverage
B/M	Book to Market ratio
CAPM	Capital Asset Pricing Model
CMA	Capital Market Authority
D/S	Dividend per Share
EMH	Efficient Market Hypothesis
NSE	Nairobi Securities Exchange
NYSE	New York Stock Exchange
OLS	Ordinary Least Squares
P/E	Price to Earnings ratio
VIF	Variance Inflation Factor

Chapter One

1 Introduction

1.1 Overview

Stock returns are subject to vary because of changes in stock prices which depend on several factors and the impacts could either be positive or negative. The factors could be micro/firm specific/internal or macro/industry related/external. Internal factors relate to the value of the firm, capital structure, performance and future prospects and are management controlled which account for inter-firm profitability and growth. They include ratio of market/book value, debt/equity ratio, price-to-earnings ratio, market capitalization, dividend per share, return on assets, sales-to-price and earning per share, Ayuba, Balago & Dagwom (2018). Macroeconomic variables which the management has no control over and which affect the firm's performance include inflation, industrial production, interest rate, exchange rate, balance of trade and money supply, Gatuhi, Gekara & Muturi (2015).

This study in appreciating literature on the subject like Banerjee (2019) intended to establish the relationship between some valuation ratios which are firm level attributes and stock returns to help guide the direction of future stock returns movement. Kenya has a developing market which is expected to have unique structures and institutional features and hence different from the developed markets. This necessitates investors to have a growing interest in getting more insights into the activities of the blue chip companies in the country. Therefore, the study investigated the relationship between some valuation ratios and stock returns of some selected firms in Kenya with a view to helping predict future stock returns.

The valuation ratios considered for this study are book-to-market ratio,price-to-earnings ratio and dividend per share. Price-earnings ratio compares the company's earnings to the price of the security. It provides the comparison of the current market price of a stock to the stock's earnings per share. It is determined by dividing the current share price by the reported earnings over the last twelve months, Gacheri (2014). Book-to-market ratio compares the company's net assets as provided by statement of financial position to the market value. This ratio is calculated by dividing the book value of stakeholders according to the recent balance sheet data to the market capitalization, Osano (2010). Dividends refer to the periodic monies distributed

to shareholders from the declared earnings by the company while dividend per share represents the dividend distributed to shareholders for every share owned.

Empirical evidence provides that predetermined variables such as valuation ratios can be used to predict stock returns. If future stock returns can be forecasted, it suggests that markets are not fully efficient and investors can earn abnormal returns. Earning abnormal returns due to predictability of returns contradicts the tenets of Efficient Market Hypothesis (EMH). This hypothesis avers that security prices at all times fully reflect all available information to the extent that an investor cannot make abnormal returns from his knowledge of past price information, publicly available information and privately held information. This is as a result of the assumptions that (i) there are no transactions costs in trading securities, (ii) all market participants have access to all available information for free and (iii) all agree on the implications of current information for the current price and distributions of future prices of each security, Fama (1970). Proponents of EMH argue that competition between investors seeking abnormal returns drives prices to their correct value, Ritter (2003). Thus in efficient markets investors can only expect to earn risk-adjusted returns from all investments as price movements follow a random walk and are instantaneous in response to the arrival of new information, Fama (1970).

Empirical evidence support valuation ratios to have predictive ability for stock returns both in developed and emerging markets. Examples of studies in developed markets that establish relationships between valuation ratios and stock returns include Kothari & Shanken (1997) and Chan, Hamao & Lakonishok (1991). In emerging markets similar studies have been conducted by Ayuba, Balago & Dagwom (2018) and Charteris & Strydom (2016). However, studies on predictability of stock returns at NSE remain limited which informed the interest for this research.

1.2 Background to the study

The stock market is regarded as a leading indicator of economic activity as it reflects investors' expectations of future economic conditions, Moolman & Du Toit, (2005). Therefore, stock investors are always interested and concerned about the direction of stock price movement because this directly determines their future wealth through capital gains and losses. They constantly study and review the market for any micro/macroeconomic and unforeseen variables that can affect its performance. Studying predictability of stock returns serves to provide

the much needed information about the market to these class of investors. Moolman & Du Toit, (2005) state that in predicting the stock market one gets the indication of the direction of the aggregate economy.

Valuation ratios such as earnings-to-price, dividend per share and book-to-market value ratios have widely been used to determine stock returns. Firms with high book value of equity to the stock's market value have higher expected return and outperform growth firms that have low book-to-market ratio, Cakici, Chatterjee & Topyan, (2015). In this scenario the stock price for the company is considered to be undervalued and hence expected to generate higher returns. High price-earnings ratios are associated with future low expected returns. Shen (2000) states that high price-earnings ratios are followed by disappointing stock market performance both in the short and long run. A low price-earnings ratio is considered cheap investment due to the presumption that the company can sustain the level of earnings for a long time which provides a shield against stock price fall, Truong (2010). Lastly, in as much as investors get attracted by stocks that pay high dividends, there is a compromise that little profit is ploughed back to grow the company. Truong (2010) states that firms cannot adopt a maximum payout policy because it will be left with insufficient funds to maintain its growth. A high profit payout reduces returns which investors should receive through capital appreciation. Dividends paid today influence future expected earnings negatively, Ohlson (1995).

1.2.1 Stock Return Prediction

Ayuba, Balago & Dagwom (2018) define stock returns as the combination of dividend yield and capital appreciation. It is the total income received by shareholders in terms of dividends and capital gains/losses. Stock prices and hence stock returns are believed to be determined by microeconomic variables such as book-to-market ratio, price-to-earnings ratio and dividends, Zaremba & Konieczka (2014), Kumar (2017) and Ohlson (1995).

The ability to estimate stock returns influences portfolio construction and stock selection making it a key determinant when investing in stocks. A change in stock prices directly impacts investments hence the overall wealth and consumption levels. Every investor develops the interest to evaluate expected returns within a given period before investing. The evaluation to settle on an investment decision is done based on the earnings the investor anticipates to receive or through relative comparisons between the anticipated prices and the market prices.

The theory of Portfolio Selection by Markowtz (1952) was the ground breaker on predictability of stock returns as a subject. It brought about considerations of future performances hence the need to maximize expected returns which influence choice of portfolio. This theory formed the building blocks on which Capital Asset Pricing Model (CAPM) of Sharpe (1964), Lintner (1965) and Black (1972) stands on. CAPM marked the birth of asset pricing theory and posits the assertion that expected excess returns on all assets are linearly related to their market beta and no other variable has that explanatory power.

Starting in the late 1970s, empirical work appears that challenges the tenets of Capital Asset Pricing Model, CAPM. It's empirical record in terms of its ability to explain cross-sectional variation in stock returns has been quiet poor, *"poor enough to invalidate the way it is used in applications"*, Fama & French (2004). The shortcomings of CAPM in explaining stock returns have been widely exposed by valuation ratios such as book-to-market ratio, price-to-earnings ratio and dividends which studies have provided far reaching evidence about their relationship with stock returns, Ball (1978). These ratios have information about stock returns missed by market betas, Fama & French (1992).

The equity book to market ratio compares the company's net assets as provided by the statement of current financial position to the equity current market value. It provides an assessment on what is perceived as the economic value of equity to what is reported in the financial statement as the book value. The ratio is obtained by dividing the assets book value to the market trading value. Stattman (1980) and Rosenberg, Reid & Lanstein (1985) document that stocks with high book to market ratio have high average returns that are not captured by their market betas in CAPM. This became an eye opener upon which subsequent studies were conducted regarding the variable as a predictor of stock returns. Evidence became overwhelming at least in developed economies indicating established relationship between book to market ratio and stock returns, Chan, Hamo & Lakonishok (1991), Fama & French (1992) and Capaul, Rowley & Sharpe (1993).

Price-earnings ratio compares the company's current share price to its earnings per share. It is calculated by taking market value of company's shares divided by earnings after taxes, Zaremba & Konieczka (2014). It is the stock's current price divided by the company's declared last 12-month earnings per share from continuous operations. Basu (1977) provides evidence that

high earnings-to-price ratios generate returns which are higher than predicted by CAPM. This variable since has been extensively used by financial or securities analysts and investors as an investment tool to decide which stocks to be buy or sell, Liem & Basana (2012).

Dividends refer to the portion of a company's net earnings which the directors recommend to be distributed to shareholders proportionally to their shareholding in the company. Dividends constitute the cash flows that accrue to shareholders while the balance retained from the total earnings becomes the source of funding for the growth of the company. Miller & Modigiliani (1961) are known for famously suggesting that dividend policy is irrelevant to the value of the firm owing to market imperfections such as transaction costs and taxes. However, studies over time provide evidence that there exist a relationship between dividends and stock returns hence dividends indeed affect the value of firms, Pandey (2003), Al-Shubiri (2010) and Ferriera & Santa-Clara (2011).

1.2.2 Seasonality and Valuation Ratios

Seasonality in security prices is an old subject that enjoys extensive literature. The seasonality patterns are formed based on past prices which can be used to predict future prices. Seasonality in stock prices occur when stock returns display positive or negative movements over specific days of the week, month of the year or some specific calender days in the year. Empirical evidence support seasonality as one of the factors with predictive ability for stock returns in developed and a few emerging markets, Gibbons & Hess (1981), Gultekin & Gultekin (1983), Ariel (1990), Brockman & Michayluk (1998), Emenike & Onoh (2011) and Kra (2019). However, similar studies in Kenya remain limited.

This research acknowledged the extensive literature on predictability of stock returns enhanced by the established relationships between stock returns and valuation ratios like book-to-market ratio, price-to-earnings ratio and dividend per share. At the same time the study recognized the sufficient evidence provided in literature that stock prices, hence returns follow seasonal patterns. An examination of the two categories of factors provided the understanding that seasonality in stock prices was independent of the financial ratios. Therefore, it was logical to factor in seasonality while examining existence of a relationship between the financial ratios and stock returns.

The idea to account for seasonality in the valuation ratios was relatively not attractive in literature hence insignificant research had been done on the same. Charteris & Strydom (2016) acknowledged this fact and accounted for seasonality in dividend-to-price and earnings-to-price ratios in their study where they investigated seasonality at the Johannesburg Stock Exchange (JSE). This study intended to apply this idea while using book-to-market ratio, price-to-earnings ratio and dividend per share to investigate stock return predictability at the NSE.

1.2.3 Nairobi Securities Exchange (NSE)

In Kenya dealing in shares and stocks started in the 1920s when the country was still under the British colony. It was an informal market with no rules and regulations where trading took place on a gentleman's agreement.Stock broking was a sideline business conducted by accountants, auctioneers, estate agents and lawyers who met to exchange prices over a cup of coffee, Nyaga (2014). NSE has been characterized by humble beginnings and has grown over time.

Nairobi Securities Exchange (NSE) limited was set up in 1954 as a voluntary association of stockbrokers registered under the Societies Act. Before then, trading of shares was only limited to members of the European community and Africans but Asians were not permitted to deal in securities until Kenya became independent in 1963 when they were allowed to trade in the stock market, Kirui (2014). As a securities exchange, it is mandated to advance the securities market and regulation of trading activities. It handles both variable and fixed income securities and has 63 listed firms and 148 listed securities,(ASEA, 2019).

The fixed income securities give fixed predetermined rates of return and mainly include treasury and corporate bonds. Equity return on the other hand are variable and uncertain. Dividend payments depend on a company's profitability in a given financial year and its dividend pay-out policy while capital gains depends on the counter's market demand and supply as well as what is perceived by investors to be share fair price given its growth potential. The determination of expected returns, standard deviation and correlation is thus critical in investor decision making and construction of optimal portfolio at the NSE.

1.3 Statement of the Problem

The traditional Capital Asset Pricing Model (CAPM) of Sharpe (1964), Lintner (1965) and Black (1972) which used the logic of Markowitz (1952) article on Portfolio Selection established the relationship that expected excess returns of stock can be fully explained by its stock beta. However, empirical studies to criticize the CAPM model provided other factors other than beta that better explain variations in average stock returns.

Literature has documented over time that firm characteristics such as book to market, earnings to price, dividend per share, size and debt to equity ratio are better explainers of stock returns than beta, Basu (1977) and Fama & French (1992). Research undertaken in advanced economies established strong return predictive power by valuation ratios. However, similar studies remain scanty in emerging markets and the few which were conducted exhibit weak evidence of predictability of stock returns, Ayuba et al.(2018) and Zeytinoglu et al. (2012).

Empirically, studies document that stock prices exhibit seasonal patterns based on past prices which can be used to predict future prices, Emenike & Onoh (2011) and Kra (2019). Therefore, it was crucial to account for seasonality in stock prices while employing financial variables like valuation ratios to examine predictability of stock returns.

Solomon et al. (2013) documented that dividends and earnings respectively followed seasonal patterns relative to stock prices while Charteris & Strydom (2016) accounted for seasonality in dividend-to-price and earnings-to-price ratios as he compared them with consumption aggregate wealth ratio while examining their predictive power at the Johannesburg Stock Exchange (JSE). This study uniquely accounted for monthly seasonality while predicting stock returns using valuation ratios at NSE.

Therefore, this research aimed to investigate predictability of stock returns of some stocks listed at NSE using dividend per share, price to earnings and book to market values while at the same account for seasonality in stock prices. The determination of whether the valuation ratios could predict stock returns at NSE was important in guiding investors and analysts to accurately select stocks that would consistently generate higher returns. The research would also add to the existing local research base as well as provide information to stock market players in making profitable investment decisions, thereby encouraging value investing.

1.4 Research Objectives

1.4.1 Main Objective

The research aimed at validating the predictive ability of valuation ratios on stock returns for companies listed at Nairobi Securities Exchange.

1.4.2 Specific Objectives

1. To ascertain monthly seasonality patterns of stock returns at NSE.
2. To ascertain the relationship between dividend per share, price to earnings and book to market ratios and stock returns.
3. To ascertain the relationship between dividend per share, price to earnings and book to market ratios and stock returns while accounting for seasonality in stock prices.

1.5 Significance of the study

The relevance of the predictive ability of stock returns is demonstrated by the interest it has drawn from many researchers and the period it has remained an important subject in literature. Knowledge of the predictive power of some firm level attributes on stock returns is would help market analysts, investors and speculators in acquiring more accurate information on the market hence aid to make informed decisions on the appropriate time to buy, hold or sell stocks.

This research contributed greatly to theory and practice. It served to contribute to the limited literature in Kenya stock market by evaluating the relationships between stock return and selected valuation ratios. The study would help public and private institutions in policy formulation geared towards improving efficiency and stability of stock markets.

The research adds to the existing body of knowledge and helps in optimal portfolio construction and selection. It also provided an avenue for researchers to look into and provide their critiques hence come up with possible research questions for further research work.

The organization of the paper is done as follows: Chapter 2 contains a literature review while research methodology is presented in Chapter 3. Data analysis, results and discussion is covered in chapter 4 while summary, conclusions and recommendations is in chapter 5.

Chapter Two

2 Literature Review

2.1 Introduction

Chapter two gives the theoretical aspects and the applicable empirical evidence. Section 2.2 examines the underlying theories, section 2.3 explains predictability of stock returns as supported by empirical evidence in section 2.4. Section 2.5 highlights the conceptual framework while research gaps are summarized in section 2.6.

2.2 Theoretical Review

Over the past few decades stock return prediction has attracted different schools of thought. Some document that stock prices can be predetermined making their returns predictable while others argue that stock price movements are unpredictable due to their random nature. Below are the underlying theories in the stock markets.

2.2.1 Efficient Market Hypothesis

Efficient markets are described by firms and investors who make investment decisions under the assumption that security prices *fully reflect* all available information about individual stocks and the stock market as a whole. This ensures that share prices are always fairly priced. In such a market no investor can be allowed to earn above average return without accepting above average risks hence all investors earn risk adjusted returns, Malkiel (2003). Markets are assumed to be rational but market participants can be irrational. Fama (1970) categorizes market efficiency into three; strong, semi-strong and weak form. Weak form means that stock prices reflect all current information on equity prices and volumes. Semi-strong form incorporates, in addition to all current information, all available public information on equity prices and volume statistics. Strong form efficiency includes private information in the stock prices where given investors can have monopolistic access to some information relevant for stock price formation. The theory proposes a strong believe that securities markets are extremely efficient that neither technical nor fundamental analyses enable an investor to achieve abnormal returns. Ritter (2003) states that competition between investors seeking abnormal returns drives prices to their *correct* value.

2.2.2 Random Walk Hypothesis

This theory postulates that stock prices evolve following a random walk process and thus can not be predicted. The evolution of stock prices is assumed to follow a martingale process. The logic behind the random walk idea is that if the flow of information is free and immediately reflected in stock prices, then tomorrow's price change will reflect only tomorrow's news and will be independent of today's price changes. This can loosely be explained by the fact that news is by definition unpredictable, thus, the resulting price changes must be unpredictable and random. The theory is built on the foundation that efficient markets exist and prices fully reflect known information. It therefore propagates that even uninformed investors buying a diversified portfolio at market prices will obtain a rate of return as generous as that obtained by experts, Malkiel (2003).

2.2.3 Capital Asset Pricing Model

This idea by Sharpe (1964), Lintner (1965b) and Black (1972) was built on the model of portfolio selection by Markowtz (1952). CAPM provides an algebraic expression of return of individual assets and that of the market. The slope of the regression equation is called the market beta of asset i. Beta is believed to measure the sensitivity of the asset return on the market return. In economic terms, beta is proportional to the risk each dollar invested in asset i contributes to the market portfolio. The model implies that expected returns on all assets are linearly related to their market betas and no other variable has marginal explanatory power. This became the subject of other research works to supplement and criticize the theory like Basu (1977), Chan, Hamo & Lakonishok (1991) and Fama & French (1992).

2.3 Determinants of Stock Returns

Critics of EMH and CAPM argue that stock returns can be predicted to a greater extent due to factors including seasonality patterns and valuation ratios.

2.3.1 Seasonal and specific calendar period patterns

Seasonal patterns are formed based on past prices and the resulting trend can be used to predict future prices. The patterns occur when stock returns display positive or negative movements over specific days of the week, month of the year or some specific calender days or events in the year. Research extensively document month of the year or January effect which posits that returns incline abnormally high in the month of January especially during the first two

weeks, Gultekin & Gultekin (1983), Mills & Coutts (1995) and Shakila, Pinto & Hawaldar (2017).The day of the week or weekend effect postulates that stocks exhibit negative returns on Monday and positive returns on Friday, Gibbons & Hess (1981) and Kra (2019). Studies on public holiday effect remain relatively low with the existing literature supporting that returns observed on days preceding a public holiday are on average higher than returns on other trading days, Ariel (1990), Mills & Coutts (1995) and Brockman & Michayluk (1998).

2.3.2 Valuation Ratios

These are financial ratios which show the relationship between one or more variables taken from financial statements for comparison. These ratios are vital indicators for valuation of a company investment decisions, Emamgholipour et al.(2013). Studies document that stock returns are predictable by using market based ratios, Kheradyar et al. (2011), Zeytinoglu et al. (2012) and Emamgholipour et al. (2013).

In challenging CAPM which holds that market betas exclusively explain expected asset returns, a wide range of literature prove otherwise that financial ratios are better explainers of stock returns. Basu (1977) finds that the ratio of price to earnings has more explanatory power than beta of common stocks. Statman (1980), Rosenberg et al. (1985) and Lakonishok et al. (1991) document that stocks with high book to market equity ratios have high average returns that are not captured by their betas. Fama & French (1992) state that even when alone beta fails to explain returns and conclude that book to market is a better explainer of stock returns.

The ratio of book to market, price to earnings and dividend per share are the independent factors considered in this study. Studies document that these ratios have predictive ability on stock market returns. Shiller (1981), Fama & French (1988), Campbell & Shiller (1989), Campbell (1991), Hodrick (1992) and Ferreira & Santa-Clara (2011) find that price to dividends or earnings ratios have predictive power for excess returns. Similarly, Ohlson (1995), Beaver & Ryan (2000) and Aras & Yilmaz (2008) find the ability of book to market ratio to predict future book returns on equity.

2.4 Empirical Studies

Globally, extensive and diverse literature exists touching on the correlation between valuation ratios and stock returns. Initially, relative studies focussed on the US markets and other

advanced markets but at least for the past two decades several studies were also conducted in emerging markets which led to different research conclusions.

2.4.1 Global Studies

Fama & French (1988) examined the influence of dividends yields on expected stock returns using value and equal weighted portfolios of New York Stock Exchange (NYSE) over a sample period between 1927 and 1986. They employed Ordinary Least Squares regressions where continuously compounded future returns were regressed on dividend yields categorized on different return horizons as one month, one quarter and one, two, three to four years. They found that the regressions of returns on yields explained less than 5% of the monthly or quarterly variances. The predictable expected component of returns was a small fraction of short-horizon return variances. They documented that the predictable component of returns is a larger fraction of the variation of the long-horizon returns. However, dividends are known to be seasonal and that could have affected the short-horizon return analysis. Therefore, there was need to account for seasonality in stock prices and also add more independent variables while carrying out the study at the NSE with a view to ascertaining the conclusion.

Jariwala (2020) examined the effect of earnings per share (EPS) on the market price of equity shares (MPS) of six banks listed at S & P Bombay Stock Exchange Sensex for the period between 2017 and 2019. He employed correlation analysis, linear multiple regression models and ANOVA to do his analysis.The results indicated that EPS had positive and significant relationship with MPS. However, EPS follows a seasonal pattern hence there was need to account for seasonality in stock prices and also add more independent variables while carrying out the study at the NSE with a view to ascertaining the conclusion.

Hjalmarsson (2010) tested the propensity of dividend-price (DP) ratio and earning-price (EP)ratio, short interest rate and term spread in predicting stock returns. His data contained over 20,000 monthly observations from 40 countries composed of 24 developed and 16 emerging markets. The longest data series was for the UK stock market, dating back to 1836 while data for eight other stock markets dates back to before 1935. He analysed the data using time-series regressions for the individual countries and pooled panel data regressions. His results indicated that short interest rate and term spread were fairly robust predictors of stock returns in the developed markets. EP and DP provided weak evidence if any of their predictive power on stock

returns. However, his pooled panel data regression provided generalized results not specific to each country studied. There was also the need to add other regressors to supplement the results. It was also important that seasonality in security prices to be accounted for as both of the regressors follow seasonal patterns.

Aras & Yilmaz (2008) examined the predictive power of market to book ratio (M/B), price-earnings ratio (P/E) and dividend yield (DY) on stock returns for twelve emerging stock markets within Africa, Asia, Europe and North America which have similar characteristics. They employed time-series multivariate regressions on value-weighted index monthly returns data over a sample period, 1997 to 2003. Their results revealed that the variables could be used to forecast potential stock market returns for one year period with a high level of probability given to M/B and partially to DY. P/E played a minor role in predicting returns. However, it was important that seasonality in stock returns was accounted for while carrying out the analysis. The study also needed to be carried out at NSE to enable comparison of results with those of other emerging markets.

Emamgholipour et al. (2013) sought to investigate the effects of earnings per share (EPS), price to earnings ratio (P/E) and the ratio of market to book value (M/B) in evaluating the performance of stock returns of eighty listed companies in Tehran Stock market in Iran. They employed time series multiple regressions in their analysis on a panel data for the listed companies over a sample period 2006 to 2010. Their results indicated that P/E and M/B have significant and negative impact on future stock returns which means that by increasing these ratios stock returns for the future years would decline. EPS had a significant and positive impact on future stock returns. However, it was important that seasonality in stock returns be accounted for while carrying out the analysis. The study also needed to be carried out at NSE to enable comparison of results with those of other emerging markets.

Kheradyar et al. (2011) studied the predictive ability of book to market ratio (B/M), earning yield (EY) and dividend yield (DY) on stock returns in the Malaysian Stock Exchange (Bursa Malaysia) using a data set of 100 companies over a sample period of 10 years from 2000 to 2009. The study applied Generalized Least Squares (GLS) techniques to estimate the predictive regressions in form of simple and multiple models of panel data sets. Results from the simple regressions indicated that there existed a positive relation between financial ratios and stock returns with B/M having the highest predictive power followed by DY then EY. The

combination of the three ratios in the multiple regression model had stronger predictive ability than each variable in isolation. However, it was important that seasonality in stock returns to be accounted for while carrying out the analysis. The study also needed to be carried out at NSE to enable comparison of results with those of other emerging markets.

Banerjee (2019) investigated the influence of price earnings ratio (P/E), return on equity (RoE) and price to book ratio (P/B) on stock returns. He analysed data using multiple regression model between the period 2013 to 2017 from 140 listed companies in six Gulf Cooperation Council (GCC) countries of United Arab Emirates (UAE), Kuwait, Qatar, Oman, Saudi Arabia and Bahrain. The results highlighted that P/E had a negative effect on stock returns except in the exchanges of Kuwait and Dubai where it had a positive correlation. P/E demonstrated to have a very low regression coefficient impacting an insignificant influence on stock returns hence a poor predictor. RoE stood out to be the best predictor followed by P/B. However, it was important that seasonality in stock returns be accounted for while carrying out the analysis. The study also needed to be carried out at NSE to enable comparison of results with those of other emerging markets.

Liem & Basana (2012) examined the difference between low and high price earnings ratio (P/E) and their influence on stock returns. They conducted their research on the liquidity 45 stocks listed in the Indonesia Stock Exchange (IDX) over a sample period 2005 to 2010. Paired sample t test was used to establish the difference while Ordinary Least Squares (OLS) linear regression was employed to establish the relationship between P/E and stock returns for various holding periods including six months, one,two,three and four years. Findings showed that there was a significant difference between low and high P/E portfolio return in six months while no difference was realized for the rest of the holding periods. Investors should invest for short-term time horizon to realize above average risk adjusted returns. The study found no significant relationship between stock return and P/E ratio. However, there was need to include other regressor variables in the study and account for seasonality while carrying out a similar study at the NSE.

Lewellen (2004) studied the predictive ability of dividend yield (DY), book to market (B/M) ratio and earning-price (E/P) ratio on stock returns. He analysed equal and value-weighted NYSE returns over the period 1946 to 2000 using OLS regressions. He established strong evidence that DY forecasted both equal and value-weighted NYSE returns for the whole study period while B/M and E/P demonstrated limited forecasting power from 1963 to 1994 with

1995 to 2000 showing a strengthened predictability for equal-weighted NYSE returns. However, there was need to use current data and account for seasonality in stock prices while carrying out a similar study at NSE.

Ayuba et al.(2018) investigated the effects of firm size, ratio of market to book value per share (M/B) and price to earnings ratio (P/E) on twenty one best capitalized quoted firms in Nigeria Securities Exchange. Panel regression was used to analyse multiple phenomena of the data over a sample period from 2007 to 2016. They provided evidence that farm size and P/E had insignificant negative and positive effects respectively while M/B had significant positive effect on stock returns. However, being an emerging market investors in Kenya would be interested in this study being conducted at the NSE to assist in making investment decisions. There was also need to account for seasonality in stock prices while carrying out a similar study at NSE.

Kumar (2017) examined the impact of earning per share (EPS) and price to earnings ratio (P/E) on the market share price of a company. He conducted his research using a sample of eight randomly selected companies in the auto sector in India over the period 2011 to 2016. Multiple regression analysis was employed to establish the relationship between the dependent and independent variables. The study concluded that the two variables were good forecasters of market price where EPS showed stronger predictive ability. However, there was need to consider more predictive variables and account for seasonality in equity prices and also have a similar study be conducted at the NSE to aid investors in making better investment decisions in the Kenyan market.

Celik, Akarim & Zeytinoglu (2012) tested the impact of earning per share (EPS), price to earnings ratio (P/E) and market to book ratio (M/B) on current and one period ahead stock returns using data from six insurance companies traded in Istanbul Stock Exchange. Data was obtained from quarterly financial statements for the period between 2000 to 2009 which they analysed using panel regression. The results indicated that, of the three variables only M/B had positive and significant impact on current stock returns while all the three variables explained 63% of the one period ahead stock returns. However, there was need to account for seasonality in security prices and to have the study be conducted at the NSE in order to provide investors with more useful information that they can use to make better investment decisions.

2.4.2 Local Studies

Ndegwa (2015) predicted consistent stock performance and low stock price movement using book value, dividends per share, earnings per share and market beta in NSE. He used data from 31 companies listed in the NSE during the period under study, 2001 to 2010. He sorted his data into the type of consistent stock performance and low stock price volatility and analysed using multiple regression. His results indicated weak association of consistent top or bottom ranked stocks and low stock price movement. Further, the results showed a weak association of stocks with consistent negative returns but a strong association of stocks with consistent positive returns with low stock price movement. Book value and dividends per share exhibited a negative but significant relationship with low stock price volatility while earnings per share had a positive relationship. However, a more current study was needed to depict the current market characteristics. There was also need for a similar study to account for seasonality in order to provide investors with more accurate market information.

Gacheri (2014) examined the relationship between price earnings ratio and stock returns of firms listed at the NSE. He utilized data of 54 companies for the period 2008-2013 and analysed the same using multiple regression. His results did not provide evidence to support the use of P/E ratio as a relevant variable to explain the performance of stocks. Githinji (2011) carried out a similar research at the NSE and provided similar findings that P/E did not significantly influence the performance of firms listed at the NSE. However, there was need for more predictor variables to be considered in the study. It was also not clear how they categorized the companies in their analysis as the factor considered in grouping them could affect the results. Further, there was need to look into the issues of seasonal patterns in stock prices while carrying out the study.

Musyimi (2017) examined the relationship between dividend policies i.e dividend payout ratio, dividend growth rate and earnings per share (control variable) and share prices at the NSE. She analysed data for the period 2010 to 2015 of 20 non-financial companies using correlation and panel data multiple regression. The results showed that dividend payout policy had an insignificant positive relationship while dividend growth rate had a significant positive relationship with share price. Earnings per share had a significant negative relationship with share prices. Mukerefu & Ouma (2012) and Munyua (2014) conducted a similar study at the NSE and made a similar conclusion that there existed a strong positive relationship between divi-

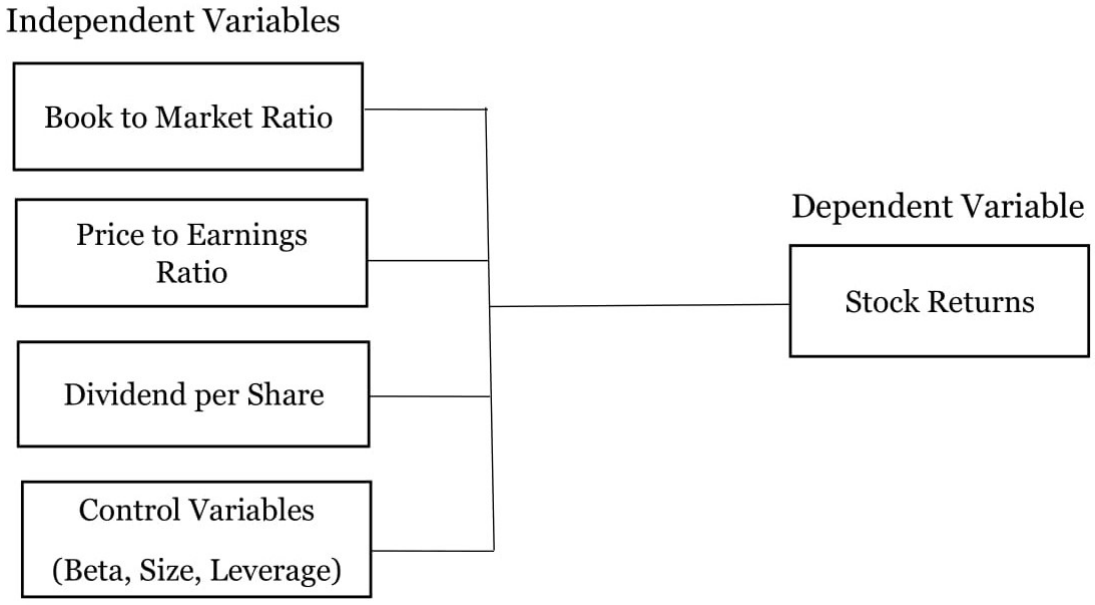
dend payout ratio and share prices. However, there was need to include more predictor variables and look into the issues of seasonal patterns in share prices while carrying out a similar research.

Osano (2010) tested the extent of the predictive ability of low and high price to earnings (P/E) and price to book value (P/B) ratios in the NSE to determine future share returns. He employed multiple regression analysis for data of 55 companies quoted at the NSE between the period 1998 to 2002. Stock returns for the subsequent years 2003 to 2007 were used to ascertain the forecasting ability of the two predictor variables. The results indicated that stocks with low P/E and P/B earned higher returns and were better predictors of future returns than those with high P/E and P/B. However, there was need to look into the issues of seasonal patterns in share prices while carrying out a similar research.

2.5 Conceptual Framework

The relationship between the valuation multiples i.e book to market ratio, earnings to price ratio and dividend yield and stock returns was explained using the empirical evidence available. Market beta,firm size and book leverage were added to the model as control variables. This study adopted the general outcome of the previous studies that there exist a relationship between the ratios and stock returns and that the ratios can be used to predict future stock returns.

Figure 1: Conceptual Model



2.6 Summary of Research Gaps

Investors in stocks consider several risk factors when making investment decisions, in addition to fundamental and technical approaches. This directly challenges the CAPM assertion that expected excess returns on all assets are linearly related to their market beta and no other variable has that explanatory power. The need to incorporate other risk factors either to supplement market beta or better explain stock returns brought about more focus on valuation ratios.

The particular valuation ratios in this research have been proven in literature to affect stock returns. However, studies have not produced consistent results at NSE over time. For instance, studies by Mukerefu & Ouma (2012), Munyua (2014) and Musyimi (2017) document that price-earnings ratio has a negative relationship with stock prices while Ndegwa (2015) concluded that the ratio has a positive relationship with stock returns. Contrastingly, Githinji (2011) and Gacheri (2014) document that there exist no relationship between price-earnings ratio and stock returns. Therefore, this study leveraged on the inconsistency in previous studies and addressed the existing gaps in the methodologies hence produced more reliable results.

Following fundamental studies i.e Basu (1977),Banz (1981),Statman (1980), Rosenberg, Reid & Lanstein (1985),Bhandari (1988) and Fama and French (1992) that challenge the CAPM assertion that expected excess returns on all assets are linearly related to their market beta and no other variable has that explanatory power, this study included other factors like dividend per share and book to market ratio in the forecasting model as well as control variables i.e market beta,firm size and book leverage. This research further uniquely proposed the need to check and account for the presence of monthly seasonal patterns in stock prices. In this regard, the research produced more reliable results.

Chapter Three

3 Research Methodology

3.1 Introduction

This chapter provides the logical framework to be adopted in conducting this research. It outlines the research design, population and sample design, data collection and finally the analysis to be employed on the data collected.

3.2 Research Design

Research design is a plan, strategy or structure the investigation intends to use in order to obtain answers to research questions or problems. This study employed a descriptive, causal research design. Causal research designs are used to determine the causal relationship between one variable and another like in this case the cause effect relationship between book to market ratio, price-earnings ratio, dividends and stock returns. The descriptive aspect was used to explain the data and findings with ease as it presented data in a meaningful way hence easy to understand like measures of central tendency and dispersion.

3.3 Population and Sample Design

The study population consisted of 61 companies from different sectors which should have been listed at NSE by 31^{st} December, 2014 as the study covered the period 1^{st} January, 2015 to 31^{st} December, 2019. The research considered a more recent period not covered by previous studies. The companies also should not have been suspended for more than 1 year or delisted and dividends should have been earned at least every year during the study period to avoid missing data.

3.4 Data Collection

The research used secondary data sources available at NSE and respective company's financial reports whereby daily stock prices were obtained for the period 1^{st} January, 2015 to 31^{st} December, 2019 from NSE while book values, Earnings, dividends, total assets and total liabilities were obtained from the respective company's financial reports at the end of each reporting period.

3.5 Data Analysis

The dependent variable in this study was stock returns while the independent variables of interest were book to market ratio, price-earnings ratio and dividend per share. Although this study focused on the impact of the three ratios on stock returns, it was necessary to examine this relationship under a set of some control variables which include market beta, firm size and book leverage.

Daily stock returns were calculated by taking the natural logarithmic differences between daily closing prices, P_t of the t^{th} day and that of the previous trading day, P_{t-1}. In the case of a day following a non-trading day, the return was calculated using the closing price index of the latest trading day and that day. Using the natural logarithms minimizes the time series variation by de-trending the data and also makes it easier to fit into models, Copeland et. al (2005).

$$R_t = ln\frac{P_t}{P_{t-1}}$$

Price-earnings ratio was arrived at using the following formula:

$$P/E = \frac{EPS}{P}$$

Where:

EPS = Earnings per share during the year.

P = Average price during the year.

Book to market ratio was arrived at using the following formula:

$$B/M = \frac{Bookvalue}{Marketvalue}$$

Dividend per share refers to the dividend declared for every share owned.

Market beta which is the coefficient of regression equation between stock return and market return and calculated using the following formula:

$$Beta = \frac{Cov(R_i, R_M)}{Var(R_M)}$$

Where:

R_i = Return of stock i.

R_M = Market return.

There are various indicators to measure firm size, for instance total assets, Hopkins(1988) and

market capitalization, Al-Khazali & Zoubi (2011). This study preferred total assets to market capitalization to avoid inflation and deflation of securities, Moore (2000). This assumption is appropriate in the context of NSE which is an emerging market hence inefficient whereby stock prices do not reflect all accompanying information.

Literature measures capital structure in two ways: i) book leverage, which equals the book value of total liabilities divided by the book value of total assets and ii) market leverage, which equals the book value of total liability divided by the sum of the book value of total liabilities and the market value of shareholders' equity, Sattar (2019). This study focused on measuring leverage according to book leverage since changes in market leverage can be mechanically related to stock prices.

$$BL = \frac{Totalliability}{Totalassets}$$

The data was first examined to ascertain its reliability and consistency. Diagnostic tests were conducted to ensure the regression model was reliable. This included testing for stationarity where the standard Augmented Dicky-Fuller test was performed to test for the existence of unit root, Dicky & Fuller (1979). Jarque-Bera statistic checks for skewness and kurtosis to find out if the data is normally distributed and it was run on the mean returns to confirm normality of the return data series. Heteroskedasticity and autocorrelation in the error term were tested using Breusch-Pagan test and Durbin Watson test respectively while multicollinarity problem was checked using Variance Inflation Factor (VIF).

Presence of monthly seasonality was tested using the OLS regression model below:

$$R_t = \sum_{i=1}^{12} \beta_i M_{it} + \epsilon_t \tag{1}$$

Where:

R_t = continuously compounded index return on month t

M_{it} = dummy variables so that M_{1t}=1 if month t is January and zero otherwise,M_{2t}=1 if the month t is February and zero otherwise, etc.

β_i = these OLS coefficients i.e β_1 to β_{12} are the mean returns for January to December.

ϵ_{12} = stochastic error term

The presence of monthly seasonality implies that:

$$H_0 : \beta_1 = \beta_2 = ... = \beta_{12} = 0$$

$$H_1 : \beta_i \neq 0$$

for all $i = 1, ..., 12$

If heteroskedasticity in the error term was found to be present, this would provide a justification to jointly estimate the above mean equation (1) together with conditional variance equation below using the Garch (1,1) model, Alagidede (2012):

$$h_t = \omega + \alpha\epsilon_{t-1}^2 + \gamma h_{t-1} + \sum_{i=1}^{12} \phi_i M_{it} \tag{2}$$

where:

ω = constant term

h_t = conditional variance

α = coefficient for lagged squared error term

γ = coefficient for lagged conditional variance term

ϕ_i = coefficient for monthly volatility of returns.

Hypothesis tests would be carried out using t-statistics where when the null hypothesis was rejected, then stock returns would exhibit some form of monthly seasonality.

The data of stock returns used was from a sample of seven companies listed at the NSE covering a period of five years from January 2015 to December 2019. This data being cross-sectional and time series in nature, it was first organized as a panel data. Tests i.e F test for individual effects, Hausman test and Breusch-Pagan Lagrange multiplier (LM) test were conducted on the panel data to examine the accuracy and strength of different panel regression models i.e Pooled panel, fixed effects or random effects models. Pooled Ordinary Least Squares (OLS)regression was established as the suitable technique of estimation hence was used to determine the relationship between dependent and independent variables. Further, correlation analysis was employed to describe the degree of relationship linking the regressors.

Step 1: Specific regression model

$$SR_{it} = B_0 + B_1 BM_{it} + B_2 PE_{it} + B_3 D_{it} + \epsilon_{it} \tag{3}$$

Step 2: General regression model

$$SR_{it} = B_0 + B_1 BM_{it} + B_2 PE_{it} + B_3 D_{it} + B_4 Size_{it} + B_5 BL_{it} + B_6 Beta_{it} + \epsilon_{it} \tag{4}$$

Where:

SR_{it} = Annual stock returns of seven selected firms in time t.

BM_{it} = Book to market ratio of seven selected firms in time t.

PE_{it} = Price-earnings ratio of seven selected firms in time t.

D_{it} = Dividend per share of seven selected firms in time t.

$Size_{it}$ = Natural logarithm firm size of seven selected firms in time t.

BL_{it} = Book Leverage of seven selected firms in time t.

$Beta_{it}$ = Market beta of seven selected firms in time t.

B_0 = Constant term.

$B_{1,2,3,4,5}$ = Coefficients of the regressors,

ϵ_{it} = Error term

The dividend-to-price and earnings-to-price ratios do not account for seasonality in dividends and earnings. To ensure the same was done, the ratios would first be multiplied by the index price to obtain the equivalent dividend and earnings price. Then seasonality would be accounted for before being used in the regression models, Ang & Bekaert (2007) and Charteris & Strydom (2016),as follows:

$$g_t^{d,12} = ln\left(\frac{D_t^{12}/P_t}{D_{t-1}^{12}/P_{t-1}} * \frac{P_t}{P_{t-1}}\right) \tag{5}$$

$$g_t^{e,12} = ln\left(\frac{E_t^{12}/P_t}{E_{t-1}^{12}/P_{t-1}} * \frac{P_t}{P_{t-1}}\right) \tag{6}$$

Where:

$g_t^{d,12}$ = Annual dividends constructed to account for seasonality.

$g_t^{e,12}$ = Annual earnings constructed to account for seasonality.

P_t = Average stock price in year t.

$D_t^{12} = D_1 + ... + D_{12}$ i.e twelve month dividend moving average computed as the sum of the dividends in the preceding twelve months.

$E_t^{12} = E_1 + ... + E_{12}$ i.e twelve month earnings moving average computed as the sum of the earnings in the preceding months.

Chapter Four

4 Data Analysis, Results and Discussion

4.1 Introduction

This chapter provides results of the analysed data and discussion of the findings. It is divided in three subsections which include monthly seasonality results, predictive power of valuation ratios results and discussion of findings.

4.2 Monthly Seasonality Results

Descriptive statistics were obtained based on the monthly stock return data of seven companies considered in this research and the results are shown in Table 1 below.

Table 1: Descriptive Statistics of Monthly Stock Returns

Obs	60
Min	-0.071938
Max	0.07555
Mean	-0.007353
St.dev	0.03475457
Skewness	0.4490455
Kurtosis	-0.2804775
Jarque-Bera test	X-squared = 2.2086 p-value = 0.3314
Augmented Dicky-Fuller test	Dickey-Fuller = -10.573 p-value = 0.01

Note: Brackets () indicate p-value.

From Table 1 the mean of the data is -0.007353 and its kurtosis -0.28004775 which is less than 3 hence the distribution of the outliers in the data is platykurtic. A normal distribution has a kurtosis of 3 with the distribution of its tails being mesokurtic. However, the skewness is 0.4490455 which is within -0.5 to 0.5 range to show that the data is fairly symmetrical. Further, test for normality of the data was done using Jarque-Bera test whose null hypothesis is that the data is normally distributed. The p-value (0.3314) obtained was higher than the critical level (0.05) hence the null hypothesis could be not rejected at 5% significance level.

Augmented Dicky-Fuller test(ADF) was conducted on the time series data of monthly stock returns to determine whether the series was stationary (do not contain a unit root) or not stationary (contained a unit root). The null hypothesis is that the data series is non-stationary. The p-value (0.01) obtained was smaller than the critical level (0.05) hence the null hypothesis was rejected at 5% significance level. This means that the time series data did not contain a unit root hence was stationary.

The basic features of the monthly returns data did not provide a justification for adjusting for conditional heteroscedasticity. Therefore, OLS regression equations from equation 1 were employed and the results populated in Table 2 below.

Table 2: Regression Estimates of Month of the Year in Mean

Month	Coefficient	t-Value	p-Value
January	0.845522	2.804	0.02058*
February	0.48845	0.922	0.3806
March	0.756734	1.591	0.1461
April	0.115699	0.429	0.6778
May	-0.17995	-0.407	0.6938
June	0.35075	1.064	0.3151
July	0.64413	0.785	0.4525
August	0.17816	0.266	0.796
September	1.489226	5.117	0.0006308***
October	-0.062967	-0.243	0.8132
November	0.74145	2.794	0.02092
December	0.10322	0.305	0.7674
F-Statistic	4.401		0.3551

*Note: *, *** indicates significance at the 5% and 0. 1% levels respectively.*

Table 2 provides the estimated coefficients of the monthly return equations generated from equation 1, t-statistics and their respective p-values, the f-statistics and its corresponding p-value. Significantly, higher positive returns were observed in the months of January (0.845522) and September (1.489226). However, the f-statistics signifies that the null hypothesis of equality of means cannot be rejected at 5% significance level since the p-value (0.3551) of the f-statistics is higher than the critical level (0.05).

4.3 Predictive Power of Valuation Ratios Results

The data was arranged to form a panel dataset. Table 3 below provides the descriptive statistics of the panel data i.e annualized stock returns and the variables included in the model i.e dividend per share, price-earnings ratio, book to market ratio, firm size, book leverage and beta.

Table 3: Descriptive Statistics of Annual Stock Returns and Explanatory Variables

	SR	D/S	P/E	B/M	BL	Size	Beta
Min	-0.002321	0.000	-0.1946	0.1009	0.0114	21.1	0.1880
Max	0.002619	1.500	0.2065	6.5016	0.6608	25.7	2.4038
Mean	-0.000102	0.786	0.0849	1.8078	0.2565	23.2	1.000
Std. dev	0.001323	0.4115	0.0791	1.8241	0.2164	1.289	0.5084
Skewness	0.155654	-0.3824	-1.1812	1.1234	0.5141	0.3129	0.8894
Kurtosis	-1.102578	-0.7447	2.4158	-0.0574	-1.3011	-0.6267	0.8818
Jarque-Bera	1.5815 (0.4535)	1.4738 (0.4786)	19.821 (0.00005)	8.051 (0.01785)	3.78 (0.151)	0.9662 (0.617)	6.8413 (0.0327)

Note: Brackets () indicate p-value.

The above table gives a mean value of stock returns of -0.0001019 with minimum and maximum values of -0.0023207 and 0.0026193 respectively. The mean and minimum values are negative indicating that the market did not perform fairly during the study period. The stock returns have a kurtosis of -1.102578 hence the distribution of the outliers being platykurtic. A normal distribution has a kurtosis of 3 with the distribution of its tails being mesokurtic. However, the skewness is 0.155654 which is within -0.5 to 0.5 range to show that the data is fairly symmetrical.

Jarque-Bera test gave a p-value of 0.4535 which is higher than the critical level (0.05) hence the null hypothesis that the data is normally distributed could not be rejected at 5% significance level. Stationarity was checked using Hadri (2000) Lagrange multiplier (LM) test whose null hypothesis is that all the panels are (trend) stationary. The p-value (0.2585) obtained was higher than the critical level (0.05) hence the null hypothesis could not be rejected at 5% significance level which implies that the annualized stock returns data was trend stationary.

Tests were conducted on the panel data to test the accuracy and strength of different panel regression models including F test for individual effects, Hausman test and Breusch-Pagan Lagrange Multiplier (LM) test. The F test was performed to compare the suitability of pooled model versus fixed effect model. The null hypothesis states that there are no significant panel effects versus alternative hypothesis that significant effects exist. The test gave a p-value of 0.5124894 which is higher than the critical level (0.05) hence the null hypothesis could not be rejected at 5% significance level.

Hausman endogeneity test (Hausman, 1978) was performed to compare the suitability of fixed effects and the random effects models. It's null hypothesis favours the panel data to have random effects versus alternative hypothesis which favours the data to have fixed effects. The test

gave a p-value of 0.988151 which is higher than the critical level (0.05) hence the null hypothesis could not be rejected at 5% significance level.

The final test in the model selection criteria was Breusch-Pagan Lagrange Multiplier (LM) used to test for random effects. The null hypothesis states that the variance across entities is zero (no panel effects) versus the alternative hypothesis that panel effects exist.The test gave a p-value of 0.279681 which is higher than the critical level (0.05) hence the null hypothesis could not be rejected at 5% significance level.

Therefore, since there was no evidence of panel effects as well as no evidence of significant differences across firms, it was concluded that fixed and random effects models were not appropriate and a pooled OLS regression model was preferred.

Diagnostic tests were conducted on the pooled OLS regression model to thoroughly check the underlying assumptions of multiple regression in order to enhance the validity of the research findings. These tests include Breusch-Pagan test, Variance Inflation Factor check, Durbin-Watson test and Pasaran CD (cross-sectional dependence) test.

Table 4: Summary of Diagnostic Tests

Test	Statistic	p-Value
Breusch-Pagan test	9.239	0.6824
Durbin-Watson test	2.490386	0.7767528
Pasaran CD (cross-sectional dependence) test	1.1742	0.2403
Variance Inflation Factor	D/S= 1.892562 P/E= 1.786975 B/M= 1.112939 BL=1.258169 Size=1.645705 Beta=1.396668 Mean=1.515503	-

Breusch-Pagan test was carried out to determine if heteroscedasticity was present in the regression model. The null hypothesis for this test states that homoscedasticity is present (residuals are distributed with equal variance) while the alternative hypothesis states that heteroscedasticity is present. The test gave a p-value of 0.6824 which is higher than the critical level (0.05) hence the null hypothesis could not be rejected at 5% significance level.

Durbin-Watson test was conducted to establish the level of serial correlation in idiosyncratic errors in the regression model. The null hypothesis states that there is no first order serial correlation while the alternative hypothesis states that first order serial correlation exists. The test reports a test statistic with a value ranging from 0 to 4 whereby 2 means no autocorrelation while 0 to 2 and 2 to 4 indicate positive and negative autocorrelation respectively. The test reported a test statistic of 2.490386, rounded off to 2 which shows that there was no autocorrelation. Pasaran CD (cross-sectional dependence) test was also conducted to test whether the residuals were correlated across entities of the panel data. The null hypothesis for this test states that there is no cross-sectional correlation while the alternative hypothesis states that cross-sectional correlation exists.The test gave a p-value of 0.2403 which is higher than the critical level (0.05) hence the null hypothesis could not be rejected at 5% significance level.

Variance Inflation Factor (VIF) was employed to detect multicollinearity in the panel regression model. The VIF estimates how much the variance of a regression coefficient is inflated due to correlation among independent variables in the model. Therefore a VIF estimate of 1 means that the variables in the model are not correlated. The VIF obtained range from 1.112939 for B/M to 1.892562 for D/S with a mean of 1.515503 signifying moderate correlation among the explanatory variables which is acceptable hence did not warrant corrective measures.

Table 5: Correlation Matrix

Variable	SR	D/S	P/E	B/M	BL	Size	Beta
SR	1.0000						
D/S	0.2396	1.0000					
P/E	0.0559	0.6034	1.0000				
B/M	-0.1539	0.0568	0.1204	1.0000			
BL	0.3096	0.3467	0.3009	-0.0413	1.0000		
Size	0.1492	0.3556	0.1115	0.2265	0.3233	1.0000	
Beta	0.2334	-0.1718	0.1174	0.0082	-0.1408	-0.4782	1.0000

The correlation result in table 5 indicates that dividend per share, price to earnings ratio, book leverage, size and beta are positively correlated to stock returns while book-market ratio is negatively correlated. The strongest relationship (30.96%) is between book leverage and stock returns while amongst the explanatory variables (60.34%) is between dividend per share and price-earnings ratio.

Tables 5 and 6 display the results of the pooled OLS regression analysis used to test the

hypothesized relationship between firm specific factors and stock returns.

Table 6: Pooled OLS Regression Results for General Model

Variable	Coefficient	Std. Error	Statistic	p-Value
Intercept	-0.00802409	0.00479366	-1.6739	0.10529
D_S	0.00102739	0.00068923	1.4906	0.14724
P_E	-0.00463748	0.00348525	-1.3306	0.19406
B_M	-0.00013776	0.00011924	-1.1554	0.25770
B_L	0.00158718	0.00106881	1.4850	0.14872
Size	0.00026262	0.00020516	1.2800	0.21103
Beta	0.00125280	0.00047924	2.6141	0.01424 *
R^2	0.32099	-	-	-
Adj. R^2	0.17549	-	-	-
F-statistic	2.20609	-	-	0.07224

*Note: * indicates significance at 5% level.*

Table 7: Pooled OLS Regression Results for Specific Model

Variable	Coefficient	Std. Error	Statistic	p-Value
Intercept	-0.00053553	0.00052763	-1.0149657	0.3179788
D_S	0.00102912	0.00068971	1.4921130	0.1457773
P_E	-0.00197735	0.00360969	-0.5477889	0.5877598
B_M	-0.00011457	0.00012499	-0.9166011	0.3664277
R^2	0.094348	-	-	-
Adj. R^2	0.0067045	-	-	-
F-statistic	1.0765	-	-	0.3734

Results of the regression models are as shown above. The general model can be illustrated as SR = -0.00802409 + 0.00102739D/S - 0.00463748P/E - 0.00013776B/M + 0.00158718BL + 0.00026262Size + 0.00125280Beta + ϵ indicating that stock returns of selected quoted companies in Kenya increase with increase in dividend per share, size, book leverage and beta but decrease as ratios of book to market value and price to earnings increase. Beta with a probability value of 0.01424 is the only significant variable in the model and its positive sign in relation to stock returns is consistent with theory, Black (1972) and Fama & French (2004). The probability values i.e 0.14724, 0.19406, 0.25770, 0.14872 and 0.21103 for D/S, P/E and B/M, Size and BL respectively indicate insignificant effects of internal factors on stock returns of selected quoted companies at NSE at 5% level of significance.

The coefficient of determination or R squared (0.32099) for the general model signifies that

about 32.01% of variation in stock returns of the seven selected listed companies at NSE can be explained by the selected internal factors in the general model (D/S, P/E, B/M, Size, Book Leverage, Beta). The remaining 67.99% not explained in the model is attributed to error term and other variables not captured in the regression model. Other variables could be micro or macro economic factors that have the capacity to explain change in stock returns at NSE. Addition of control variables significantly increased the adjusted R squared from 0.67% to 17.55%. However, p-value of f-statistics for the general model (0.07224) is higher than the critical level (0.05) which implies that the explored regression model would not fit well i.e the selected firm specific factors do not sufficiently explain variability in stock returns. Notably, the addition of control variables had great significance in the model but not enough to significantly influence the relationship between firm level attributes and stock returns at NSE.

4.4 Interpretation and Discussion of Findings

The research sought to determine the predictive ability of some valuation ratios on stock returns at NSE. The selected ratios for the study include dividend per share, price-earnings ratio and book-market ratio. The relationship between the independent variables and the dependent variable, including its strength and direction were analysed.

Normality and stationarity tests were conducted on the monthly return data before the presence of monthly seasonal patterns was examined. The tests revealed that the return data series was fairly normal and stationary. The basic features of the data did not provide the rationale for adjusting for heteroscedasticity and as such the monthly OLS regression equations in equation 1 were employed in the analysis. Significant high positive returns were observed in the month of January and September with the later being higher. However, since the p-value (0.3551) of the f-statistics was higher than the critical level (0.05), the null hypothesis that monthly mean returns were equal could not be rejected at 5% significance level. The findings contradicts with Alagidede, P. (2012) which provides evidence for the existence of a February effect in Kenya. This result was fundamental in the research as it relaxed the need to account for monthly seasonality in dividends and earnings during analysis as advocated by Charteris & Strydom (2016).

The monthly stock returns were converted into annual returns before being arranged as panel data. Further tests for normality and stationarity were conducted on the annual stock return data. The tests further confirmed that the return data series was fairly normal and stationary.

Then tests were conducted on the panel data to establish the accuracy and strength of different panel data regression models including F test for individual effects, Hausman endogeinity test and Breusch-Pagan Lagrange multiplier (LM) test for random effects. There was no evidence of significant panel effects and no evidence of significant differences across firms hence it was concluded that pooled OLS regression model was appropriate, hence preferred to fixed and random effects models.

Diagnostic tests were conducted on the pooled OLS regression model to check the underlying assumptions of multiple regression in order to enhance validity of the findings. Breusch-Pagan test was employed to check on heteroscedasticity in the model. The result of the test confirmed that the model was homoscedastic as residuals exhibited constant variance. Durbin-Watson test was conducted which confirmed that first order serial correlation was not present in the model. Pasaran CD (cross-sectional dependence) test was also conducted which confirmed that there was no cross-sectional correlation of residuals across entities of the panel data. Variance Inflation Factor check was employed to establish the level of multicollinearity in the explanatory variables. The results generally confirmed non-existence of correlation among the independent variables.

Correlation matrix provided the relationship between stock returns and the independent variables and relationship amongst the independent variables. Dividend per share, price-earnings ratio, size, book leverage and beta had insignificant positive relationship of 23.96%, 5.59%, 14.92%, 30.96% and 23.34% respectively with stock returns while book-market ratio had insignificant negative relationship of -15.39%. The strongest relationship among the independent variables was between dividend per share and price-earnings ratio (60.34%) with the least being between book-market ratio and beta (0.82%).

The pooled OLS regression model established was not significant which implied that the effect of the independent variables could not bring about any significant variation on stock returns. The coefficient of determination (0.32099) signified that 32.1% of variations in stock returns could be explained by the selected firm characteristics in the model. The unexplained 67.99% in the model could be attributed to error term and other variables not captured in the model. The input of control variables in the model significantly increased the adjusted R squared from 0.67% to 17.55%. Notably, the addition of control variables had great significance in the model but not enough to significantly influence the relationship between firm level attributes and stock

returns at NSE. Therefore, the valuation ratios considered in the study do not have significant predictive ability on stock returns during the study period.

The findings by this study that dividend per share, price-earnings ratio and book-market ratio have insignificant relationship hence lack significant predictive ability with stock returns, contradict with studies in literature that are fundamental in the predictability of stock returns. Such studies include among others Kothari & Shanken (1997) which document that book to market ratio and dividend yield track variations in expected real stock returns, Fama & French (1992) which credit size, book to market and market and book leverage as better explainers of returns than stock beta and Basu (1977) which affirms the relationship between price-earnings ratio and stock returns.

This research findings contradict with some local studies, for instance Njogu (2017) and Musyimi (2017) which document that dividend per share and earnings per share are significant predictors of stock returns as well as Mukerefu & Ouma (2012) and Munyua (2014) which find that dividend pay out ratio has a strong positive relationship with share prices.

Globally there are studies that are congruent with the findings of this study. For instance Hjalmarsson (2010) which documents that earnings-price ratio and dividend-price ratio provide weak evidence if any of their predictive power on stock returns while Banerjee (2019), Liem & Basana (2012) and Auret & Sinclaire (2006) conclude that price-earnings ratio has an insignificant influence on stock returns hence a poor predictor. Celik, Akarim & Zeytinoglu (2012) shows that other than market to book ratio which has some predictive ability on stock returns, earnings per share and price to earnings ratio have insignificant impact on current stock returns.

This research provides findings consistent with some studies conducted locally at NSE. For instance Githinji (2011), Gacheri (2014), Mburu (2014) and Mwai (2014) which document that price-earnings ratio does not significantly influence the performance of firms at NSE. Another one is Rioba (2003) where dividend yield, earnings-price ratio, treasury bill rate, inflation rate and percentage change in money supply and export earnings are used as explanatory variables in a similar study and concludes that the predictive ability of stock returns at NSE is weak and inconclusive.

Chapter Five

5 Summary, Conclusions and Recommendations

5.1 Introduction

This chapter provides a summary of the research findings, conclusions as well as its recommendations. It further highlights the limitations of the study that may have influenced its findings which can be addressed in similar studies in future.

5.2 Summary

The research aimed at examining the predictability of stock returns at Nairobi Securities Exchange (NSE) using firm level attributes. The ratios selected for this study were; dividend per share, price-earnings ratio and book-market ratio with firm size, book leverage and beta added in the model as control variables. Seven companies from different sectors at NSE were sampled for this research, i.e Safaricom Plc, Sasini, WPP Scan Group, Unga Group, Housing Finance, Crown Berger Kenya and Total Kenya. Daily stock returns data was obtained from NSE while firm level data was obtained from annual financial reports of the sampled companies during the study period, 2015-2019.

The research employed OLS regression analysis to investigate the presence of monthly seasonal patterns in monthly stock returns.It was established that the months of January and September observed significantly higher positive returns. However, the null hypothesis on equality of means could not be rejected at 5% significance level since the p-value of the f-statistics (0.3551) was higher than the critical value (0.05). This findings relaxed the need to account for seasonality in dividends and earnings as proposed.

The research employed pooled OLS regression model to determine the predictive ability of the selected firm level attributes on stock returns. The general model produced a coefficient of determination of 0.32099 which implies that the independent variables accounted for 32.1% of variation in stock returns. Further, it was established that dividend per share has an insignificant positive relationship with stock returns while price-earnings ratio and book-market ratio have insignificant negative relationship. The model significance value obtained of 0.07224 is

higher than the critical value (0.05) indicating that overally, the model is not substantial in forecasting stock returns at NSE.

5.3 Conclusions

This study established that the firm level attributes considered have no predictive ability on stock returns. It was established that dividend per share has an insignificant positive relationship with stock returns while price-earnings ratio and book-market ratio have insignificant negative relationship. Therefore, this research concludes that dividend per share, price-earnings ratio and book-market ratio have insignificant influence on stock returns and cannot be used to forecast stock returns of companies listed at NSE.

The study further established that stock returns at NSE exhibit insignificant monthly seasonal patterns. The month of January and September observed significantly higher positive returns but the null hypothesis on equality of means could not be rejected at 5% significance level. This contradicts with the extensive literature that confirms the presence of monthly seasonal patterns on stock returns which can be used to forecast future stock returns.

Therefore the research concludes that dividend per share, price-earnings ratio and book-market ratio have no predictive power on stock returns at NSE over the period 2015-2019. The research further concludes that stock returns at NSE do not exhibit monthly seasonal patterns over the period 2015-2019. However, the research remains silent on the possibility that NSE exhibits any form of market efficiency.

5.4 Recommendations

The research findings demonstrated that the selected explanatory variables are insignificant in explaining variations in stock returns. This should not discredit the subject of predictability of stock returns but rather shift the focus to other variables, both firm specific and industry related factors that can affect stock returns. This research was important to future researchers who have the opportunity to look into its research gaps and address them accordingly.

The research should also serve as a guiding tool to Capital Markets Authority (CMA) in policy formulation. The Authority can further venture into establishing if the market exhibits any form of market efficiency while acknowledging the findings of this research. This should help in

understanding the market better hence aid in creating the right policies capable of attracting local and foreign investors to inject new capital into the market thereby increase its activities.

The research also provides more information to stock investors i.e individuals and companies as well as fund managers, investment advisers and brokers which can be incorporated while making investment decisions hence aid in reducing error variances as well as maximizing on returns. They can compare the research findings with others regarding the same market in order to come up with better investment decisions which will translate to better return on investment. Investors also need to use the available information as a guiding tool in diversifying their portfolios to minimize risk of loss.

The research selected the three valuation ratios as proxy for firm specific factors on the basis of the immense evidence adduced in literature supporting their ability to predict stock returns in developed economies. Considering the findings of this research, future researchers might add as many independent variables as possible, both microeconomic and macroeconomic variables then use the model selection criteria to establish the best factors to employ in their model.

Future researchers may also further on the understanding of the random walk hypothesis to consider looking into the various stochastic models to see if they can be used to explain the evolution of historical prices of stocks at NSE. However, this is to be noted, that proponents of this hypothesis believe that the flow of information is free and immediately reflected in stock prices i.e tomorrow's price change will reflect only tomorrow's news and will be independent of today's price changes, hence not predictable.

5.5 Limitations

The research intended to consider all companies which were listed throughout the study period, not suspended for more than 1 year or delisted and dividends should have been earned every year during the study period. Only seven registered companies met all the stated conditions hence limiting the sample to the seven companies. Therefore, it is possible if the sample had more companies that the results could be different.

The research was limited to a period of five years, 2015-2019 which was considered manageable owing to the study period provided. Therefore, should the period of study be extended, for

instance, to ten years or more it is possible that the results could be different.

The research selected three valuation ratios i.e dividend per share, price-earnings ratio and book-market ratio as proxy for firm specific factors. Therefore, if more factors were added or other different internal factors were selected, it is possible that the results could be different. Further, it is also possible that if external factors like interest rate, treasury bill rate, money supply, inflation rate and others were considered, that the results would be different.

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Appendices

APPENDIX I: F Test for Individual Effects

df1	df2	Statistic	p-Value	Method	Alternative
6	22	0.8999395	0.5124894	F test for individual effects	Significant effects

APPENDIX II: Hausman Endogeneity Test

Statistic	p-Value	Parameter	Method	Alternative
0.9292991	0.988151	6	Hausman Test	one model is inconsistent

APPENDIX III: Lagrange Multiplier Test - (Breusch-Pagan) for Balanced Panels

Statistic	p-Value	Parameter	Method	Alternative
1.168639	0.279681	1	Lagrange Multiplier Test - (Breusch-Pagan) for balanced panels	significant effects

APPENDIX IV: SAMPLED COMPANIES AT NSE

S/NO.	AGRICULTURAL	TRADING SYMBOL
1.	Sasini Plc Ord 1.00	SASN
	BANKING	
2.	HF Group Plc Ord 5.00	HFCK
	COMMERCIAL AND SERVICES	
3.	WPP Scangroup Plc Ord 1.00	SCAN
	CONSTRUCTION & ALLIED	
4.	Crown Paints Kenya Plc Ord 5.00	CRWN
	ENERGY & PETROLEUM	
5.	Total Kenya Ltd Ord 5.00	TOTL
	MANUFACTURING & ALLIED	
6.	Unga Group Ltd Ord 5.00	UNGA
	TELECOMMUNICATION	
7.	Safaricom Plc Ord 0.05	SCOM

APPENDIX V: COMPANIES LISTED AT NSE ON 31ST DECEMBER, 2014

S/NO.	AGRICULTURAL	TRADING SYMBOL
1.	Eaagads Ltd Ord 1.25 AIM	EGAD
2.	Kakuzi Plc Ord.5.00	KUKZ
3.	Kapchorua Tea Co. Ltd Ord Ord 5.00 AIM	KAPC
4.	The Limuru Tea Co. Plc Ord 20.00AIMS	LIMT
5.	Sasini Plc Ord 1.00	SASN
6.	Williamson Tea Kenya Ltd Ord 5.00 AIM	WTK
	AUTOMOBILES & ACCESSORIES	
7.	Car & General (K) Ltd Ord 5.00	CGEN
	BANKING	
8.	ABSA Bank Kenya Plc Ord 0.50	ABSA
9.	Diamond Trust Bank Kenya Ltd Ord 4.00	DTK
10.	Equity Group Holdings Plc Ord 0.50	EQTY
11.	HF Group Plc Ord 5.00	HFCK
12.	I&M Holdings Plc Ord 1.00	IMH
13.	KCB Group Plc Ord 1.00	KCB
14.	National Bank of Kenya Ltd Ord 5.00	NBK
15.	NCBA Group Plc Ord 5.00	NCBA
16.	Stanbic Holdings Plc ord.5.00	SBIC
17.	Standard Chartered Bank Kenya Ltd Ord 5.00	SCBK
18.	The Co-operative Bank of Kenya Ltd Ord 1.00	COOP
	COMMERCIAL AND SERVICES	
19.	Eveready East Africa Ltd Ord.1.00	EVRD
20.	Express Kenya Plc Ord 5.00AIMS	XPRS
21.	Kenya Airways Ltd Ord 1.00	KQ
22.	Longhorn Publishers Plc Ord 1.00AIMS	LKL
23.	Nation Media Group Plc Ord. 2.50	NMG
24.	Sameer Africa Plc Ord 5.00	SMER
25.	Standard Group Plc Ord 5.00	SGL
26.	TPS Eastern Africa Ltd Ord 1.00	TPSE
27.	Uchumi Supermarket Plc Ord 5.00	UCHM
28.	WPP Scangroup Plc Ord 1.00	SCAN
	CONSTRUCTION & ALLIED	
29.	ARM Cement Plc Ord 1.00	ARM

30.	Bamburi Cement Ltd Ord 5.00	BAMB
31.	Crown Paints Kenya Plc Ord 5.00	CRWN
32.	E.A.Cables Ltd Ord 0.50	CABL
33.	E.A.Portland Cement Co. Ltd Ord 5.00	PORT
	ENERGY & PETROLEUM	
34.	KenolKobil Ltd	KENO
35.	KenGen Co. Plc Ord. 2.50	KEGN
36.	Kenya Power & Lighting Co. Plc Ord 2.50	KPLC
37.	Kenya Power & Lighting Plc 4% Pref 20.00	KPLC.P0004
38.	Kenya Power & Lighting Plc 7% Pref 20.00	KPLC.P0007
39.	Total Kenya Ltd Ord 5.00	TOTL
40.	Umeme Ltd Ord 0.50	UMME
	INSURANCE	
41.	Britam Holdings Plc Ord 0.10	BRIT
42.	CIC Insurance Group Ltd ord.1.00	CIC
43.	Jubilee Holdings Ltd Ord 5.00	JUB
44.	Kenya Re Insurance Corporation Ltd Ord 2.50	KNRE
45.	Liberty Kenya Holdings Ltd Ord.1.00	LBTY
46.	Sanlam Kenya Plc Ord 5.00	SLAM
	INVESTMENT	
47.	Centum Investment Co Plc Ord 0.50	CTUM
48.	Home Afrika Ltd Ord 1.00	HAFR
49.	Kurwitu Ventures Ltd Ord 100.00	KURV
50.	Olympia Capital Holdings ltd Ord 5.00	OCH
51.	Trans-Century Plc Ord 0.50AIMS	TCL
	INVESTMENT SERVICES	
52.	Nairobi Securities Exchange Plc Ord 4.00	NSE
	MANUFACTURING & ALLIED	
53.	B.O.C Kenya Plc Ord 5.00	BOC
54.	British American Tobacco Kenya Plc Ord 10.00	BAT
55.	Carbacid Investments Ltd Ord 1.00	CARB
56.	East African Breweries Ltd Ord 2.00	EABL
57.	Flame Tree Group Holdings Ltd Ord 0.825	FTGH
58.	Kenya Orchards Ltd Ord 5.00 AIM	ORCH
59.	Mumias Sugar Company Ltd	MSC

60.	Unga Group Ltd Ord 5.00	UNGA
	TELECOMMUNICATION	
61.	Safaricom Plc Ord 0.05	SCOM
	REAL ESTATE INVESTMENT TRUST	
	EXCHANGE TRADED FUNDS	

Strathmore UNIVERSITY

29th July 2021

Mr Mrabu Omar,
omar.mrabu@strathmore.edu

Dear Mr Mrabu,

RE: Predictability of Stock Returns at Nairobi Securities Exchange

This is to inform you that SU-IERC has reviewed and **approved** your above **SU- master's** research proposal. Your application reference number is **SU-IERC1042/21.** The approval period is **29th July 2021 to 28th July 2022.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 48 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 48 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

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

Yours sincerely,

for: Dr Virginia Gichuru,
Secretary; SU-IERC

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE (SU-IERC)
29 Jul 2021
TEL: +254 (0)70303400
P.O BOX 59857-00200
NAIROBI-KENYA

Cc: Prof Fred Were,
Chairperson; SU-IERC

Final Decision

This document certifies that the study:

\\\"PREDICTABILITY OF STOCK RETURNS AT NAIROBI SECURITIES EXCHANGE\\\"

Principal Investigator: Mr. Mrabu, Omar Matano
Reference number: SU-IERC1042/21

Was reviewed and received the following status:
\\\"done\\\"
Additional Comments: Final decision: **approved**
Comments sent:

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Reviewer #1:
'Make the problem statement more precise, currently it wordy. All the best.'
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Curiginal

Document Information

Analyzed document	Thesis_Final.pdf (D117564916)
Submitted	2021-11-05 15:02:00
Submitted by	
Submitter email	Omar.Mrabu@strathmore.edu
Similarity	7%
Analysis address	library.strath@analysis.urkund.com

Sources included in the report

W	URL: https://su-plus.strathmore.edu/bitstream/handle/11071/6600/An%20Event%20study%20on%20effects%20of%20Kenya%E2%80%99s%20varying%20application%20of%20Capital%20Gains%20Tax%20on%20stock%20market%20performance%20at%20Nairobi%20Securities%20Exchange.pdf?sequence=3&isAllowed=y Fetched: 2021-11-05 18:19:00	1
W	URL: https://www.econstor.eu/bitstream/10419/55548/1/614595061.pdf Fetched: 2021-11-05 18:19:00	2
W	URL: http://erepository.uonbi.ac.ke/bitstream/handle/11295/74737/Ogello%20Catherine%20Auma_The%20Relationship%20between%20Price%20Earnings%20Ratio%20and%20Stock%20Returns%20of%20Companies%20listed%20at%20the%20Nairobi%20securities%20Exchange.pdf?sequence=3&isAllowed=y Fetched: 2021-11-05 18:19:00	5
W	URL: https://www.researchgate.net/publication/265300065_The_Impact_of_Market-Based_Ratios_on_Stock_Returns_The_Evidence_from_Insurance_Sector_in_Turkey Fetched: 2021-11-05 18:19:00	2
SA	**Kilsgård_Wittorf.docx** Document Kilsgård_Wittorf.docx (D4463556)	1
SA	**130016133-Group_Proj-1424061.docx** Document 130016133-Group_Proj-1424061.docx (D17919507)	2
W	URL: https://core.ac.uk/download/pdf/234632241.pdf Fetched: 2021-11-05 18:19:00	2
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W	URL: https://www.researchgate.net/publication/267636914_Impact_of_Dividend_Yield_and_Price_Earnings_Ratio_on_Stock_Returns_A_Study_Non-Financial_listed_Firms_of_Pakistan Fetched: 2021-11-05 18:19:00	1
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