

**THE RELATIONSHIP BETWEEN CASH FLOW AND CAPITAL EXPENDITURE
OF FIRMS LISTED AT THE NAIROBI SECURITY EXCHANGE**

BY

ISMAIL ABDULLAHI HERSI

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DECLARATION

This research project is original work that has not been submitted to any university or college for examination.

Signed 
Ismail Abdullahi Hersi

Date 20TH NOVEMBER 2021

D63/29445/2019

The research project has been submitted for examination with approval as the university supervisor.

Signed...  Date...25/10/2021.....

Dr. Helen Kinyua

Lecturer, Department of Finance and Accounting

Faculty of Business and Management Sciences, University of Nairobi

This research proposal has been presented for examination with approval as the university co-supervisor.

Signed... 

Date 20TH NOVEMBER 2021

Dr. Kennedy Okiro

Lecturer, Department of Finance and Accounting

Faculty of Business and management Sciences, University of Nairobi

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DEDICATION

This project is dedicated to my dearest brother Yahye Mohamud, who guided me through my studies and provided me with financial support.

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ABBREVIATIONS

CAPEX	-	Capital Expenditure
ECF	-	Equity Cash Flows
ETF	-	Exchange Traded Fund
FCF	-	Free Cash Flows
I-REIT	-	Income Real Estate Investment Trust
KES	-	Kenya Shillings
MM	-	Modigliani and Miller
NPV	-	Net Present Value
NSE	-	Nairobi Securities Exchange
NYSE	-	New York Stock Exchange

ABSTRACT

Firms with higher cash flows stand a higher chance of attracting investors seeking efficient opportunities to invest resources. Cash flows reveal positive impact on capital expenditure. There is a negative association among cash flows and CAPEX at low levels of cash flow but positive relationship for greater levels of net cash flow. Cash flows impact on capital expenditure rises as firm size declines. The overall objective of the study was to establish effect of cash flows on the capital expenditure of firms listed on the Nairobi Securities Exchange. It also aimed at reviewing the increasing body of theoretical and empirical studies that have endeavored to examine the range of magnitude and effects of cash flows on capital investment. The free cash flows, the pecking order, and dividend irrelevance theories guided the current study. The current study utilized the descriptive research design. The target population was all the 64 listed firms at the Nairobi Securities Exchange. The study employed a census and it examined the whole population. The unit period of analysis was annual, and data was collected for the period from 2016 to 2020; the period comprised of five years. The study applied correlation analysis and multiple linear regression model with the technique of estimation being Ordinary Least Squares (OLS) so as to establish the relationship of cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size with capital investment. The study findings were that cash flows from investing activities, cash flows from financing activities, and firm size have a significant positive correlation with capital investment. However, the study findings established that cash flows from operating activities do not have a significant correlation with capital investment. Additionally, the study findings established that model entailing; cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size explains capital investment to a very great extent with a coefficient of determination value of 45.8%. Further study findings were that that the model consisting of cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size significantly predicts capital investment. Final study findings were that cash flows from investing activities and firm size individually have a significant positive relationship with capital investment but however cash flows from operations and cash flows from financing activities do not have a significant relationship with capital investment. Policy recommendations are made to the government officials and policy formulators in the financial sector, mainly the regulator, the Capital Markets Authority (CMA), and the Treasury to focus on cash flows when endeavouring to boost firm value by increasing capital investments in order to spur the development of capital markets. Additional recommendations to policy makers is to majorly focus on cash flows apart from cash flows from operations and firm size when intending to augment capital investment. Recommendations are generated to the financial analysts to estimate market capitalization, and by extension, securities value, by using cash flows, and in extension, firm size. Henceforth, this study will offer them immeasurable insights, which will help them when advising their clients. Recommendations are generated to consultants and listed firms practitioners to mainly focus on cash flows apart from cash flows from operations and firm size to time strategies like securities exchange listings, rights issues, and dividend pay-outs.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Firms with higher cash flows stand a higher chance of attracting investors seeking efficient opportunities to invest resources. Analyzing the correlation among cash flow and expenditure outlay is however highly debatable. Based on efficient markets' assumption, Modigliani and Miller (1958) opined that any finance decisions or the capital structure of the firm should not influence investment spending since investment finance will be availed to firms equally at an exogenously determined cost. Instead, the major determinant of investment spending should be required return by any given market. This means that with these assumptions liquidity as a variable had little meaning. Nevertheless, empirical findings had contrary opinion and explained that liquidity variables for example such as cashflows are critical determinants of any fixed investments (Mairesse, Hall & Mulkey, 1999; Carpenter & Guariglia, 2008).

Capital Expenditure (CAPEX) theories were utilized extensively in current study. The key theory guiding this study was the (FCF) Hypothesis by Jensen (1986), which asserts companies increase shareholder wealth by undertaking projects where the value of future cash flows is higher than the cash outlay. The theory is important to the study as it helps in understanding why managers are motivated to spend more in capital expenditure rather than giving out cash in form of dividends. Another theory which the study was based on is the pecking order theory developed Donaldson (1961). The theory states that firms follow a hierarchy in sourcing for various sources. Companies will favor internal financing when available, and when not available, borrowing is favored over equity if external financing is necessary. The theory links to this study to the extent to which it answers why managers prioritise use of cash flows in CAPEX before resorting to other sources of finance. Another

theory guiding the current study is the the dividend irrelevance theorem advanced by Modigliani and Miller (1958, 1961). The theorem concluded that a firm's current and future expected cashflows will affect a firm's worth and that a firm worth is independent. The theorem is relevant to this study as it helps in explaining the decision making process of managers for companies that shareholders are in a dilemma on whether to acquire dividends or get a share value appreciation.

Various Companies listed at (NSE) have been forced to diversify their investments as a result of the dynamism of the firms so as to maintain relevance in the market (Hann, Ozbas & Ogneva, 2010). Portfolios have enabled the companies to find out assets growth, expansion of portfolios and improve wealth of shareholders. This has been attained through corporate governance and proper investment decisions. This has however prevented firms from accessing cash flows and thus more investments. Several firms listed at the NSE are accumulating massive loans in their financing structure as a way of raising fresh finance to fund operations and execute development projects through capital markets (Anyanzwa, 2015). The current study endeavours to establish if cash flows have any impact on CAPEX of firms listed at NSE.

1.1.1 Cash Flow

Cash flow is explained as the flow of funds into or out of a business (Dechow & Ge, 2006). It is the addition or subtraction in the amount of funds in any business. It could also mean amount of funds that is created in any given period of time (Vogt, 1997). Equity cash flow (ECF) refer to the funds which remains within the company after tax, after covering capital investment procedures and the rise in working capital needs, having paid expenses, paying debts, and receiving new debt (Jensen, 1986). FCF refers to cash flow created by cashflows

after tax, without considering the company's debt level, that is, without Lessing the company's interest (Richardson, 2006). Capital cash flow refers to the net cash flow present to debt holders and the equity net cash flow (Jensen, 2006).

Globally, there is an obsession with profits with little attention being paid to cash flows. In the view of Talebi (1996), a firm can survive in an economy for a long time whereas it is making little or no profit but the chances of survival minus liquidity are slim. In general, a company is said to do better if it "creates wealth" for the shareholders when the cash flows go up (Bhundia, 2012). The Cash flows have a clear effect on the worth of a firm. Hence, investors are on the lookout for firms with higher cashflows. Huge cash flows provide a firm with large flexibility but weak/low cash flows always put a firm on the defensive through discouraging it in getting involved in risk seeking and risky exploitation of the marketing chances (Christy, 2009). In the view of Gentry et al. (1990), operating cash flows help increase the financial and credit health of a company. Additionally, firms with high operating and investing cash flows have a low credit risk. An investigation done by Torfason (2014) revealed that Lehman Brothers exhibited a steady increase in profit growth from 2002 and a significant increase in revenue from 2001. For most of the period operating cash flows were negative with a significant decline recorded in 2003. This raised no alarm unlike the case of non-financial firms where this could be a sign of impending bankruptcy. Finally, investing cash flows can be used to gauge the strengths and shortcomings of a business (Bodie et al., 2004).

Helfert (2001), Kew et al. (2006), and Powers and Needles (2011), assert that cash flows are categorized into six main elements. Kew et al. (2006) stated that Free Cash Flow (FCF) is one of the most common ways of measuring cash flow. The metric tracks the amount of cash

you have left over after capital expenditure items like equipment and mortgage payments. The formula for DCF is enumerated as; earnings before interest and tax multiplied by $1 - \text{the tax rate}$ subtracted by net fixed investments (Kew et al., 2006). Cash flows from operations is the net income adjusted by the non-cash items and accruals (Torfason, 2014). Cash flow from financing activities displays an entities financing by illustrating how it raises its capital and repays its investors (Gentry et al., 1990). Cash flows from investing activities detail the money generated by the business and money spent by an entity in investing in other firms and in the purchase and disposal of fixed assets (Power & Needles, 2011). Discounted cash flow (DCF) looks at future cash flow estimates versus the cost of capital (Helfert, 2001). Finally, levered cash flow is the free cash flow retained by a corporation after paying off its debts (Bhundia, 2012). The current study utilized the cash flow measures entailing; cash flows from operations, cash flow from investing activities, and cash flows from financing activities.

1.1.2 Capital Expenditure

CAPEX refers to resources utilized by a company to purchase or upgrade tangible assets including machinery, buildings or execute new projects (McConnell & Muscarella, 1985). Griner and Gordon (1995) defined CAPEX as the funds utilized by management to purchase property, plant, and machinery. It refers to financial resources employed by a firm to obtain or renovate physical assets namely; property, plant and equipment. It is mostly anticipated that capital expenditures will produce future benefits that will be in use for more than financial year (McConnell, & Muscarella 1985). According to Kochhar and Hitt (1998), CAPEX is the acquiring of capital assets or fixed assets, which are in the form of manufacturing plants and machinery that is projected to be in use over a long period.

A firm needs to have strategic assets, which are maintained in order to have future benefits. These assets are also a condition for maintaining sustainable competitive advantage (Kochhar, & Hitt, 1998). The financial performance of a firm usually emanates from investing in project which have positive NPV. These projects are recognised to be value enhancing as they fetch a yield that is more than the shareholders are cost of capital. CAPEX comprise of the deployment of enormous sums of money, and it affects the business over a lengthy period. Additionally, the resources to acquire a fixed asset must be paid out instantly, while the returns or benefits accumulate over a long period. Since the benefits are centred on future prospects and the capability to predict the future is imperfect, substantial effort ought to be made to appraise investment options as comprehensively as possible (Boehlje, & Ehmke, 1986).

CAPEX is typically available in the cash flow statement under investing activities. Companies listed commonly show their CAPEX for a particular period in the annual year reports, which permits investors to identify how the business is utilising or investing their funds in the quest for long-term growth. Nearly all firms have CAPEX on yearly basis as they improve equipment and facilities often (Quandhali, Khan & Rizvi, 2016). Capex is calculated as; Plant property and Equipment (PPE) of the current period subtracted by the PPE of the prior period added to the depreciation of the current period (Griner & Gordon, 1995).

1.1.3 Cash Flow and Capital Expenditure

Most of the early studies conducted on this topic have shown that cash flows reveal positive impact on CAPEX (Saffarizadeh, 2014; Lukam, 2011). Conversely, studies by Firth, Malatesta, Xin, and Xu (2012) conducted using Chinese firms brought a new discovery a

negative association among cash flows and CAPEX at low levels of cash flow but positive relationship for greater levels of net cash flow.

Vogt (1997) states that with greater cash flows, company has the greater the profitability of capital expenditure projects and that cash flows impact on capital expenditure rises as firm size declines and when there is a reduction in ownership. The firm's value is maximized through investment, which motivates the company's shareholders. This reduces the agency problem since the firm will invest in long-term investments which increase the firm's value as opposed to issuing dividends to shareholders since investing in positive NPV projects will increase the shareholders' wealth in future.

A couple of theories have been directed to unfold the link among FCF and Capex and their arguments have been different. Jensen (1986) in his flow of cash hypothesis concluded that executives have a personal motivation towards developing the firm's assets through value destroying investments rather than distributing the excess funds as dividends to the shareholders. In their irrelevance theory, Modigliani and Miller (1958) state that a company's investment is not correlated to its internally generated retained earnings by assuming efficient capital markets where companies are not exposed to any constraints when obtaining funds. In reality, external funds are more costly to firms and as such cannot simply substitute retained earnings.

Under the theory as developed by Jensen and Meckling (1976), when a firm's cash flows exceed the resources needed to fund value-adding projects, managers have the opportunity to engage in lavish spending by accepting projects that destroy shareholders' wealth since they can benefit from increasing firm size. As a result, by increasing dividend disbursements, cash

flows under control of managers can be reduced which precludes them from engaging in investing on investments that destroy shareholders' wealth? A firm maintaining reduced level of cash flows can mitigate high costs.

Tobin Q Theory as developed by Tobin (1969) states that when a firm's Tobin Q ratio is higher than one, a company is inclined to increase its level of investment since the cash flows generated would exceed the firm's cost assets. It can therefore be concluded, that if growth opportunities are there to managers of firm, managers should undertake them. When a firm's Tobin Q ratio is less than 1, then they have a smaller value of market than the assets' book value. According to this theory, availability of FCFs would not influence capital expenditure unless the firm's Tobin Q is larger than one.

1.1.4 Nairobi Securities Exchange

In the year 1954, NSE was founded by stockbrokers as association of voluntary and was given the responsibilities to regulate the trading activities and also develop the securities market. It has developed to be one of the leading African Exchanges and more even it acts as an iconic trading facility not only to local investors but also international investors who aims of gaining entrance to the economic growth of Kenya and Africa at large. It deals with both variable and fixed income securities and has 64 listed companies.

Most firms listed at the NSE have been forced to diversify their investments due to the business so as to remain relevant within the market (Hann, Ozbas & Ogneva, 2010). Diversification has enabled the companies to find out assets growth, expansion of portfolios and increase value of shareholders. This has been attained through corporate governance and proper investment decisions. This has however prevented firms from accessing cash flows

and thus more investments. Several companies in the NSE are accumulating massive loans in their financing structure as a way of raising fresh structure to fund operations and form a development projects through capital market (Anyanzwa, 2015). Various studies have ascertained that there exists a significant relationship between FCF and CAPEX of firms that are listed at the NSE (Kinyanjui, 2014; Mabinda, Namusonge & Iravo, 2017; Gitari, 2014; Wahome, 2017; Mundia, 2016). The current study is going to analyze the effect of cash flows entailing cash flows from operations, investing activities, and financing activities on CAPEX.

1.2 Research Problem

Firms with higher cash flows stand a higher chance of attracting investors seeking efficient opportunities to invest resources. Analyzing the correlation among cash flow and expenditure outlay is however highly debatable. Based on efficient markets" assumption, Modigliani and Miller (1958) opined that any finance decisions or the capital structure of the firm should not influence investment spending since investment finance will be availed to firms equally at an exogenously determined cost. Instead, the major determinant of investment spending should be required return by any given market. This means that with these assumptions liquidity as a variable had little meaning .Nevertheless,empirical finings had contrary opinion and explained that liquidity variables for example such as cashflows are critical determinants of any fixed (Mairesse, Hall & Mulkay, 1999; Carpenter & Guariglia, 2008).

Firm managers prefer holding cash and cash equivalents and reinvesting it in other forms of physical assets. However, empirical studies have shown that managers have not been fair enough to firms" shareholders. Managers prefer investing in investments that grants them personal gains as opposed to investing in investments, which will increase shareholders"

wealth in general. Thus, the problem related with cash flows arose (Windsor, 2011). Conflict of interest normally arises between firm owners and managers whenever a firm generates considerable cash flow. The problem arises in trying to encourage managers to spend money wisely as opposed to investing in investments with a lower return or wasting the said funds in firm inefficiencies (Wang, 2010). Although cash flows and capital expenditure are paramount concepts, there is very little research evidence has been published on the issue in Kenya with most studies focusing on other factors that affect investments. Matata (1996) found engagement in risky business, corruption and, lack of generous dividend policy as possible causes of poor investment in Kenya. On the other hand, Nyoike (2002) found stability of future cash flows, profitability of the business, level of competition in the industry, stability of future sales, and the level of interest rates in the economy to be the factors influencing managers in their financing capital investment decisions in Kenya

Several researches have been conducted on the impact of cash flow on CAPEX with Vogts (1994) describing the impact of cash flow and CAPEX by analysing the cash flow theory of Jensens (1986). Vogt (1996) identified the impact of the effect. In their study Kaplan and Zingales (1997; 2000) found out that a U-shaped relationship involving businesses which are less financially constrained showed greater cash flow-CAPEX link that are financially declined. In their study, Clearly, Povel and Raith (2007) and Firth, Malatesta, Xin, and Xu (2012) also found out the U-shaped relationship when their research ensured existence of an unstable relationship within cash flow and CAPEX at reduced cash flow levels and positive at high levels of cash flow. On the local scene, Kinyanjui (2014) who sought to find out the linkage among FCF and projects of companies listed at the NSE. The regression model outcome of the study established that cash flows have a positive influence on net capital expenditure. Recommendations were hence that there research lowered value to ensure

great study with various variables so as to determine if there are other key factors that have a connection with investments at NSE.

Cash flows have always included many challenges in the capex influences theory. Empirically, cash flows are related to investments are related. A study of manufacturing companies from 1970 to 1984 by Fazzari, Petersen and Hubbard (1988) and Zingales and Kaplan (1997) found out that the relation was significant for firms without financial challenges.

Majority of the studies on the factors that explain capital expenditure investment decisions have been done in the developed nations such as the US, UK, Europe and China hence it would be misleading to generalize the findings to the Kenyan environment due to market differences. Thus, this presents a contextual gap that the current study is endeavoured to fill. In Kenya, major studies conducted have not found out the linkage among Capex and cash flows. Thus, this presents a conceptual gap that the current study is endeavoured to fill. Thus, the study intended to establish what is the impact of cash flow towards capital investment of firms enlisted at NSE?

1.3 Research Objective

To establish the effect of cash flow on capital expenditure of firms listed at NSE.

1.4 Value of the Study

Factors that influence capital expenditure are of great significance to stock market stakeholders, government via the industry regulator, investors and scholars. Theoretically, this research is meant to add information to prevailing research and would assist prudent

management of company funds. To the researchers and scholars: the study will provide a useful basis that future research on the factors that affect the expenditure and whether flow affects capital expenditure. This study will advance not only researcher's knowledge, but also the stakeholders' hence gaining experience to the industry as a whole.

To officials and policy makers, this study will provide grounds for outlining strategies to boost the performance of the regulated capital markets as well strategies of controlling shocks to the financial system and shielding the sector from economic crises while recommending measures to counter those threats. The findings will assist the regime in strategy formulation concerning financial deepening and enhancing capital markets by enhancing cash movement and expenditure. The results of this will help different agencies to develop various frameworks within the cashflow of the companies and formulate various policies to create a great favourable environment.

The outcome of the study will give greater understanding to investors on impact of cash flows on projects when they are undertaking investment choices and the diversification of portfolios with the aim of increasing profitability and value maximisation. The investors and other stakeholders, it will improve their comprehension on impact of cash flows on CAPEX decisions of managers. Investors will be able to know if managers are investing in the non-value adding investment. In addition, the study will expose whether firms are fully utilising the NSE as a capital market. An inclination to use cash flows means less usage of the capital market.

The study shall also be of great value to a number of managers that are given the job to manage firms listed at NSE; this research will provide good information as well

recommendations which help in making well thought management practices that ensure shareholders' wealth increase. The research also leads to a greater fountain of knowledge meant to assist NSE listed firms as well as firms seeking to list in future and increase their profitability and ensures they are sustainable. Other benefits to the study include; Investment advisors in share advisory services; fund managers in portfolio construction and management; individual investors in making their investment decisions; academicians to further research and add to the body of information.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter is made up of available evidence related to the study. It entails theories guiding the research. It also includes a description of determinants of capital expenditure and literature interrelated to the factors. It narrows down to cash flows affecting the capital expenditure of firms enlisted at the NSE. This chapter also illustrates the conceptual framework, and also contains the summary and information gaps recognized.

2.2 Theoretical Review

A theory is created to identify, elaborate, and comprehend certain phenomenon and in other instances, to challenge the present knowledge on this within the brackets of present bounding assumptions. A theory entails many concepts brought together and existing approaches used for a particular study. The study encompassed, free cash flows theory, the pecking order theory, and dividend irrelevance theory.

2.2.1 Free Cash Flows Theory

Jensen (1986) came up with a theory of free cash flow. The theory indicates that in a case where a company's FCF is higher than what the firm requires for the projects with positive NPV, the executives will be faced with an opportunity to create an advantage for themselves. Jensen held a position that if a firm has spare cash; the executives may take on board business ventures with negative NPV with an intention of benefiting from the increase in size of the firm. FCF lures executives to enlarge the coverage of processes and the size of the firm, thus swelling executives' mandate and individual's remuneration. This is achieved by using the free funds in developments, which possess negative NPVs. With increasing amount of dividend paid and lowering level of FCF, it results in lowering agency costs.

The FCF theory of finance structure is circular, not moveable, and not able to account greatly for risk and growth (Buus, 2012). The preceding cashflow models, as explained or created by various scholars resulting in costing of tax benefits (assets) or cost of debt. Lang and Litzenberger (1989) find out greater efforts towards cash flows so Lang and Litzenberger (1989) insists greater share price reaction agreeing with cash rising was greater in companies with unfortunate investment possibilities, on the other side, Denis, Denis & Sarin (1994) have discouraged the Lang and Litzenberger (1989) study's levels. Later, Nohel and Tarhan (1998) established that the continuous profitability of companies proceeding to enable improvement only in lesser firms, and these increases are created by more efficient use of assets greater than improved project chances. Nohel and Tarhan (1998) argued that share repurchases could be used as a portion with and vast packages tendered towards to removing inefficiencies greater with free cash flow to show new project activities.

The free cash flow theory is important to the study as it helps in understanding why managers are motivated to spend more in capital expenditure rather than giving out cash in form of dividends. The theory explains the behaviour of managers when faced with a decision as to whether spend the available cash flow in dividends or CAPEX.

2.2.2 Pecking Order Theory

It remains important component of financial studies. It was initially brought by Donaldson (1961) and was later altered by Myers and Majluf (1984). It postulates that companies arrange their sources of finance, with internal financing as the most preferred which is trailed by debt structure. The financing by equity is regarded as a source of "last resort" in the hierarchical view of the sources of finance (Donaldson, 1961). Myers and Majluf (1984) affirmed that gainful firms augmented their demand for debt since companies use internal

funds to invest. They described this notion through what is recognised as the pecking order hypothesis. In agreement to the theory, businesses favour to employ their internally generated resources to invest and every time exterior financing is required; they choose to obtain debt instead of equity to decrease the information unevenness and transactions costs (Myers & Majluf, 1984).

Other scholars such as Fama and French (2002) weighed in the debate and agreed that firms attempt to use internal finance first as they engage in investment decisions, then with innocuous debt, and lastly with equity, to decrease the disproportionate information and other financing costs. Considering that external funds are expensive to be profitable, for firms with fewer gainful assets dividends are less attractive (Fama, & French, 2002).

Proposition of the Pecking order theory was a contrast to what Modigliani and Miller proposed 1958 where they revealed that that financing structure choice has no effect on the wealth of the company. They claimed that it is irrelevant or inconsequential how a firm is financed considering that perfect market circumstances are in existence and in disregarding bankruptcy, taxation and other related costs. It was after the MM first research that many contemporary theories like Trade-off theory and Pecking order theory came into effect. Critical discrepancy of these theories was that their assumptions were more realistic and as such, they could easily be verified.

This order theory links to this study to the extent to which it answers why managers prioritise use of cash flows in CAPEX before resorting to other sources of finance. The theory explains why cash flows will have an effect of FCF to capital expenditure and explaining why with

different theories of cash flows it expected to observe a corresponding change in CAPEX level.

2.2.3 Dividend Irrelevance Theorems

Preinreich (1932) and Sage (1937) provided an initial narrative in scholastic literature of a residual dividend policy without giving it a name (Smith, 2011). It took two scholars, Miller and Modigliani (1961) as they were in the process of explaining the irrelevance dividend policy, they brought out a framework. purporting that companies pay out cash dividends after undertaking all gainful projects. They called the framework residual dividend policy, which argued that companies only make payments from earnings, implying that payments of dividends can only be made if cash is still available after reaching the appropriate level of CAPEX. In other words when all suitable investment openings have been bankrolled, that is the only time dividend is paid (Miller, & Modigliani, 1961).

The spirit of the residual theory is that the company will only give out dividends from the remaining earnings, which mean earnings that are left after the business has depleted all investments in ventures with a positive NPV. Retained earnings are main source of finance for investment in most firms (Baker, 2009). With regard to residual dividend policy, the main concentration of the managers is certainly on investment, and not dividends. In agreeing with Modigliani and Miller (MM) dividend policy is rendered irrelevant as it is regarded as being passive decision variables. According to Baker (2009), the management's understanding of in this set-up is that by deploying the earnings in gainful investment ventures rather than giving out the earnings as dividends to shareholders the value of the business will increase, thereby also increasing and maximising shareholders' value. Consequently, executives will vigorously pursue, and deploy company's financial resources in all satisfactory (in terms of

return and risk) ventures, which are projected to raise the company's wealth. In the case where retained earnings surpass the funds necessary to finance the appropriate ventures then dividend will be issued and where the situation is to the contrary, no dividends will be issued.

The theory of dividend policy is relevant to this study as it helps in explaining the decision making process of managers for companies that shareholders are in a dilemma on whether to acquire dividends or get a share value appreciation. The residual dividend policy argues that companies only make payments from earnings, implying that payments of dividends can only be made if cash is still available after reaching the appropriate level of CAPEX. Thus, cash flows in financing activities entailing dividends can only be undertaken by firms after reaching the appropriate level of CAPEX.

2.3 Determinants of Capital Expenditure

This part will elaborate critical determinants of capital expenditure. The determinants outlined are; cash flows, dividend policy, firm size, leverage, and liquidity.

2.3.1 Cash Flow

This is movement of cash in and out of firm (Dechow & Ge, 2006). It implies that the addition or subtraction in the amount funds in any business. Also means amount of funds consumed within a critical time. Free cash flow refers to cash flow created by any operations after tax, without considering a company's debt level, which is, without lessening a company's interest expenses (Richardson, 2006). Capital cash flow is hence the cash that is available for debt holders (Jensen, 2006).

Vogt (1997) states that greater cash flows a company has, the greater the profitability of capital expenditure projects and that cash flows impact on capital expenditure rises as firm size declines and when there is a reduction in ownership. The firm's value is maximized through investment, which motivates the company's shareholders. This reduces the agency problem since the firm will invest in long-term investments that improve the firm's value as opposed to issuing dividends to shareholders since investing in positive NPV projects will increase the shareholders' wealth in future.

2.3.2 Dividend Policy

Dividend policy refers to financial strategies pertaining to issuing cash dividend in the current period or paying an improved dividend at a future stage. Companies often dedicate their cash resources to multiply in viable investments and pay out dividends from the balance (Jensen, 1986). Interest and dividend payment reduces the FCF meant for the management of the business and this little is left for investment in profitable projects. From the company's perspective, the money acquired through firm operations greatly determines the dividend pay-out level of the firm as firms with positive operating cash flows easily pay dividends whereas those whose operating cash flows are negative experience challenges in dividend payments (Lintner, 1956).

Modern studies have revealed that dividend, project investments are interdependent or interact, in that case proposing that dividend policy decision, and proper decisions are at the same level (Abor, & Bopkin, 2010). This suggestion is more reinforced by the study done by Lintner (1956), underlining the significance of dividend pay-out. The dividend pay-out ratio measures the percentage of funds given as dividend to total net income of the firm. The study

will use this formula in calculation dividend pay-out ratio, as it is the most reasonable method as it depicts the percentage given out to the shareholders.

2.3.3 Firm Size

This refers to the scale of a business's operations (Ehikioya, 2009). There are mainly three company size measures, including total assets and market sales. According to Guest (2008), the named measures are common in empirical corporate fiscal study. Some characteristics of a firm, for instance, leverage, and firm size are related with firm value (Dogan, 2013). Amongst other attributes of a firm, Firm size is the one that is constantly perceived as related to firm value. Large firms are normally considered to have the capability of exploiting both the economies of scale and scope, ability to diversify and more so being greatly formalized in aspect of procedures. Because big firms have a larger capital resource compared to small firms, they can always grasp any profitable opportunity that may arise.

The Resource-Based View holds that large firms are endowed with more resources since their accessibility to funds in the financial market is a bit easier (Myers & Turnbull, 1977). Myers and Turnbull (1977) further state that different levels and age of the company both greatly influence a company's investment decisions. According to Lawrence (2004), the production capacity of a firm rises in proportion to increase in the size of the business leading to greater returns accrued from more investments. He established a proportion link between company size and performance. The link is however considered as insignificant in real estate, property, and construction industry due to weak associations.

2.3.4 Leverage

Leverage refers to attaching of funds for which a company pay a certain cost of greater return (Brealey, Myers & Allen, 2017). This refers to the ratio of net returns on equity of shareholders and the net rate on capitalisation (Dagbladet, 2006). The word „leverage“, is applied in finance. Leverage comes as a result of using capital from loans as a source of funding when engaging in any investments to diversify the firm's asset base. Leverage forms a strategy of using borrowed capital, particularly, the use of financial instruments, to improve the potential return on any investment. Leverage could also mean amount of debt applied by a company in financing assets (Vazquez & Federico, 2015).

Firms use financial leverage as a corporate financing means to raise both short term and long term funds. Financial leverage negatively influences a firm's investments decisions. Zwiebel (1996) and Myers (1977) study on financial leverage and the investment rate of a firm established a negative connection among financial leverage and the investment rate of the company. Highly geared firms have smaller reserves and will be constrained in borrowing to finance investments. Cantor (1990) found out that a firm with huge cash flows can accumulate huge reserves with ease which could be used to invest in a less profitable year. Highly leveraged firm's investments are delicate to cash flow, which is an indication of project variability as time goes. The association between the firm's debt and its capital expenditure decisions was examined by various authors including Myers (1977); Titman and Wessel (1988), Stulz (1990), Jensen (1986), Servaes (1995), Lang, Stulz and Ofek (1996), Aivazian et al., (2005), Ahn et al. (2006), Firth and Wong (2008), and Lee et al. (2008). All the studies show a negative performance among the rate of investment and financial leverage for a company with lesser growth chance in first world countries.

2.3.5 Liquidity

Liquidity means ability of a firm meets the needed obligations in an efficient manner. Liquidity is how easily a firm's assets can be easily converted to cash. This entails the capability of a company through its cash can be in a position to meet its current liabilities (Lawrence, 2004).

Excessive liquidity creates to creating of idle resources, which do not come up with any profits for the company unless employed to finance capital expenditure while reduced levels of liquidity damage goodwill, lower credit ratings that could also cause liquidation of company's assets. Every firm endeavour to maximize value through liquidity However, greater value in place of liquidity would create greater challenges to the company. Finally, a company should properly manage liquidity so as to create greater value (Vieira, 2010).

2.4 Empirical Studies

Several studies both locally and globally talk about the relationship among cash flows and capital expenditure. However, the studies have varying results while but some have either cash flows with different variables. Nguyena & Nguyena (2020) investigated the factors affecting a firms' capital expenditure. Data were collected from the firms listed on Ho Chi Minh Stock Exchange (HOSE) over the period of nine years, from 2010 to 2018. The study included the sample of 192 non-financial listed companies. Three statistical approaches were employed to address econometrics issues and to improve the accuracy of the regression coefficients: Random Effects Model (REM), Fixed Effects Model (FEM) and Generalized Method of Moments (GMM). The study findings revealed that free cash flows and firm size influenced positively capital expenditure. By contrast, other factors such as dividend, interest expenses, depreciation, and working capital had negative effects on capital expenditure.

Shenoy & (2019) investigated the market reaction to capital expenditure announcements in the New York Stock Exchange (NYSE), the backdrop being the Jensen's (1986) free cash flow hypothesis. The study's sample comprised of 351 firm announcements in the NYSE, which entailed, 255 announcements of capital expenditures increases and 96 announcements of capital expenditure decreases. The study findings were congruent to McConnell and Muscarella's (1985) original findings suggesting that announcement-period returns follow announced changes in capital spending. When the study estimated regressions similar to Lang Stulz and Walkling (1991), the study established evidence that there is a weak relationship between free cash-flow and capital expenditure.

Qandhari et al., (2016) studied on the relationship among FCF and expenditure within 27 millers listed in the Karachi Stock Exchange in the period from the year 2000 to 2011 and established a correlation between FCFs and capex. The research revealed FCF in the Pakistan sugar sector was applied for expenditure in other categories. The research also revealed FCFs could then be applied to give out dividends to shareholders of the company.

Sigeng (2016) identified the link between FCF and capital expenditure in 90 firms quoted in the Canadian Stock Exchange between year 2010 and 2015 and established a negative link between FCFs and expenditure. The Canadian quoted firms reduced their investments . The study revealed out that the Canadian economy was not doing well in year 2010 and 2015, and hence firms were not investing were able to engage in investments for the period.

Saffarizadeh (2014) conducted a research on the link among FCF and expenditure on German Automobile Sector in year 1994 to 2012. The study findings established that the relationship

between FCF and capital expenditure was negative and static based on level of the capital expenditure. The study also concluded that there is a negative link between FCF and capital expenditure existing among the automobile industry. The results were however not similar ones of Vogt (1997) who engaged 421 firms to find out the link among FCF and expenditure. The study concluded a strong and relevant link between the capital expenditure and the FCF operations.

Zurigat, Sarwati and Aleassa (2014) investigated the FCF notion within the Jordanian markets. Data was obtained from 102 non-financial firms within the Amman Stock Exchange (ASE) ensuring within the time for periods among 1998–2009. Panel and pooled data techniques were ensured for analysis. The research findings revealed that dividends and debt are not techniques to curb FCF agency costs in the Jordanian capital market. This contradicted the FCF theory. Further study findings established that low growth firms in the Jordanian market use debt larger than dividends.

Mabinda, Namusonge and Iravo (2017) investigated whether FCF determine investment decision making for firms at NSE. The study employed both primary and secondary data to analyse a population of 64 firms listed at NSE in the period 2010 to 2014. The study findings established that FCF has an impact on decisions of firms listed at the NSE pertaining to CAPEX.

Wahome (2017) analyzed the effect of FCF on investment by the insurance companies in Kenya. The study conducted a descriptive survey of all 62 insurance firms operating in Kenya. The study period ranged from the year 2012 to 2016, which translated to five years. Secondary quantitative data was obtained for the study and regression and correlation

analysis were the main statistical analysis methods employed in the study. The research findings revealed the existence of a positive significant effect of FCF on investment in the insurance industry.

Mundia (2016) conducted a study to investigate the association between FCFs and prices of firms listed at the NSE. The research narrowed down to finding out the link among levels of FCFs and prices which evaluate growth of securities of firms listed at the NSE. The population narrowed down on the 42 financial companies listed in the year 2011 to 2015. Data was acquired from annual reports and financial reports of listed companies in the Nairobi Security Exchange.

Kinyanjui (2014) conducted a study encompassing a five year period among 2009 and 2013 on the relationship among FCFs and firm projects of 30 companies listed at the NSE and found a significant correlation among FCFs and projects, that is, as period level of FCFs rise, the point of projects rise. The research revealed capital expenditure financed through the FCFs give out little returns for the firms. The results also reveal large growing of the firm is largely improved by FCF whereas lower dividends are problematic to the firm. The research also expounded the contribution of dividends to lower agency costs.

Muchiri (2014) analyzed the impact of cash flows on projects in assets for firms listed at the NSE. This is achieved through doing an analysis of the critical variables deemed to have an effect on projects and cash flows. The research included ten-year period in year 2003 and 2012. The secondary data on performance, and cash flows was indeed gotten from published audited reports of the companies. The results of the report argue that cash flows have a negative impact on investments. A firm's projects are likely to be influenced by cash flows if

young. The relationship does not hold for companies under commercial & services industry group, largely because the nature of business and operations for companies categorized under this industry group are unrelated.

Ojode (2014) explored the impact of FCF on the profitability of firms enlisted at the NSE. The study's objective was to determine the extent to which FCF affect the profitability of firms enlisted at the NSE. A descriptive survey was done to find out the effect of FCF on the listed companies' performance. All the 61 firms at the NSE listing as at June 2014 were included in after which then a sample of thirty firms was picked for the reasons of research. Secondary data was acquired from the financial statements and annual reports of the listed companies for a 5 year time frame (2009 –2013).The research established an inverse association between FCFs and firms' profitability at the NSE listing.

2.5 Conceptual Framework

Conceptual framework consists of dependent and explained variables. The independent variables in this research will be the indicators of cash flow, which entail; operating cash flows, investing cash flows, and financing cash flows. The dependent variable will be capital expenditure, while firm size will be the study's control variable.

Independent Variables: Cash-Flow Indicators

Dependent Variable

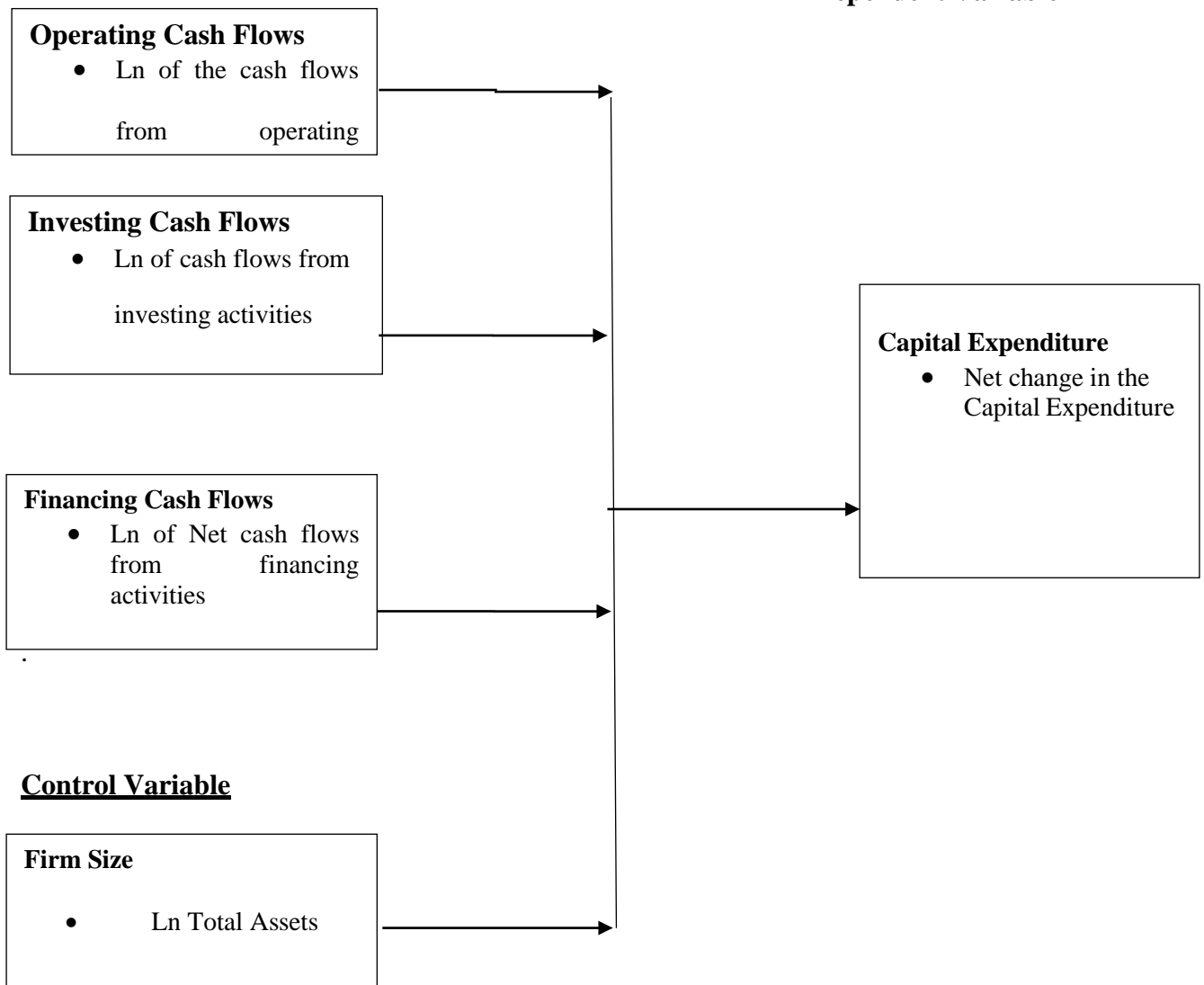


Figure 2.1: Conceptual Model

Vogt (1997) states that the greater cash flows a company has, the larger the profitability of capital expenditure projects and that cash flows impact on capital expenditure rises as firm size declines and when there is a reduction in ownership. The Resource-Based View holds that large firms are endowed with more resources since their accessibility to funds in the financial market is a bit easier (Myers & Turnbull, 1977). Myers and Turnbull (1977) further state that the investment level and age of the firm both greatly influence a company's investment decisions.

2.6 Summary of Research Gaps

It is apparent that study works have occurred on cash flows and CAPEX. Nevertheless, most studies did not narrow down on the components of cash flow, for instance, investing cash flows, and financing. This brings a conceptual gap. Firms target for the study have hence included financial entities, for instance, banks and insurance firms. This presents a contextual gap.

In Kenya, there are a few research studies done relating to FCFs and capital expenditure and their findings contradict. Kinyajui (2014) found a positive relationship among FCFs and projects. Muchiri (2014) argue that net cash flows have a negative effect on the capital investments. This presents a contextual gap.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains the research design, explaining the study design taken into consideration, population, and data collected to elaborate procedure for getting data, and data analysis techniques to be acquired.

3.2 Research Design

Creswell (2015), a research design means a description of how one is planning to conduct the study. The study subjects and the site of study are selected through the basis. It is a systematic plan to study a problem and it involves the actual execution and implementation of the research plans. The study used the descriptive research design in a bid to measure the data trends that exists in reference to the topic of study. According to Nassaji (2015) the descriptive method gives the researcher a way to compare and contrast the different types of data in order to ascertain the trends that exist therein. The study chose the descriptive research design since it could be used to describe different phenomenon and their characteristics. In addition, the data sets produced through the descriptive method help to summarize and support assertion of facts. The study was a formal study since it includes relevant theories and literature to provide it. This design involves various uses like means of analysis, the variables of the study, and data gathering techniques.

3.3 Target Population

The study employed all the 64 firms listed in NSE as the study population. This is because data from listed companies is readily available from their published financial statements and annual reports. This research sample was be selected based on the criteria that the companies should have been listed before the study period, should not have been suspended from the

Exchange for more than 1 year or delisted within the study period. This is to ensure that dataset for the entire study period is available.

3.4 Data Collection

This research implemented secondary information gathered from Nairobi Securities Exchange. The period of analysis was annual. Data on; net cash flows from operations, net cash flows from investment activities, net cash flows from financing activities, firm size, and capital expenditure was obtained from respective firm's financial reports at the end of reporting period.

3.5 Diagnostic Tests

Various assumptions are made so as to ensure the validity of the linear regression models. The assumption includes; No Multi-collinearity, random sampling of observation, zero conditional mean, linear regression model is "linear in parameters", spherical errors: no auto correlation and there is homoscedasticity and finally the optional assumption; normal distribution of error terms. The first five linear regression model assumptions, OLS Regression estimators as indicated by Gauss-Markov Theorem are the best linear non-biased estimators (Grewal et al., 2004). These assumptions are paramount when undertaking regression and violation of any of them would mean that the regression estimates are rendered unreliable and incorrect. Precisely violation would lead to incorrect meaning of the regression estimates of the variation of the estimate would be unreliable leading to confidence intervals which are extreme, either too wide or too narrow (Gall et al., 2006).

To guarantee that the assumptions are met such that the best linear unbiased estimators are available, the researcher ought to undertake diagnostic tests. Regression diagnostics evaluate

model assumptions and test whether or not there are interpretations with a large, unjustified impact. The data collected was subjected to diagnostic test such as autocorrelation, multicollinearity, linearity and normality so as to find it's appropriateness for conducting linear regression model. Shapiro-Wilk test was applied to test for normality, this is appropriate to test distributions of Gaussian nature that have a specified variance and mean. Linearity implies a direct proportional link between the dependent and independent variable, which follows a corresponding variance in the dependent variable. (Gall et al., 2006). To test for linearity, homoscedasticity was determined and was establish through the Breusch-Pagan Cook-Weisberg Test for Heteroscedasticity.

Variance Inflation Factors (VIF) was applied in testing for multicollinearity and they showed whether the predictor variables have a significant correlation on each other. Grewal *et al.* (2004) notes that the primary reason for existence of multicollinearity is having small sample sizes, low measure reliability and low explained variables in the independent variables. Durbin-Watson Statistic tested for existence of autocorrelation.

In addition, unit root testing was performed on the panel data to prevent false regression results. The purpose of unit root testing is to verify whether or not the macroeconomic variables under analysis have been integrated of order one (1, 1) before undertaking estimation procedure. Fisher-type unit root test was used. Hausman specification test was done in order to establish whether the applied variables have a fixed effect overtime or have changing and random effect over time. Variables have a random effect will be the null hypothesis while variable have a fixed effect will be the alternate hypothesis. The null hypothesis would therefore be rejected if the value of the meaning is less than α (0.05) and if the alpha value exceed 0.05 it will lead to rejection of the null hypothesis.

3.6 Data Analysis

In order to simplify the analysis, interpret and comprehend the data collected, it was arranged, tabulated, and simplified. Upon organizing the data, the panel data was analyzed through aid of statistical analysis software known as STATA Version 14. Multiple linear regression and correlation analysis were done. Correlation analysis was used to show whether and how strongly changes in cash flow and firm size are related to CAPEX while regression analysis was employed to determine the association amongst cash flow and firm size with CAPEX. The quantitative reports obtained from the investigation were presented using tabulations.

The research applied a significance level of 95%. The findings were set to be critical at the 0.05 level, which shows the critical value should be less than 0.05. This was tested using significance at 95% significance level.

3.6.1 The Model of Analysis

The research objectives were accomplished by undertaking multiple linear regression analysis, which examined whether the independent variables have any impact on capital expenditure. The statistical tests were undertaken at a significance level of 95%, which implies that the margin of error is up to 5%. The below model was applied;

$$Y_{i(t+1)} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon$$

Where:

$Y_{i(t+1)}$ = Capital Expenditure

α = Constant

$\beta_1 - \beta_4$ = Beta coefficients

X_{1it} = Cash Flow Operating

X_{2it} = Cash Flow Investing

X_{3it} = Cash Flow Financing

X_{4it} = Firm Size

ϵ = error term

Table 3.1: Operationalization of the Study Variables

Variable	Measurement
Capital Expenditure	Net change in capital expenditure (Griner & Gordon, 1995).
Operating net Cash Flows	Natural logarithm of net cash flows from operating activities (Torfasan, 2014).
Investing net Cash Flows	Natural logarithm of net cash flows from investing activities (Power & Needles, 2011).
Financing net Cash Flows	Natural logarithm of net cash flows from financing activities (Gentry et al., 1990).
Firm Size	Natural logarithm of average book value of entire assets of the firm (Dogan, 2013).

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

The present chapter focuses on the analysis of data, discussion, and interpretation of the results, which are all presented in the previous chapter. It is divided into three parts, which are as follows: diagnostic tests, inferential statistics, and the interpretation and discussion of findings.

4.2 Response Rate

This study had a population target of all 64 listed firms at the Nairobi Securities Exchange (NSE), as indicated in Appendix I. A census was done to investigate the listed firms. Nonetheless, two firms that merged in 2019, which included NIC Bank PLC and CBA Bank PLC, were analysed as separate entities and also Deacons PLC, which was delisted in 2018, was analysed. This was because the current study used unbalanced panel data analysis. The study therefore used data from 66 listed firms to perform the analysis.

4.3 Diagnostic Tests

To guarantee the Best Linear Unbiased Estimators, diagnostic tests were performed prior to performing linear regression (BLUE). Normality tests, homoscedacity tests, multicollinearity tests, autocorrelation tests were among the diagnostic tests used in this research. To determine normality of the distribution, Shapiro-Wilk test was used. Test of Breusch-Pagan was employed to determine while to establish multi-collinearity, tolerance and VIF were adopted. The Durbin-Watson d statistic was utilized in the study to test for autocorrelation. Additionally, the Fisher-type unit root test was used to conduct the unit root test, while the

Hausman test was also conducted to determine if regression of fixed or variable effects by the panel should be performed.

4.3.1 Normality Test

Table 4.1 emphasizes testing of normal distribution for the study variables.

Table 4.1: Normality Test

Variable	Obs	W	V	z	Prob>z
CapitalInv~t	281	0.7307	54.145	9.34	0
LnCashFlow~s	281	0.73129	54.027	9.335	0
LnCashFlow~v	278	0.75174	49.444	9.123	0
LnCashFlow~i	281	0.77156	45.931	8.955	0
FirmSize	281	0.97263	5.504	3.991	0.00003

The significance values for the capital investments, cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size variables are less than the α value (0.05) as indicated in Table 4.1. Therefore, the variables' data series are not normally distributed. Standardization is the cure for non-normal data. The data series of all variables were thus normalized as a means to correct distribution non-normality.

4.3.2 Homoscedasticity Test

Table 4.2 includes homoscedasticity tests of every independent variable used in the research.

The test is used to establish if all the residuals have a constant variance.

Table 4.2: Breusch-Pagan/Cook-Weisberg Test for Heteroscedasticity

Ho:	Constant variance		
	Variables: fitted values	of	CapitalInvestment
	chi2(1) = 23.13		
	Prob > chi2 = 0.0000		

The null hypothesis is that there is no homoscedasticity. The study employed a 5% significance levels. The study findings established significance value of (Prob > chi2= 0.0000), which is below the study critical value of ($\alpha=0.05$) leading to rejection of null hypothesis. Thus, all the predictor variable data series employed in the study are heteroscedastic. The current research used robust standard error which is an approach to heteroscedasticity of unbiased standard errors in OLS coefficients.

4.3.3 Test for Multicollinearity

In testing for multicollinearity, Variance Inflation Factors (VIF) were carried out and Table 4.3 below exhibits the findings.

Table 4.3: VIF Multicollinearity Statistics

Variable	VIF	1/VIF
LnCashFlow~v	1.25	0.798745
FirmSize	1.25	0.802665
LnCashFlow~s	1.08	0.926232
LnCashFlow~i	1.06	0.942712
Mean VIF	1.16	

In statistics, the general principle is that the VIF values ought to be more than 1 and less than 10. According to this study findings, the VIF values for all the independent variables applied are all greater than 1 and less than 10. This suggests that the independent variables applied in the study do not exhibit multicollinearity.

4.3.4 Tests for Autocorrelation

In autocorrelation testing amongst the predictor variables, the researcher used the Durbin Watson statistics. As per the findings the Durbin Watson d statistics is (5, 278) = 1.845281. Normally, the Durbin Watson statistics is between value 0 and 4. The value of 2 is revealed in instance where there is no autocorrelation. When the Durbin Watson value is between 0

and below 2, this means that positive autocorrelation exists whereas on the other hand a value more than 2 and less than 4 shows that there is negative autocorrelation. A general principle in statistic indicates that when the Durbin Watson statistic ranges between 1.5 to 2.5 it is regarded as relatively normal and value not ranging within there are value which are of concern (Shenoy & Sharma, 2015). However, Field (2009) states that values above 3 and below 1 are a clear reason to be concerned. Nonetheless, the panel data applied in the current study does not exhibit serial autocorrelation because the Durbin Watson d statistics obtained is meets the stated threshold.

4.3.5 Unit Root Test

Table 4.4 presents the unit root test findings, which was undertaken on the data series on capital investment.

Table 4.4: Unit Root Test for Capital Investment

Fisher-type unit-root test for LS.CapitalInvestment			
Based on augmented Dickey-Fuller tests			
Ho: All panels contain unit roots	Number of panels	=	57
Ha: At least one panel is stationary	Avg. number of periods	=	2.89
AR parameter: Panel-specific	Asymptotics: T -> Infinity		
Panel means: Included			
Time trend: Not included			
Drift term: Not included			
	ADF regressions: 0 lags		
	Statistic	p-value	
Inverse chi-squared(108) P	0.0000	1.0000	
Inverse normal Z	.	.	
Inverse logit t(4) L*	.	.	
Modified inv. chi-squared Pm	-7.3485	1.0000	

According to the null hypothesis, there is unit root in capital investment whereas the alternative hypothesis holds that there is stationarity of the variable. Because the significance values for the P and Pm tests are greater than the study critical value of ($\alpha=0.05$), thus, the

null hypothesis is not rejected implying that the data series has unit root. The variable data series was first differentiated as unit root remedy.

Table 4.5 exhibits the findings of the unit root test done on cash flow from operations.

Table 4.5: Unit Root Test for Cash Flow from Operations

Fisher-type unit-root test for LS.LnCashFlowsfromOperations			
Based on augmented Dickey-Fuller tests			
Ho: All panels contain unit roots	Number of panels	=	57
Ha: At least one panel is stationary	Avg. number of periods	=	2.89
AR parameter: Panel-specific	Asymptotics: T -> Infinity		
Panel means: Included			
Time trend: Not included			
Drift term: Not included			
ADF regressions: 0 lags			
	Statistic	p-value	
Inverse chi-squared(108) P	0.0000	1.0000	
Inverse normal Z	.	.	
Inverse logit t(4) L*	.	.	
Modified inv. chi-squared Pm	-7.3485	1.0000	

According to the null hypothesis, there is unit root in cash flows from operations whereas the alternative hypothesis holds that there is stationarity of the variable. Because all the significance value for the P and Pm tests are greater than the study critical value of ($\alpha=0.05$), thus, the null hypothesis is not rejected implying that the data series has unit root. The variable data series was first differentiated as unit root remedy.

Table 4.6 exhibits the findings of the unit root test done on cash flows from investing activities. According to the null hypothesis, there is unit root in cash flows from investing activities whereas the alternative hypothesis holds that there is stationarity of the variable. Because all the significance value for the P and Pm tests are greater than the study critical

value of ($\alpha=0.05$), thus, the null hypothesis is not rejected implying that the data series has unit root. The variable data series was first differentiated as unit root remedy.

Table 4.6: Unit Root Test for Cash Flow from Investment Activities

Fisher-type unit-root test for LS.LnCashFlowfromInvestingActiv

Based on augmented Dickey-Fuller tests

Ho: All panels contain unit roots	Number of panels	=	57
Ha: At least one panel is stationary	Avg. number of periods	=	2.84
AR parameter: Panel-specific	Asymptotics: T -> Infinity		

Panel means: Included
Time trend: Not included
Drift term: Not included ADF regressions: 0 lags

Statistic	p-value		
Inverse chi-squared(104) P	0.0000	1.0000	
Inverse normal Z	.	.	
Inverse logit t(4) L*	.	.	
Modified inv. chi-squared Pm	-7.2111	1.0000	

Table 4.7 exhibits the findings of the unit root test done on cash flows from financing activities.

Table 4.7: Unit Root Test for Cash Flows from Financing Activities

Fisher-type unit-root test for LS.LnCashFlowsfromFinancingActi

Based on augmented Dickey-Fuller tests

Ho: All panels contain unit roots	Number of panels	=	57
Ha: At least one panel is stationary	Avg. number of periods	=	2.89
AR parameter: Panel-specific	Asymptotics: T -> Infinity		

Panel means: Included
Time trend: Not included
Drift term: Not included ADF regressions: 0 lags

	Statistic	p-value	
Inverse chi-squared(108) P	0.0000	1.0000	
Inverse normal Z	.	.	
Inverse logit t(4) L*	.	.	
Modified inv. chi-squared Pm	-7.3485	1.0000	

According to the null hypothesis, there is unit root in cash flows from financing activities whereas the alternative hypothesis holds that there is stationarity of the variable. Because all the significance value for the P and Pm tests are greater than the study critical value of ($\alpha=0.05$), thus, the null hypothesis is not rejected implying that the data series has unit root. The variable data series was first differentiated as unit root remedy.

Table 4.8 exhibits the findings of the unit root test done on firm value.

Table 4.8: Unit Root Test for Firm Value

Fisher-type unit-root test for LS.FirmSize			
Based on augmented Dickey-Fuller tests			
Ho: All panels contain unit roots		Number of panels	= 57
Ha: At least one panel is stationary		Avg. number of periods	= 2.89
AR parameter: Panel-specific		Asymptotics: T -> Infinity	
Panel means: Included			
Time trend: Not included			
Drift term: Not included			
		Statistic	p-value
Inverse chi-squared(108)	P	0.0000	1.0000
Inverse normal	Z	.	.
Inverse logit t(4)	L*	.	.
Modified inv. chi-squared	Pm	-7.3485	1.0000

According to the null hypothesis, there is unit root in firm size whereas the alternative hypothesis holds that there is stationarity of the variable. Because all the significance value for the P and Pm tests are greater than the study critical value of ($\alpha=0.05$), thus, the null hypothesis is not rejected implying that the data series has unit root. The variable data series was first differentiated as unit root remedy.

4.3.6 Test for Random and Fixed Effects

In determining if the variables had a fixed effect or a random and changing effect overtime, the researcher undertook the Hausman test. Table 4.9 presents the findings on the Hausman test of specification.

Table 4.9: Hausman Test of Specification

	---- Coefficients ----			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
LnCashFlow~s	-0.00187	-0.00074	-0.00113	0.000421
LnCashFlow~v	0.007854	0.008071	-0.00022	0.000533
LnCashFlow~i	0.000436	0.001119	-0.00068	.
FirmSize	0.293134	-0.00471	0.297847	0.041476

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

```

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
          =          39.67
Prob>chi2 =          0.0000
(V_b-V_B is not positive definite)

```

In this test the null hypothesis was that the variables have random effect whereas the variables have fixed effect was the alternative hypothesis. The null hypothesis would be rejected if the significance value produced is below the alpha value ($\alpha=0.05$) whereas on the contrast it would not be rejected when the significance value is greater the alpha value ($\alpha=0.05$). If the statistics of the Hausman chi-square tests are negative the alternative hypothesis taken since the p value equals asymptotically 1. As indicated by the findings (Prob>chi2=0.0000), the variables have a fixed effect and a fixed effect panel model will be

applied. This is a result of the significance value being less than the alpha value ($\alpha=0.05$), which lead to the null hypothesis being rejected.

4.4 Inferential Statistics

The researcher did the inferential statistics with the aim of establishing the association, direction, and strength of the relationship amongst the independent and control variables utilized in the study on the financial performance. The inferential statistics undertaken consisted of correlation analysis and multiple linear regression analysis.

4.4.1 Correlation Analysis

Correlation analysis indicates the relationship that exist between two variables. The association varies from strong negative correlation to perfect positive correlation. The researcher employed the Pearson correlation analysis to establish the association of the independent and control variables utilized in the study on the financial performance of commercial banks. The study was applied at 95% confidence level and a two tail test was used.

Table 4.10: Correlation Analysis

	Capita~t	LnCash~s	LnCash~v	LnCash~i	FirmSize
CapitalInv~t	1.0000				
LnCashFlow~s	0.0833 0.1639	1.0000			
LnCashFlow~v	0.5626 0.0000	0.2324 0.0001	1.0000		
LnCashFlow~i	0.2058 0.0005	0.0529 0.3770	0.1881 0.0017	1.0000	
FirmSize	0.1719 0.0038	0.2181 0.0002	0.4158 0.0000	0.2005 0.0007	1.0000

As shown in table 4.10, with significance level at 5%, cash flows from investing activities, cash flows from financing activities, and firm size have a significant correlation with capital investment. This is because their significance values are less than the study's critical value ($\alpha=0.05$). They all have a positive significant relationship with capital investment. However, the study findings established that cash flows from operating activities do not have a significant correlation with capital investment at the 5% significance level. This is because its significance value is greater than the study's critical value ($\alpha=0.05$).

4.3.2 Multiple Linear Regression

The effect of cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size on firm value was established through the fixed effect panel multiple regression analysis which was undertaken at the significance level of 5%. The researcher compared the significance value shown in the ANOVA model with those got from the study. The significance values obtained for the model coefficients were also compared to the significance value of 0.05. Table 4.11 exhibits the findings.

Prior to carrying out the multiple linear regression analysis, the variables had to be modified as the normality, homoscedasticity, and stationarity criteria were not met. Since all the variables used in the current study did not meet the normality condition, they were standardised in order to correct the non-normality. The "robust standard errors" approach for identifying unbiased standard errors in OLS coefficients during heteroscedasticity was used because of the data series of predictors used during the current study showing heteroscedasticity. Finally, the data series of all the variables was first differentiated as unit root remedy.

Table 4.11: Fixed Effects Panel Multiple Linear Regression

```

Fixed-effects (within) regression      Number of obs      =      218
Group variable: Number                Number of groups   =      58

R-sq:  within = 0.5956                Obs per group:  min =      1
      between = 0.5612                avg =      3.8
      overall = 0.4580                max =      4

                                          F(4,57)            =      21.84
corr(u_i, Xb) = -0.6259                Prob > F            =      0.0000

```

(Std. Err. adjusted for 58 clusters in Number)

	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
dzCapInv					
dzLnCashFl~r	-.0464828	.1009095	-0.46	0.647	-.2485507 .155585
dzCashF~vAct	.2195827	.06187	3.55	0.001	.0956901 .3434753
dzCashF~nAct	-.0364516	.0395759	-0.92	0.361	-.115701 .0427977
dzFirmSize	14.6299	3.561996	4.11	0.000	7.497123 21.76267
_cons	-.1514106	.0357255	-4.24	0.000	-.2229497 -.0798714
sigma_u	.70123531				
sigma_e	.95139737				
rho	.35201891	(fraction of variance due to u_i)			

The R^2 indicates that the variations in the dependent variable (capital investment) which emanates from the changes in the independent variables. The overall R^2 value from the findings is 0.4580 which implies that 45.8% of capital investment changes are as a result of changes in the model entailing; operations, cash flows from investing activities, cash flows from financing activities, and firm size. This implied that other variables which are not incorporated in the model are attributable to the 54.2% of the changes in firm value.

Table 4.11 further illustrates that the model consisting of operations, cash flows from investing activities, cash flows from financing activities, and firm size does significantly predict capital investment. This is because the significance value obtained for the model (Prob> F=0.0000) is less than the study critical value ($\alpha=0.05$).

The results in Table 4.11 finally demonstrate that cash flows from investing activities and firm size individually have a significant relationship with firm value. This is because their respective significance levels are less than the study critical value ($\alpha=0.05$). They all have a positive significant relationship with capital investment. The study findings however exhibited that cash flows from operations and cash flows from financing activities do not have a significant relationship with capital investment. This is because their respective significance levels are greater than the study critical value ($\alpha=0.05$). Consequently, the following model was developed for the study;

$$Y = -0.1514106 + 0.2195827X_1 + 14.6299X_2$$

Where;

Y = Capital Investment

X₁ = Cash Flows from Investment Activities

X₂ = Firm Size

The y intercept obtained in the model of -0.1514106 implies that in the absence of cash flows from financing activities and when bank size is equal to zero, capital investment would be equal to -0.1514106 units. The beta coefficient of cash flows from investment activities that had a value of 0.2195827 indicates that when cash flows from investment activities increases by 1%, capital investment increases by 0.2195827%. Subsequently, the beta coefficient of firm size that had a value of 14.6299 indicates that when firm size increases by 1%, capital investment increases by 14.6299%.

4.4 Interpretation and Discussion of Findings

This study aimed at finding the effect of cash flow on capital expenditure of firms listed at the Nairobi Securities Exchange. It also aimed at unravelling the impact of cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size on the capital investment of firms listed at the Nairobi Securities Exchange.

The study findings established that with significance level at 5%, cash flows from investing activities, cash flows from financing activities, and firm size have a significant correlation with capital investment. They all have a positive significant relationship with capital investment. However, the study findings established that cash flows from operating activities do not have a significant correlation with capital investment at the 5% significance level.

Further study findings established that the model entailing; cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size explains capital investment to a very great extent with a coefficient of determination value of 45.8%. Additional study findings were that that the model consisting of cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size significantly predicts capital investment. Final study findings were cash flows from investing activities and firm size individually have a significant relationship with firm value, they all have a positive significant relationship with capital investment but however cash flows from operations and cash flows from financing activities do not have a significant relationship with capital investment.

Modigliani and Miller (1958) opined that cash flow does not influence investment spending. The Modigliani and Miller irrelevance theory states that a companies' investment is not

correlated to its internally generated retained earnings. Additionally, Shenoy (2019) established evidence that there is a weak relationship between free cash-flow and capital expenditure. The current study finding that cash flows significantly impact on capital investment contradict these assertions. However, Mairesse, Hall, and Mulkey (1999) and Carpenter and Guariglia (2008) opined that cashflows are critical determinants of any fixed investments. This corroborates the current study finding.

Cash flows have a positive impact on CAPEX (Saffarizadeh, 2014; Lukam, 2011). Conversely, studies by Firth, Malatesta, Xin, and Xu (2012) conducted using Chinese firms brought a new discovery a negative association among cash flows and CAPEX at low levels of cash flow but positive relationship for greater levels of net cash flow. The current study finding that cash flows significantly impact on capital investment confirms these assertions.

Vogt (1997) states that with greater cash flows, company has the greater the profitability of capital expenditure projects and that cash flows impact on capital expenditure rises as firm size declines. The firms' value is maximized through investment, which motivates the company's shareholders. The current study finding that cash flows and firm size significantly impact on capital investment confirms these assertions.

Kaplan and Zingales (1997; 2000) found out that a U-shaped relationship involving businesses which are less financially constrained showed greater cash flow-CAPEX link that are financially declined. Povel and Raith (2007) and Firth, Malatesta, Xin, and Xu (2012) also found out the U-shaped relationship when their research ensured existence of an unstable relationship within cash flow and CAPEX at reduced cash flow levels and positive at high levels of cash flow. Kinyanjui (2014) who sought to find out the linkage among FCF and

projects of companies listed at the NSE. The regression model outcome of the study established that cash flows have a positive influence on net capital expenditure. The current study finding that cash flows significantly impact on capital investment confirms these assertions.

The Resource-Based View theory holds that large firms are endowed with more resources since their accessibility to funds in the financial market is a bit easier (Myers & Turnbull, 1977). The study finding that firm size has a significant positive relationship with capital investment is in tandem to the theory. Nguyena & Nguyena (2020) investigated the factors affecting a firms' capital expenditure. Data were collected from the firms listed on Ho Chi Minh Stock Exchange (HOSE). The study findings revealed that free cash flows and firm size influenced positively capital expenditure. The current study finding that cash flows and firm size significantly impact on capital investment confirms these findings.

Qandhari et al., (2016) studied on the relationship among FCF and expenditure within 27 millers listed in the Karachi Stock Exchange and established a correlation between FCFs and capex. Sigeng (2016) identified the link between FCF and capital expenditure in 90 firms quoted in the Canadian Stock Exchange and established a negative link between FCFs and expenditure. Saffarizadeh (2014) conducted a research on the link among FCF and expenditure on German Automobile Sector. The study findings established that the relationship between FCF and capital expenditure was negative and static based on level of the capital expenditure. Vogt (1997) engaged 421 firms to find out the link among FCF and expenditure and the study concluded a strong and relevant link between the capital expenditure and the FCF operations. The current study finding that cash flows significantly impact on capital investment confirms these study findings.

Mabinda, Namusonge and Iravo (2017) investigated whether FCF determine investment decision making for firms at NSE. The study findings established that FCF has an impact on decisions of firms listed at the NSE pertaining to CAPEX. Wahome (2017) analyzed the effect of FCF on investment by the insurance companies in Kenya. The research findings revealed the existence of a positive significant effect of FCF on investment in the insurance industry. Muchiri (2014) analyzed the impact of cash flows on projects in assets for firms listed at the NSE. The results of the report argue that cash flows have a negative impact on investments. The current study finding that cash flows significantly impact on capital investment confirms these study findings.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

The overview of the research results, as well as conclusions and suggestions for policymakers and practitioners, are all included in this section. In addition, the study limitations and recommendations for further research are discussed.

5.2 Summary

The main goal of the current study was to determine the effect of cash flow on capital expenditure of firms listed at the Nairobi Securities Exchange. It also aimed at unravelling the impact of cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size on the capital investment of firms listed at the Nairobi Securities Exchange. The analysis of the data collected and the interpretation of the results were therefore carried out in accordance with the stated general and specific goals.

Multiple linear regression and correlation analysis were comprehensively used to achieve the study objectives. The examination of the correlation used in the research found out that 5%, cash flows from investing activities, cash flows from financing activities, and firm size have a significant correlation with capital investment. However, the study findings established that cash flows from operating activities do not have a significant correlation with capital investment at the 5% significance level.

The multiple linear regression revealed that the model entailing the model entailing; cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size explains capital investment to a very great extent with a coefficient

of determination value of 45.8%. Additional study findings were that that the model consisting of cash flows from operations, cash flows from investing activities, cash flows from financing activities, and firm size significantly predicts capital investment. Final study findings were cash flows from investing activities and firm size individually have a significant relationship with firm value, they all have a positive significant relationship with capital investment but however cash flows from operations and cash flows from financing activities do not have a significant relationship with capital investment.

5.3 Conclusion

This section contains the research's conclusion. The conclusion is written in accordance with the study's overarching objective. The study's broad objective was to determine the effect of cash flow on capital expenditure of firms listed at the Nairobi Securities Exchange. The study concluded that cash flow significantly impacts on capital expenditure. The study also sought to determine the effect of cash flow from operations, cash flows from investing activities, cash flows from financing activities, and firm size on the capital investment of firms listed at the Nairobi Securities Exchange. The study concluded that cash flows from investing activities and firm size both a significant positive association and relationship with capital investment. The study also concluded that cash flow from operations neither has a significant association nor relationship with capital investment. The final study finding was that cash flows from financing activities and capital investment have a positive significant association but do not have a significant relationship.

5.4 Recommendations

Those who will conduct future research in the area of finance will benefit from the results of this study in regards to cash flows and capital investment. Subsequent researchers interested

in cash flows and capital investment will use the study results as a reference. The study will bring about capital investment and firm value. Similarly, the work will provide resourceful material for future scholars and researcher interested in the subject of cash flows and capital investment.

Policy recommendations are made to the government officials and policy formulators in the financial sector, mainly the regulator, the Capital Markets Authority (CMA), and the Treasury, that since it has been established that cash flows have a significant influence on capital investment, the policy makers should focus on cash flows when endeavouring to boost firm value by increasing capital investments in order to spur the development of capital markets. The study findings that cash flows from investing activities and firm size both a significant positive association and relationship with capital investment and cash flows from financing activities has a significant positive association with capital investment generates recommendations to policy makers to majorly focus on cash flows apart from cash flows from operations and firm size when intending to augment capital investment. The research project findings will serve as a road-map for key government bodies and authorities as they develop policies and procedures to strengthen the financial sector. The current study findings will provide empirical findings to the government and other relevant agency to help guide the formulation and implementation of relevant policies and regulation.

The finding of the study that cash flows have a significant influence on capital investment generates recommendations to the financial analysts to estimate market capitalization, and by extension, securities value, by using cash flows, and in extension, firm size. Henceforth, this study will offer them immeasurable insights, which will help them when advising their clients. The study findings that cash flows from investing activities and firm size both a

significant positive association and relationship with capital investment and cash flows from financing activities has a significant positive association with capital investment generates recommendations to consultants and listed firms practitioners to mainly focus on cash flows apart from cash flows from operations and firm size to time strategies like securities exchange listings, rights issues, and dividend pay-outs.

5.5 Recommendations for Further Study

To explore the impact of cash flows on capital investment is very important for financial sector policy makers, mainly regulators such as the Capital Markets Authority (CMA), and as well as National Treasury, practitioners in the capital markets, financial analysts, managers of listed firms, and consultants.

However, the current study has been performed in the context of capital markets; the same study might be repeated on other market segments and also across various sectors of the economy to see if the current study results were contained. The present research has been performed solely in Kenya, additional investigations may be carried out in Kenya, in African or global settings to determine if current results of the studies are conveyed.

The present research has solely included the CEO quality aspects that included; education, CEO work experience, and CEO tenure. Further research can be done when including other aspects of CEO qualities. Additionally, leverage was solely utilized as the study's control variable. A research may be carried out to see if there are other variables that moderate, intervene, or mediate the connection between CEO qualities and firm value.

This study has only utilized secondary data, the study can be followed by studies using primary data. This may either compliment or criticize the current study findings. The statistical analytical techniques of the present research were multiple linear regressions and correlation analyses. Additional methodologies for statistical analysis, for instance; descriptive statistics, cluster analyses, discriminant analysis, granger causality, components analysis, among other methodologies, can be incorporated in further studies.

5.6 Limitations of the Study

The present research was a formal study and it applied the deductive research approach for the reason that it was guided by pertinent literature and theories to further test the theories and empirical literature findings. Employing theories and previous empirical literature assists in laying the groundwork for comprehending the research issue being investigated. However, there was absence of previous researches on the effect of government bond yields on the equity market segment performance. The research was carried out solely in the Kenyan capital markets sector in view of time and financial limitations, which does not clearly demonstrate the present outcome if other sectors of economy are taken into consideration. In addition, there would be more uncertainty if comparable research were repeated in other nations.

Although the research engaged secondary sources of data, there were some major challenges like some of the data being not readily available; especially data on collateral and it took great lengths and costs to obtain it. The data was not utilized in their raw form and further calculations and manipulations of the data were required. Impending delays were experienced due to data processing and further editing before the compilation by the researcher.

REFERENCES

- Abor, J. & Bokpin, G. (2010). Investment opportunities, corporate finance, and dividend payout policy: Evidence from emerging markets. *Studies in Economics and Finance*, 27: 180-194.
- Ahn, S., Denis, D. J. & Denis, D. K. (2006). *Leverage and investment in diversified firms*. *J. Financ. Econ.*, 79: 317-337.
- Aivazian, V. A., Ge, Y. & Qiu, J. (2005). Debt maturity structure and firm investment. *Financ. Manag.*, 34: 107-119.
- Anyanzwa, J. (2015). *Listed firms turn to debt financing to raise capital*. East African Business Daily, 11-12.
- Baker, M. (2009). *Capital market-driven corporate finance*. *Annual Review of Financial Economics*, 1: 181-205.
- Barbi, M. (2012). On the risk-neutral value of debt tax shields. *Applied Financial Economics*, 22(3): 251–258.
- Bhundia, A. (2012). A comparative study between free cash flows and earnings management. *Business Intelligence Journal*, 5: 1-4.
- Bodie, Z., Kane, A. & Marcus, A. (2004). *Essentials of investments*. SERBIULA (Sistema Librum 2.0).
- Boehlje, C. & Ehmke, M. (1986). *A methodology and model for assessing entrepreneurial ventures*. Paper Presented at the Annual Meetings of the International Food and Agribusiness Management Association.
- Brealey, R. A., Myers, S. C. & Allen, F. (2017). *Principles of corporate finance*. Oxford University Press, New York.
- Buus, T. (2012). *A general free cash flow theory of capital structure*. University of Economics Prague, Czech Republic.
- Cantor, R. (1990). Effects of leverage on corporate investment and hiring decisions. *FRBNY Quarterly Review*, Summer(1990): 31-41.
- Carpenter, R. & Guariglia, A. (2008). Cash flow, investment, and investment opportunities: New tests using UK panel data. *Journal of Banking & Finance*, 32(9): 1894-1906
- Christy, G. C. (2009). *Free cash flow: Seeing through the accounting fog machine to find great stocks*. Wiley Online Library.
- CMA, (2016). CMA annual report. http://www.cma.or.ke/index.php?option=com_content.
- Dechow, P. & Ge, W. (2006). The persistence of earnings and cash flows and the role of special items: Implications for the accrual anomaly. *Review of Accounting Studies*, 11: 253-296.
- Denis, D., Denis, D., & Sarin, A. (1994). The Information Content of Dividend Changes: Cash Flow Signaling, Overinvestment, and Dividend Clienteles. *The Journal of Financial and Quantitative Analysis*, 29(4): 567-587.
- Dogan, M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, 4(4), 53-59.
- Donaldson, G. (1961). *Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity*. Boston: Division of Research, Harvard School of Business Administration.
- Ehikioya, B. I. (2009). Corporate governance structure and firm performance in developing economies: Evidence from Nigeria. *Corporate Governance*, 9(3): 231-243.
- Fama, E. F. & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *The Review of Financial Studies*, 15(1): 1–33.

- Fazzari, S., Hubbard, R., Petersen, B., Blinder, A. & Poterba, J. (1988). Financing Constraints and Corporate Investment. *Brookings Papers on Economic Activity*, 1988(1): 141-206.
- Fernández, P. (2004). The value of tax shields is NOT equal to the present value of tax shields. *Journal of Financial Economics*, 73: 145–165.
- Firth, M., Lin, C. & Wong, S. M. L (2008). Leverage and investment under a state-owned bank lending environment: Evidence from China. *Journal of Corporate Finance*, Elsevier, 14(5): 642-653.
- Firth, M., Malatesta, P., Xin, O. & Xu, L. (2012). Corporate investment, government control, and financing channels: Evidence from China's listed companies. *Journal of Corporate Finance*, 18(3): 433-450.
- Frank, M. Z. & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, 67(2): 217–248.
- Gall, M.D., Gall, J. P., & Borge, W. R. (2006). *Educational research: An introduction*. (8th Ed.), New York; Pearson.
- Gentry, J. A., Vaidyanathan, R. & Lee, H. W. (1990). A weighted cash conversion cycle. *Financial Management*, 19 (1): 90-99.
- Gitari, M. S. (2014). *The effect of cash flow on investments in fixed assets for companies listed at the Nairobi Securities Exchange. Unpublished Master in Business Administration Research Project, University of Nairobi.*
- Grewal, D., Levy, M., & Lehmann, D. (2004). Retail branding and customer loyalty: An overview. *Journal of Retailing* 80 (10): 101-116.
- Griner, E. H. & Gordon, L.A. (1995). Internal cash flow, insider ownership, and capital expenditures: A test of the pecking order and managerial hypotheses. *Journal of Business Finance & Accounting*, 22: 179-199.
- Guest, P. M. (2008). The impact of board size on firm performance: Evidence from the UK. *The European Journal of Finance*, 15(4): 385-404.
- Gutiérrez, G., & Philippon, T. (2016). Investmentless growth: An empirical investigation. *Brookings Papers on Economic Activity*, 89-169.
- Hann, R., Ogneva, M., & Ozbas, O. (2010). Corporate diversification and the cost of capital. *The Journal of Finance*, 68(5): 1961-1999.
- Helfert, E. R. (2001). *Financial analysis: Tools and techniques; Guide for managers*. McGraw-Hill.
- Jensen, M. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, 76(2), 323-329.
- Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4): 305-360,
- Jensen, P. E. (2006). *Trade, entry barriers, and home market effects*. Willey Online Library.
- Kaplan, S. N. & Zingales, L. (1997). Do investment-cash flow sensitivities provide useful measures of financing constraints? *Quarterly Journal of Economics*, 92(2): 169-216.
- Kaplan, S. N. & Zingales, L. (2000). Investment-Cash Flow Sensitivities are not Valid Measures of Financing Constraints. *Quarterly Journal of Economics*, 115(2): 707-712.
- Kew, J., Mettler, C., Walker, T. & Watson, A. (2006). *Accounting an introduction (2nd ed.)*. Oxford University Press.
- Kinyanjui, M. M. (2014). *The relationship between free cash flows and investments of firms quoted at the Nairobi Securities Exchange*. Unpublished Masters Thesis, University of Nairobi.

- Kinyanjui, M.M. (2014). *The relationship between free cash flow and investments of firms quoted at the Nairobi Securities Exchange. Unpublished Master of Science in Finance Research Project, University of Nairobi.*
- Kochhar, R. & Hitt, M. (1998). Research notes and communications linking corporate strategy to capital structure: Diversification strategy, type, and source of financing. *Academy of Strategic Management Journal*, 19: 601-610.
- Lang, L. H. P. & Litzenberger, R. H. (1989). Dividend announcements, cash flow signaling vs. free cash flow hypothesis? *Journal of Financial Economics*, 24: 181-191.
- Lang, L. Ofek, E. & Stulz, R. E. (1996). *Leverage, investment, and firm growth*. National Bureau of Economic Research, Working Paper 5165.
- Lawrence, D. (2006). The contributions of productivity, price changes and firm size to profitability. *Journal of Productivity Analysis*, 26: 1-13.
- Lee, J., Park, D. & Han, I. (2008). The effect of negative online consumer reviews on product attitude: An information processing view. *Electronic Commerce Research and Applications*, 7: 341-352.
- Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review*, 46(2): 97-113.
- Lukam, W. (2011). *The relationship between firms' free cash flow and investment: an imperical study on Malaysian public listed companies*. Unpublished Corporate MBA Thesis, UNIMAS.
- Mabinda, B., Namusonge, G.S. & Iravo M. (2018). *Portfolio income as a determinant of corporate investment decisions of firms listed on Nairobi Securities Exchange in Kenya. International Journal of Social Sciences and Information Technology*, 2(4): 82-93.
- Mairese, J. Hall, B. H. & Mulkay, B. (1999). Firm-level investment in France and the United States: An exploration of what we have learned in twenty years. National Bureau of Economic Research, Working Paper 5165.
- Matata, M. (1996). *Possible causes of poor investment in financial institution in Kenya. Unpublished Master in Business Administration Research Project, University of Nairobi.*
- McConnell, J. & Muscarella, C. (1985). Corporate capital expenditure decisions and the market value of the firm. *Journal of Financial Economics*, 14(3): 399 -422
- McConnell, J. & Muscarella, C. (1985). *Corporate capital expenditure decisions and the market value of the firm. Journal of Financial Economics*, 14; 399-422.
- Miller, M. & Modigliani, F. (1961). Dividend policy, growth and the valuation of shares. *Journal of Business*, 34: 411-33.
- Modigliani, F. & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *American Economic Review*, 48: 261-297.
- Muchiri, S. G. (2014). *The effect of cashflow on investments in fixed assets for companies listed at the Nairobi Securities Exchange*. Unpublished MBA Thesis, University of Nairobi.
- Mundia, W. (2016). *Relationship between free cash flow and stock prices of non-financial firms listed at the Nairobi Securities Exchange*. Unpublished MBA Thesis, University of Nairobi.
- Mundia, W. (2016). *Relationship between free cash flow and stock prices of non-financial firms listed at the Nairobi Securities Exchange. Unpublished Master in Business Administration Research Project, University of Nairobi.*
- Myers, S. C. & Turnbull, S. M. (1977) Capital budgeting and the Capital Asset Pricing Model: Good news and bad news. *The Journal of Finance*, 32: 321-333.

- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2): 147-175,
- Myers, S., & Majluf, N. (1984). Financing decisions when firms have investment information that investors do not. *Journal of Financial Economics*, (June): 187-220.
- Nguyena, H. A. & Nguyena, T. H. (2020). Determinants of firm's capital expenditure: Empirical evidence from Vietnam. *Management Science Letters*, 10: 943–952.
- Nohel, T. & Tarhan, V. (1998). Share repurchases and firm performance: New evidence on the agency costs of free cash flow. *Journal of Financial Economics*, 49(2): 187-222
- Nyoike, C.M., (2002). *Financing capital investments by quoted companies in Kenya. Unpublished Master in Business Administration Research Project, University of Nairobi.*
- Öberg, S. (2009). *Öberg: Sverige och finanskrisen*. Sveriges Riksbank
- Ojode, C. A. (2014). *Effect of free cash flow on profitability of firms listed on the Nairobi Securities Exchange*. Unpublished MBA Thesis, University of Nairobi.
- Povel, P. & Raith, M. (2007). The u-shaped investment curve: Theory and evidence. *Journal of Financial and Quantitative Analysis*, 42(1): 1-39.
- Powers, M. & Needles, B. E. (2011). *Financial accounting principles II edition*. Published by Cengage Learning.
- Preinreich, G. A. D. (1932). Stock yields, stock dividends and inflation. *Accounting Review*, 7(4): 237–289.
- Qandhari, S., Khan, M., & Rizvi, W. (2016). The relationship between cash flow and capital expenditure in the sugar industry of Pakistan. *Journal of Developing Areas*, 50(6): 341-353.
- Qi, H. (2010). Value and capacity of tax shields: An analysis of the slicing approach. *Journal of Banking and Finance*, 35(1): 166–173.
- Richardson, G. (2006). Determinants of tax evasion: A cross-country investigation. *Journal of International Accounting, Auditing and Taxation*, 15: 150-169.
- Rocco, T., & Plakhotnik, M., (2009). Literature reviews, conceptual frameworks and theoretical frameworks: Terms, functions and Distinctions. *Human Resource Development Review* 8(1), 120-130.
- Ruback, R. S. (2002). Capital cash flows: A simple approach to valuing risky cash flows. *Financial Management*, 31(2): 85–103.
- Saffarizadeh, N. (2014). *The relationship between cash flow and capital expenditure from the German automobile sector*. Unpublished Msc Finance Thesis, EMU
- Sage, G. H. (1937). Dividend Policy and Business Contingencies. *Harvard Business Review*, 15: 245-252.
- Servaes, H. (1995). Equity Ownership and Two Faces of Debt. *Journal of Financial Economics*, 39: 131-157.
- Shenoy, C. & Vafeas, N. (2019). *The free cash flow effects of capital expenditure announcements*. Unpublished Paper, School of Economics and Management, University of Cyprus, Nicosia, Cyprus.
- Shyam-Sunder, L., & Myers, S. (1999). Testing static trade-off against pecking order models of capital structure. *Journal of Financial Economics*, 51(2): 219-244.
- Singeng, D. (2016). *Testing the relationship between free cash flow and capital expenditure in Canadian listed companies*. Unpublished Msc Finance Thesis, Saint Marys“ University.
- Smith, D. (2011). *Dividend and dividend policy*. London: John Wiley & Sons.
- Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of financial Economics*, 26: 3-27.

- Svenska Dagbladet, 16 December 2006. Old Mutual offer for Skandia, measured by market capitalization.
- Talebi, M. (1996). Identifying the dimensions of liquidity management of companies. *Journal of Financial Studies*, 110 – 126.
- Titman, S. & Wessels, R. (1988). The determinants of capital structure choice. *The Journal of Finance*, XLIII(1): 1-19.
- Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money, Credit and Banking*, 1(1): 15-29.
- Torfason, A. (2014). *The difference between cash flows in banks and non-financial firms*. Nordic Accounting Conference - NORACC; Copenhagen.
- Vazquez, F. & Federico, P. (2015). Bank funding structures and risk: Evidence from the global financial crisis. *Journal of Banking & Finance*, 16(2): 44-67.
- Vieira, R. S. (2010). *The Relationship between liquidity and profitability: An exploratory study of airline companies between 2005 and 2008*. Unpublished MBA Project, UMEA University.
- Vogt, S. (1994). The cash flow/investment relationship: evidence from U.S.A manufacturing firms. *Financial Management*, 23(2): 3-20.
- Vogt, S. (1996). Accelerating inflation or rising unemployment: is there an Alternative? *Financial Management*, 47(2): 197-230.
- Vogt, S. (1997). Cash flow and Capital Spending: Evidence from capital expenditure announcements. *Financial Management*, 26(2): 44-57.
- Wahome, J.G. (2017). *The effect of free cash flow on investment by the insurance companies in Kenya*. Unpublished Master in Business Administration Research Project, University of Nairobi.
- Wang, G. Y. (2010). The impacts of free cash flows and agency costs on firm performance. *Journal of Service Science and Management*, 03(04): 408–418.
- Windsor, D. (2011). Shareholder wealth maximization. *Finance Ethics: Critical Issues in Theory and Practice*, (1): 435–455.
- Zurigat, Z. Sartawi, M. & Aleassa, H. (2014). Empirical investigation of free cash flow hypothesis: Evidence from Jordanian capital market. *International Business Research*, 7(3): 137-148.
- Zwiebel, J. (1996). Dynamic capital structure under managerial entrenchment. *The American Economic Review*, 86(5): 1197-1215.

APPENDICES

Appendix I: Companies Listed at the NSE as at 31st December 2020.

Agricultural	
Ticker	Company Name
EGAD	Eaagads Limited
KUKZ	Kakuzi Limited
KAPC	Kapchorua Tea Company Limited
LIMT	Limuru Tea Company Limited
SASN	Sasini Tea and Coffee
WTK	Williamson Tea Kenya Limited
Automobiles and Accessories	
Ticker	Company Name
G&G	Car & General Kenya
Banking	
Ticker	Company Name
BBK	Barclays Bank of Kenya
CFC	CfC Stanbic Holdings
DTK	Diamond Trust Bank Group
EQTY	Equity Group Holdings Limited
HFCK	Housing Finance Company of Kenya
I&M	I&M Holdings Limited
KCB	Kenya Commercial Bank Group
NBK	National Bank of Kenya
NIC	National Industrial Credit Bank
SCBK	Standard Chartered of Kenya
COOP	Cooperative Bank of Kenya
Commercial and Services	
Ticker	Company Name
XPRS	Express Kenya Limited
KQ	Kenya Airways
LKL	Longhorn Kenya Limited
EVRD	Eveready East Africa
SCAN	Scangroup
NMG	Nation Media Group
SGL	Standard Group Limited
FIRE	Sameer Africa Limited
TPSE	TPS Serena
UCHM	Uchumi Supermarkets

Construction and Allied	
Ticker	Company Name
ARM	ARM Cement Limited
BAMB	Bamburi Cement Limited
BERG	Crown-Berger (Kenya)
CABL	East African Cables Limited
PORT	East Africa Portland Cement Company
Energy and Petroleum	
Ticker	Company Name
KEGN	Kengen
KENO	KenolKobil
KPLC	Kenya Power and Lighting Company
TOTL	Total Kenya Limited
UMME	Umeme
Insurance Segment	
Ticker	Company Name
BRIT	British-American Investments Company
CIC	CIC Insurance Group
CFCI	Liberty Kenya Holdings Limited
JUB	Jubilee Holdings Limited
KNRE	Kenya Reinsurance Corporation
PAFR	Sanlam Kenya Plc
Investments	
Ticker	Company Name
ICDC	Centum Investment Company
OCH	Olympia Capital Holdings
HAFR	Home Afrika Ltd
TCL	TransCentury Investments
Investment Services	
Ticker	Company Name
NSE	Nairobi Securities Exchange
Manufacturing and Allied	
Ticker	Company Name
BOC	BOC Kenya Limited
BAT	British American Tobacco Limited
CARB	Carbacid Investments Limited
EABL	East African Breweries
EVRD	Eveready East Africa
ORCH	Kenya Orchards Limited
MSC	Mumias Sugar Company Limited
UNGA	Unga Group

Telecommunication and Technology	
Ticker	Company Name
SCOM	Safaricom

Source: Nairobi Securities Exchange Website (2020)

Appendix II: Data Collection Form

Firm Name						
	Year					
Data	2015	2016	2017	2018	2019	2020
Capital Expenditure						
Net Change in Capital Expenditure						
Net Cash Flows from Operating Activities						
Operating Cash Flows						
Net Cash Flows from Investing Activities						
Investing Cash Flows						
Net Cash Flows from Financing Activities						
Financing Cash Flows						
Total Assets						
Firm Size						

Appendix III: Research Data

Number	COMPANY	Year	Capital Investments	Δ Capital Investment	Cash Flows from Operations	Ln Cash Flows from Operations	Cash Flow from Investing Activities	Ln Cash Flow from Investing Activities	Cash Flows from Financing Activities	Ln Cash Flows from Financing Activities	Firm Size
1	Athi river mining	2017	42699067	-0.16373	-522891	-13.1671	-8359735	-15.9389	-10548885.4	-16.1715	17.56969
1	Athi river mining	2016	51058802	-0.05668	-1279015	-14.0616	-3067686	-14.9364	-10856976.3	-16.2003	17.74849
2	Bamburi	2020	49085000	-0.02526	3119000	14.95302	-1272000	-14.0561	-18978361.9	-16.7588	17.70906
2	Bamburi	2019	50357000	0.066818	2823000	14.85331	3154000	14.96418	-14367565.6	-16.4805	17.73465
2	Bamburi	2018	47203000	0.156624	4951000	15.4151	6392000	15.67056	10270185.5	16.14476	17.66997
2	Bamburi	2017	40811000	-0.029	3949000	15.18897	-1219000	-14.0135	-6776389.13	-15.729	17.52446
2	Bamburi	2016	42030000	0.004027	6267000	15.65081	168580	12.03517	68717851.13	18.04552	17.55389
3	Car & General	2020	11483744	0.128789	-286871	-12.5668	1310237	14.08572	1482153.886	14.20901	16.25644
3	Car & General	2019	10173507	0.097757	538632	13.19679	905963	13.71675	839060.654	13.64004	16.1353
3	Car & General	2018	9267544	-0.04509	592573	13.29223	-437654	-12.9892	-956746.848	-13.7713	16.04203
3	Car & General	2017	9705198	0.079789	-223219	-12.3159	717151	13.48304	-1566.35	-7.3565	16.08817
3	Car & General	2016	8988047	0.125749	404590	12.91063	1003987	13.81949	-446630.334	-13.0095	16.01141
4	Carbacid	2020	3503501	0.039234	411404	12.92733	132268	11.79259	-1847033.12	-14.4291	15.0692

											7
4	Carbacid	2019	3371233	0.019431	296691	12.60045	64259	11.07068	-858350.194	-13.6628	15.0307 9
4	Carbacid	2018	3306974	0.073077	326574	12.69641	225206	12.32477	-3138714.33	-14.9593	15.0115 4
4	Carbacid	2017	3081768	0.038077	374074	12.83221	113041	11.63551	-25922373.1	-17.0706	14.9410 1
4	Carbacid	2016	2968727	0.089593	560378	13.23637	244106	12.40536	-4276594.37	-15.2687	14.9036 4
5	Crown Berger	2020	5106474.911	-0.06743	-6333.79	-8.75365	-369218.1	-12.8191	-883572.362	-13.6917	15.4460 2
5	Crown Berger	2019	5475693	-0.06743	35352	10.47311	-395914	-12.889	334842	12.72141	15.5158 3
5	Crown Berger	2018	5871607	0.160619	-197317	-12.1926	812578	13.60797	3321956	15.01606	15.5856 4
5	Crown Berger	2017	5059029	0.114533	330312	12.70779	519881	13.16136	-1041892	-13.8565	15.4366 9
5	Crown Berger	2016	4539148	0.064465	339526	12.73531	274897	12.52415	633784	13.35946	15.3282 5
6	East Africa Cables	2020	6274877	-0.04979	87196	11.37591	-328783	-12.7032	-1012706.5	-13.8281	15.6520 6
6	East Africa Cables	2019	6603660	-0.06177	311276	12.64844	-434761	-12.9826	-748258.25	-13.5255	15.7031 3
6	East Africa Cables	2018	7038421	-0.06756	120868	11.70245	-509985	-13.1421	41059.5	10.62278	15.7668 9
6	East Africa Cables	2017	7548406	-0.09968	597029	13.29972	-835737	-13.6361	-1419190.25	-14.1656	15.8368 5
6	East Africa Cables	2016	8384143	-0.005	144628	11.88192	-42094	-10.6477	-67253	-11.1162	15.9418 5
7	E.A Portland	2020	52859296.27	0.390027	-1767222	-14.3849	14831776	16.51228	3514353.24 8	15.07237	17.7831 4
7	E.A Portland	2019	38027520	0.390027	-1000023	-13.8155	10670132	16.18296	1875070	14.44416	17.4538 2
7	E.A Portland	2018	27357388	-0.01741	-565886	-13.2461	-484732	-13.0914	886045	13.69452	17.1245

7	E.A Portland	2017	27842120	0.20463	358352	12.78927	4729538	15.36934	-1500129	-14.2211	17.1420 6
7	E.A Portland	2016	23112582	-0.17913	-397030	-12.8918	-5043732	-15.4337	-235798	-12.3707	16.9558 9
8	Eveready	2020	248526	-0.56685	-4469	-8.40492	-325242	-12.6923	-510606	-13.1434	12.4233
8	Eveready	2019	573768	-0.2574	-176611	-12.0817	-198884	-12.2005	-107524.967	-11.5855	13.2599 8
8	Eveready	2018	772652	-0.28644	-253632	-12.4436	-310154	-12.6448	-324155.366	-12.689	13.5575 8
8	Eveready	2017	1082806	-0.2837	-107475	-11.585	-428859	-12.9689	64583.5268 8	11.07571	13.8950 7
8	Eveready	2016	1511665	-0.0323	1196	7.086738	-50464	-10.829	42604.8064 5	10.65972	14.2287 2
9	Kakuzi	2020	4653593	-0.2167	785578	13.57418	-1287449	-14.0682	2680837.97	14.80164	15.3531 5
9	Kakuzi	2019	5941042	0.033921	361190	12.79716	194916	12.18032	-524923.981	-13.171	15.5974
9	Kakuzi	2018	5746126	0.134608	923574	13.73601	681712	13.43236	597933.98	13.30124	15.5640 4
9	Kakuzi	2017	5064414	0.674127	701637	13.46117	2039306	14.52812	-49952.992	-10.8188	15.4377 5
9	Kakuzi	2016	3025108	0.013703	873775	13.68058	40893	10.61871	178884.683	12.0945	14.9224 6
10	Kengen	2020	381994696.7	0.006964	23225377	16.96076	2641691.7	14.78693	-12974034	-16.3785	19.7609 2
10	Kengen	2019	379353005	0.006964	17509821	16.67827	2623423	14.77999	-14865798.6	-16.5146	19.7539 8
10	Kengen	2018	376729582	0.027243	13200812	16.39579	9991216	16.11722	19709382.0 8	16.79661	19.7470 4
10	Kengen	2017	366738366	0.070706	29256013	17.1916	24218366	17.00262	33091751.5 8	17.31479	19.7201 6
10	Kengen	2016	342520000	0.04958	12525691	16.34329	16180000	16.59929	27046736.3 4	17.11308	19.6518 4
11	Kenolkobil	2018	23996790.6	-0.00424	338296.7	12.73168	-102239.4	-11.5351	6825555.38 1	15.73618	16.9934 3

11	Kenolkobil	2017	24099030	-0.00424	-921527	-13.7338	-102675	-11.5393	-2735702.08	-14.8219	16.9976 8
11	Kenolkobil	2016	24201705	-0.01488	2510258	14.7359	-365506	-12.809	-468909.12	-13.0582	17.0019 3
12	KPLC	2020	381994696.7	0.134676	28831709	17.17699	45339508	17.62969	2163449.27 1	14.58721	19.7609 2
12	KPLC	2019	336655189	0.01636	28086126	17.15079	5418957	15.50541	-5270694.24	-15.4777	19.6345 7
12	KPLC	2018	331236232	0.143839	27359824	17.12459	41653435	17.54489	39553192.6 9	17.49316	19.6183 4
12	KPLC	2017	289582797	0.051143	25677042	17.06111	14089647	16.46095	28317865.4 2	17.159	19.4839 5
12	KPLC	2016	275493150	0.049663	27610077	17.13369	13034405	16.3831	9324233.99 4	16.04813	19.4340 7
13	KQ	2020	195673000	0.432096	15941000	16.5844	59039000	17.89371	34552267.0 5	17.35798	19.0919 6
13	KQ	2019	136634000	-0.07444	6383000	15.66915	-10989000	-16.2124	-25767710.6	-17.0646	18.7328 2
13	KQ	2018	147623000	-0.05178	5945000	15.59806	-8062000	-15.9027	16617100.1	16.62594	18.8101 7
13	KQ	2017	155685000	-0.14488	6362000	15.66585	-26378000	-17.088	3934645.58 3	15.18533	18.8633 5
13	KQ	2016	182063000	-0.068	1214000	14.00943	-13283000	-16.402	8715344.27 1	15.9806	19.0198 6
14	Safaricom	2020	242328000	0.447261	99811000	18.41879	74889000	18.13152	377212480. 4	19.74832	19.3058
14	Safaricom	2019	167439000	0.035575	91960000	18.33686	5752004	15.56506	-192973697	-19.0781	18.9361 3
14	Safaricom	2018	161686996	0.015734	79527138	18.19161	2504511	14.7336	316254714. 8	19.57206	18.9011 7
14	Safaricom	2017	159182485	0.014175	64603473	17.98378	2224859	14.6152	103948912. 8	18.45941	18.8855 6
14	Safaricom	2016	156957626	0.009788	61002564	17.92643	1521392	14.23514	699435454	20.36578	18.8714 9

15	Sameer	2020	1530847	-0.40844	128672	11.76502	-1056977	-13.8709	434920.709 2	12.98292	14.2413 3
15	Sameer	2019	2587824	-0.12864	-325058	-12.6918	-382044	-12.8533	61806.7266 5	11.03177	14.7663 3
15	Sameer	2018	2969868	-0.09754	560671	13.23689	-320999	-12.6792	-323659	-12.6874	14.9040 3
15	Sameer	2017	3290867	-0.12272	-592375	-13.2919	-460358	-13.0398	-67530.2733	-11.1203	15.0066 6
15	Sameer	2016	3751225	-0.02456	35048	10.46447	-94440	-11.4557	-32095.0263	-10.3765	15.1375 9
16	Sasini	2020	14674359	0.13216	-399655	-12.8984	1712979	14.35374	-532460.5	-13.1853	16.5016 1
16	Sasini	2019	12961380	-0.01778	324344	12.68956	-234645	-12.3658	-2431883.8	-14.7042	16.3774 8
16	Sasini	2018	13196025	-0.21538	-228572	-12.3396	-3622438	-15.1027	2484585.65	14.72562	16.3954 3
16	Sasini	2017	16818463	0.048237	428909	12.969	773936	13.55924	213501.575	12.2714	16.6379 9
16	Sasini	2016	16044527	0.018931	128142	11.76089	298091	12.60515	85120.025	11.35182	16.5908 8
17	Standard Group	2020	4195946	-0.10269	527633	13.17616	-480187	-13.0819	-106458.026	-11.5755	15.2496 3
17	Standard Group	2019	4676133	0.048546	288407	12.57213	216496	12.28533	-486552.56	-13.0951	15.3579 8
17	Standard Group	2018	4459637	0.012419	653225	13.38968	54706	10.90973	1942046.06 4	14.47925	15.3105 8
17	Standard Group	2017	4404931	0.011323	489326	13.10078	49317	10.80602	-1089119.79	-13.9009	15.2982 4
17	Standard Group	2016	4355614	0.014057	-112244	-11.6284	60380	11.00841	-67689.376	-11.1227	15.2869 8
18	Total Kenya	2020	37564704	-0.04315	-275121	-12.525	-1694217	-14.3427	-3410344	-15.0423	17.4415 8
18	Total Kenya	2019	39258921	0.0328	11763099	16.28048	1246806	14.0361	2516151.83 2	14.73824	17.4856 9

18	Total Kenya	2018	38012115	0.050483	381135	12.85091	1826743	14.41805	3850839.97 7	15.1638	17.4534 2
18	Total Kenya	2017	36185372	0.057278	3600991	15.09672	1960337	14.48863	-576135.073	-13.2641	17.4041 7
18	Total Kenya	2016	34225035	0.004686	7827491	15.87315	159623	11.98057	-1032148.14	-13.8472	17.3484 7
19	TransCentury	2020	14824651.38	-0.1106	-131779	-11.7889	-1843530	-14.4272	1017437.27 1	13.8328	16.5118
19	TransCentury	2019	16668181	-0.1106	-453874	-13.0256	-2072783	-14.5444	-24598.4363	-10.1104	16.6290 1
19	TransCentury	2018	18740964	-0.00902	-1563233	-14.2623	-170588	-12.047	4108826.76 4	15.22865	16.7462 2
19	TransCentury	2017	18911552	0	667051	13.41062	0	0	-3589171.09	-15.0934	16.7552 8
19	TransCentury	2016	18911552	0	-807144	-13.6013	0	0	-1957064.07	-14.487	16.7552 8
20	Uchumi	2020	3238324.842	-0.13493	-4100.02	-8.31875	-505088.2	-13.1325	544645.511 9	13.20789	14.9905 7
20	Uchumi	2019	3743413.09	-0.13493	21709.11	9.985487	-583867.9	-13.2774	-714621.607	-13.4795	15.1355 1
20	Uchumi	2018	4327281	-0.13493	-114947	-11.6522	-674935	-13.4224	855589.750 4	13.65955	15.2804 5
20	Uchumi	2017	5002216	-0.21999	608630	13.31897	-1410780	-14.1597	-1128765.31	-13.9366	15.4253 9
20	Uchumi	2016	6412996	-0.06681	-1202162	-13.9996	-459149	-13.0371	-203265.205	-12.2223	15.6738 4
21	Unga Group	2020	10646066	0.071824	708872	13.47143	713402	13.4778	234663.602 4	12.36591	16.1807
21	Unga Group	2019	9932664	0.050485	-236642	-12.3743	477348	13.076	-1053524.07	-13.8677	16.1113 4
21	Unga Group	2018	9455316	0.132162	1595319	14.28258	1103757	13.91423	2106009.42 5	14.56031	16.0620 9
21	Unga Group	2017	8351559	-0.03693	666294	13.40949	-320229	-12.6768	1350032.16 4	14.11564	15.9379 6

21	Unga Group	2016	8671788	-0.00478	505450	13.1332	-41634	-10.6367	1293009.34	14.07248	15.9755 9
22	Nation Media	2020	6633100	-0.40765	1448400	14.18597	-4564900	-15.3339	-4488926.29	-15.3171	15.7075 8
22	Nation Media	2019	11198000	-0.0108	575600	13.26317	-122300	-11.7142	-8781958.59	-15.9882	16.2312 5
22	Nation Media	2018	11320300	-0.07013	2184000	14.59667	-853800	-13.6575	4011872.57 8	15.20477	16.2421 1
22	Nation Media	2017	12174100	-0.04116	2152200	14.582	-522600	-13.1666	-18748944	-16.7466	16.3148 2
22	Nation Media	2016	12696700	-0.00295	2925500	14.88898	-37530	-10.5329	-1288888.37	-14.0693	16.3568 5
23	BOC Kenya	2020	1992637	-0.06962	2714	7.906179	-149110	-11.9124	-752852.559	-13.5316	14.5049 7
23	BOC Kenya	2019	2141747	-0.039	4053	8.307213	-86922	-11.3728	-650811.267	-13.386	14.5771 3
23	BOC Kenya	2018	2228669	0.002172	175540	12.07562	4831	8.482809	-276132.06	-12.5286	14.6169 2
23	BOC Kenya	2017	2223838	-0.04184	84602	11.34571	-97118	-11.4837	542886.925 8	13.20466	14.6147 5
23	BOC Kenya	2016	2320956	-0.04737	207104	12.24098	-115399	-11.6562	476989.828 6	13.07525	14.6574 9
24	EABL	2020	87065000	0.222019	22565803	16.93195	15818174	16.57667	-81211062.7	-18.2126	18.2821 7
24	EABL	2019	71246826	0.068697	13559342	16.42259	4579826	15.33717	-15304015.6	-16.5436	18.0816 6
24	EABL	2018	66667000	0.07968	13914471	16.44844	4920000	15.40882	10941360.6 8	16.20806	18.0152 2
24	EABL	2017	61747000	-0.07758	18577235	16.73745	-5193000	-15.4628	-25857988.8	-17.0681	17.9385 6
24	EABL	2016	66940000	-0.00719	18577235	16.73745	-485000	-13.0919	-7741229.38	-15.8621	18.0193 1
25	Eaagads Ltd	2020	942324	0.040213	30279	10.31821	36429	10.50312	-135828	-11.8191	13.7561
25	Eaagads Ltd	2019	905895	-0.01832	-286	-5.65599	-16907	-9.73548	-259981.683	-12.4684	13.7166

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25	Eaagads Ltd	2018	922802	0.212355	2.70141	0.993774	161637	11.99311	5020.72398 2	8.521329	13.7351 7
25	Eaagads Ltd	2017	761165	0.770423	-0.02552	3.668444	331231	12.71057	-123917.975	-11.7274	13.5426 1
25	Eaagads Ltd	2016	429934	0.057591	0.000241	-8.33066	23412	10.061	-7117.06655	-8.87025	12.9713 9
26	Williamson Tea	2020	8271918	-0.12974	1067216	13.88056	-1233156	-14.0251	-887056.72	-13.6957	15.9283 8
26	Williamson Tea	2019	9505074	0.13641	297904	12.60453	1140947	13.94737	230248.24	12.34691	16.0673 4
26	Williamson Tea	2018	8364127	-0.06351	-232741	-12.3577	-567268	-13.2486	-279943.16	-12.5423	15.9394 6
26	Williamson Tea	2017	8931395	0.043563	780593	13.56781	372837	12.8289	1677572.48	14.33286	16.0050 8
26	Williamson Tea	2016	8558558	0.048249	547852	13.21376	393935	12.88394	442470.44	13.00013	15.9624 4
27	Kapchorua Tea	2020	2033173	-0.18315	496529	13.1154	-455870	-13.03	-212845	-12.2683	14.5251 1
27	Kapchorua Tea	2019	2489043	0.225943	31361	10.35332	458734	13.03623	276943	12.53157	14.7274 1
27	Kapchorua Tea	2018	2030309	-0.05329	163896	12.00699	-114278	-11.6464	-129010	-11.7676	14.5237
27	Kapchorua Tea	2017	2144587	0.081356	146829	11.89702	161348	11.99132	-81669	-11.3104	14.5784 6
27	Kapchorua Tea	2016	1983239	0.069631	-10646	-9.27294	129105	11.76838	-14499	-9.58183	14.5002 4
28	Limuru Tea	2020	94964	-0.64599	-1091	-6.99485	-173291	-12.0627	-153485	-11.9414	11.4612 5
28	Limuru Tea	2019	268255	0.023839	2291	7.736744	6246	8.739697	898	6.80017	12.4996 9
28	Limuru Tea	2018	262009	-0.07153	11732	9.370075	-20184	-9.91265	-74250	-11.2152	12.4761 3
28	Limuru Tea	2017	282193	-0.10063	12238	9.412301	-31575	-10.3601	-854619	-13.6584	12.5503

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28	Limuru Tea	2016	313768	-0.09138	9611	9.170664	-31554	-10.3595	-670045	-13.4151	12.6564 1
31	Express	2020	471737	0.469851	-48107	-10.7812	150795	11.92368	49357.9736	10.80685	13.0641 8
31	Express	2019	320942	-0.14423	-47649	-10.7716	-54090.45	-10.8984	74953.8695	11.22463	12.6790 2
31	Express	2018	375032.453	-0.01197	-49682.7	-10.8134	-4543.37	-8.42142	77787.105	11.26173	12.8347 7
31	Express	2017	379575.823	-0.14103	-11321.9	-9.33449	-62322.11	-11.0401	983.1315	6.890743	12.8468 1
31	Express	2016	441897.928	-0.08371	-82976.6	-11.3263	-40369.07	-10.6058	673.844	6.512999	12.9988 3
33	TPS	2020	17986459	0.022067	1072343	13.88536	388336	12.86963	-668177.889	-13.4123	16.7051 3
33	TPS	2019	17598123	0.006365	639273	13.36809	111300	11.61998	-1592311.03	-14.2807	16.6833
33	TPS	2018	17486823	0.029659	798138	13.59004	503708	13.12975	3090801.29 6	14.94394	16.6769 6
33	TPS	2017	16983115	0.073807	774005	13.55933	1167315	13.97022	467261.514	13.05464	16.6477 3
33	TPS	2016	15815800	0.022843	383984	12.85836	353210	12.77482	228456.7	12.3391	16.5765 2
34	Scan Group	2020	12803173	-0.11244	635174	13.36165	-1622025	-14.2992	-1042402.85	-13.857	16.3652
34	Scan Group	2019	14425198	0.048426	1058277	13.87215	666286	13.40947	-6177.148	-8.72861	16.4844 9
34	Scan Group	2018	13758912	0.020207	124826	11.73468	272514	12.51545	438019.336 7	12.99002	16.4372
34	Scan Group	2017	13486398	0.081639	2954	7.990915	1017919	13.83327	-3676011.46	-15.1173	16.4171 9
34	Scan Group	2016	12468479	0.03513	619421	13.33654	423152	12.95549	-205239.94	-12.2319	16.3387 1
38	Jubilee	2020	130076938	0.13935	-590894	-13.2894	15909299	16.58241	8825452.93 8	15.99315	18.6836 4
38	Jubilee	2019	114167639	0.087647	2009964	14.51363	9200109	16.03473	-388543.537	-12.8702	18.5531

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38	Jubilee	2018	104967530	0.158995	4015068	15.20556	14399787	16.48272	18062079.5 3	16.70933	18.4691 6
38	Jubilee	2017	90567743	0.099416	1674592	14.33108	8189733	15.91839	7508341.52 5	15.83153	18.3216 1
38	Jubilee	2016	82378010	0.04347	2694683	14.80679	3431780	15.04859	845673457	20.55564	18.2268 3
39	Pan Africa	2020	29032606	-0.00237	-1804652	-14.4059	-69024	-11.1422	-908208	-13.7192	17.1839 3
39	Pan Africa	2019	29101630	-0.02381	-3041101	-14.9277	-709854	-13.4728	926635.478 5	13.73932	17.1863
39	Pan Africa	2018	29811484	0.048128	-1903215	-14.4591	1368894	14.12951	1249610.52 2	14.03834	17.2104
39	Pan Africa	2017	28442590	0.049183	-2337522	-14.6646	1333312	14.10318	-3440885	-15.0512	17.1634
39	Pan Africa	2016	27109278	0.006084	-762835	-13.5448	163938	12.00724	-2615109	-14.7768	17.1153 9
41	Kenya Re	2020	50362970	0.135257	4332358	15.28162	6000336	15.60733	-5220799.82	-15.4682	17.7347 7
41	Kenya Re	2019	44362634	0.038143	2374290	14.68021	1629967	14.30407	-2442770.63	-14.7086	17.6079 1
41	Kenya Re	2018	42732667	0.110103	2098138	14.55656	4238357	15.25969	-1913205.9	-14.4643	17.5704 7
41	Kenya Re	2017	38494310	0.07065	1554747	14.25682	2540176	14.74774	1389667.60 2	14.14458	17.4660 2
41	Kenya Re	2016	35954134	0.035124	2534651	14.74557	1220002	14.01436	1288043.42 8	14.06863	17.3977 5
42	Liberty	2020	38221854	0.044911	-1163841	-13.9672	1642815	14.31192	-136992.122	-11.8277	17.4589 2
42	Liberty	2019	36579039	-0.01454	-928896	-13.7418	-539527	-13.1984	-510511.751	-13.1432	17.4149 9
42	Liberty	2018	37118566	0.062952	1307350	14.08351	2198295	14.60319	1102939.87 6	13.91349	17.4296 3
42	Liberty	2017	34920271	0.011194	1015739	13.83113	386582	12.8651	-3468774.62	-15.0593	17.3685 8

42	Liberty	2016	34533689	0.009235	1692971	14.342	316000	12.6635	-886361.77	-13.6949	17.3574 5
43	Britam	2020	125243565	0.208258	8978752	16.01037	21587233	16.88761	13643090.1 8	16.42874	18.6457 7
43	Britam	2019	103656332	0.046771	4831009	15.39057	4631475	15.34839	-290574.032	-12.5796	18.4565 9
43	Britam	2018	99024857	0.183904	7941982	15.88767	15382248	16.54872	20076432.8 1	16.81506	18.4108 8
43	Britam	2017	83642609	0.077419	5017387	15.42842	6010257	15.60898	-8138.514	-9.00436	18.2420 6
43	Britam	2016	77632352	0.20657	3412177	15.04286	13291012	16.4026	-17400.106	-9.76423	18.1674 9
44	CIC	2020	35303370	0.068296	2085777	14.55065	2256951	14.62953	-264511.446	-12.4856	17.3794 9
44	CIC	2019	33046419	0.083298	2005234	14.51127	2541043	14.74809	-2790992.06	-14.8419	17.3134 2
44	CIC	2018	30505376	0.137128	2090521	14.55292	3678690	15.11807	8229014.35	15.92318	17.2334 1
44	CIC	2017	26826686	0.076502	455474	13.02909	1906451	14.46075	-4019821.47	-15.2067	17.1049 1
44	CIC	2016	24920235	0.04307	-1093403	-13.9048	1029002	13.8441	-1235920.13	-14.0273	17.0311 9
45	Olympia	2020	1626599	-0.01946	55727	10.92822	-32284	-10.3823	-18451	-9.82287	14.302
45	Olympia	2019	1658883	0.012257	54865	10.91263	20087	9.907828	-55535	-10.9248	14.3216 6
45	Olympia	2018	1638796	0.072846	22470	10.01994	111274	11.61975	3141	8.052296	14.3094 7
45	Olympia	2017	1527522	-0.00254	152126	11.93246	-3887	-8.26539	-60596	-11.012	14.2391 6
45	Olympia	2016	1531409	-0.00709	-46044	-10.7374	-10936	-9.29982	-72419	-11.1902	14.2417
46	Centum	2020	101763653	0.056867	3640426	15.10761	5475569	15.51581	4963278.42 9	15.41758	18.4381 6
46	Centum	2019	96288084	0.089409	4737112	15.37094	7902476	15.88269	-3169388.85	-14.969	18.3828 6

46	Centum	2018	88385608	0.132372	1873376	14.44325	10332072	16.15076	8607848.57	15.96818	18.2972 2
46	Centum	2017	78053536	0.078977	2489222	14.72748	5713216	15.55829	-5312216.28	-15.4855	18.1729 1
46	Centum	2016	72340320	0.02711	642208	13.37267	1909408	14.4623	-1612389.3	-14.2932	18.0968 9
47	Home Africa	2020	4347807.922	-0.03435	60039.78	11.00276	-154654.1	-11.9489	693628.152	13.44969	15.2851 8
47	Home Africa	2019	4502462	0.005501	58056.25	10.96917	24634.008	10.11188	401723.337	12.90352	15.3201 3
47	Home Africa	2018	4477827.992	0.139393	33533.18	10.42029	547817.21	13.2137	810303.486	13.60516	15.3146 5
47	Home Africa	2017	3930010.782	0.017527	-14753.9	-9.59926	67695.086	11.12277	-331204.001	-12.7105	15.1841 5
47	Home Africa	2016	3862315.696	0.012529	-551409	-13.2202	47793.696	10.77465	-40009.605	-10.5969	15.1667 8
49	NSE	2020	2242401	0.010825	53817	10.89334	24013	10.08635	-498415.622	-13.1192	14.6230 6
49	NSE	2019	2218388	0.052256	67151	11.1147	110168	11.60976	-1310123.07	-14.0856	14.6122 9
49	NSE	2018	2108220	0.046915	70180	11.15882	94475	11.45609	1256212.99 5	14.04361	14.5613 5
49	NSE	2017	2013745	0.049791	195931	12.18552	95510	11.46699	196568.588 2	12.18877	14.5155 1
49	NSE	2016	1918235	0.023428	-109051	-11.5996	43912	10.68994	121477	11.70748	14.4669 2
50	BAT	2020	21936362	0.196208	7635815	15.84836	3598105	15.09592	-29228791	-17.1907	16.9036 6
50	BAT	2019	18338257	0.029916	5300226	15.48326	532669	13.18566	-2942266.81	-14.8947	16.7245
50	BAT	2018	17805588	-0.03753	4713472	15.36594	-694212	-13.4505	6988411.50 8	15.75976	16.6950 2
50	BAT	2017	18499800	-0.00971	5161435	15.45673	-181384	-12.1084	22628720.5 3	16.93473	16.7332 7
50	BAT	2016	18681184	-0.00214	3930350	15.18424	-40059	-10.5981	8551987.77	15.96167	16.7430

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51	MUMIAS	2018	15735609	-0.34683	-526373	-13.1738	-8355486	-15.9384	-204848.835	-12.23	16.5714 4
51	MUMIAS	2017	24091095	-0.10112	-1317201	-14.091	-2710041	-14.8125	1494717.40 6	14.21745	16.9973 5
51	MUMIAS	2016	26801136	-0.00973	-2592661	-14.7682	-263396	-12.4814	759405.428 6	13.54029	17.1039 5
52	Longhorn Publishers Limited	2020	2344234	-0.02629	83910	11.3375	-63295	-11.0556	460509.4	13.04009	14.6674 7
52	Longhorn Publishers Limited	2019	2407529	0.295252	524518	13.17024	548795	13.21548	236911	12.37544	14.6941 1
52	Longhorn Publishers Limited	2018	1858734	-0.0044	243554	12.40309	-8210	-9.01311	712350.2	13.47632	14.4354 1
52	Longhorn Publishers Limited	2017	1866944	1.708385	-530455	-13.1815	1177624	13.97901	926794.3	13.73949	14.4398 1
52	Longhorn Publishers Limited	2016	689320	0.024053	5189	8.554296	16191	9.692211	46638.5	10.75018	13.4434 6
53	Deacons (East Africa) PLC	2018	1056807.5	-0.31943	3884.137	8.264656	-496027.5	-13.1144	-253003.508	-12.4412	13.8707 6
53	Deacons (East Africa) PLC	2017	1552835	-0.31943	-36680	-10.51	-728845	-13.4992	-205690.481	-12.2341	14.2555 9
53	Deacons (East Africa) PLC	2016	2281680	-0.02757	346389	12.75532	-64680	-11.0772	-41980.7206	-10.645	14.6404 2
54	FTG Holdings	2020	2281167.941	0.240256	133231.5	11.79984	441896.13	12.99883	-648560.52	-13.3825	14.6402
54	FTG	2019	1839271.808	0.094303	23096.68	10.04744	158502.02	11.97352	-378131.191	-12.843	14.4248

	Holdings										8
54	FTG Holdings	2018	1680769.788	0.104901	142944.4	11.87021	159575.02	11.98027	283301.8125	12.55427	14.33476
54	FTG Holdings	2017	1521194.765	0.146746	39908.81	10.59435	194663.5	12.17903	-78601.5935	-11.2721	14.23501
54	FTG Holdings	2016	1326531.265	0.049263	130973.7	11.78275	62281.265	11.03942	-40014.9435	-10.597	14.09808
55	Kenya Orchards	2020	136003.754	0.187124	2400.374	7.78338	21438.045	9.972922	-121940.879	-11.7113	11.82044
55	Kenya Orchards	2019	114565.709	0.058068	2389.511	7.778844	6287.448	8.746311	-7472543.67	-15.8267	11.6489
55	Kenya Orchards	2018	108278.261	0.213316	4005.857	8.295513	19036.634	9.854121	193356.985	12.17229	11.59246
55	Kenya Orchards	2017	89241.627	0.133497	-1974.35	-7.588	10510.404	9.260121	-263197.704	-12.4807	11.3991
55	Kenya Orchards	2016	78731.223	0.087148	-271.639	-5.60447	6311.223	8.750085	-50904.329	-10.8377	11.2738
56	Barclays Bank	2020	373981781	0.149606	23879521	16.98853	48668781	17.70055	61195339.4	17.92958	19.73972
56	Barclays Bank	2019	325313000	0.197889	-1E+07	-16.1554	53741000	17.79969	6858295.6	15.74097	19.6003
56	Barclays Bank	2018	271572000	0.045642	4512000	15.32225	11854000	16.28818	56348768	17.84707	19.41974
56	Barclays Bank	2017	259718000	0.078218	-1.1E+07	-16.206	18841000	16.75155	1871088	14.44203	19.37511
56	Barclays Bank	2016	240877000	0.010111	-3653000	-15.1111	2411100	14.69559	12549.6	9.437444	19.2998
57	Co-operative bank of Kenya	2020	457008946	0.104765	20333487	16.82778	43338236	17.58455	35817527.04	17.39395	19.94021
57	Co-operative bank of Kenya	2019	413670710	0.06931	33085558	17.31461	26813053	17.1044	44260738.29	17.60561	19.84058
57	Co-operative	2018	386857657	0.099563	6156618	15.63304	35029080	17.37169	24632091	17.01956	19.7735

	bank of Kenya											7
57	Co-operative bank of Kenya	2017	351828577	0.027237	6802884	15.73286	9328768	16.04861	-30908251.5	-17.2465		19.67865
57	Co-operative bank of Kenya	2016	342499809	0.015279	19635154	16.79283	5154353	15.45535	-654768.146	-13.392		19.65178
58	Diamond Trust Bank	2020	386230186	0.022532	10978535	16.21145	8510872	15.95685	-10346329.5	-16.1521		19.77194
58	Diamond Trust Bank	2019	377719314	0.03968	12570368	16.34685	14415914	16.48384	-829458.81	-13.6285		19.74966
58	Diamond Trust Bank	2018	363303400	0.107482	2384927	14.68468	35258899	17.37823	48206257.28	17.691		19.71075
58	Diamond Trust Bank	2017	328044501	0.207784	-3459467	-15.0566	56435904	17.84862	29572189.82	17.20234		19.60866
58	Diamond Trust Bank	2016	271608597	0.157729	-5094118	-15.4436	37004052	17.42654	18864254.14	16.75278		19.41987
59	Equity Bank	2020	673682541	0.174924	37091602	17.4289	100298541	18.42366	30690383.06	17.23946		20.32827
59	Equity Bank	2019	573384000	0.093273	43481412	17.58784	48918255	17.70566	-32203139.5	-17.2876		20.16707
59	Equity Bank	2018	524465745	0.107138	50972000	17.74679	50752612	17.74247	76379329.32	18.15122		20.07789
59	Equity Bank	2017	473713133	0.106645	59753000	17.90573	45650619	17.63653	-1925748.02	-14.4708		19.97611
59	Equity Bank	2016	428062514	0.04809	24367000	17.00874	19641169	16.79314	-69937.92	-11.1554		19.87478
60	Housing finance Company ltd	2020	56454918	-0.06762	5205205	15.46517	-4094432	#NUM!	-3650451.97	-15.1104		17.84895
60	Housing finance Company ltd	2019	60549350	-0.10352	2204386	14.60596	-6991766	#NUM!	-7378427.4	-15.8141		17.91897

60	Housing finance Company ltd	2018	67541116	-0.06102	5217834	15.46759	-4389024	#NUM!	-5810831.47	-15.5752	18.02825
60	Housing finance Company ltd	2017	71930140	0.003778	-4860535	-15.3967	270706	12.50879	-3280521.26	-15.0035	18.09121
60	Housing finance Company ltd	2016	71659434	0.00038	-5806718	-15.5745	27189	10.21057	-903984.381	-13.7146	18.08744
61	I&M Bank	2020	274027749	0.102108	11830044	16.28615	25388183	17.04979	-8850132.88	-15.9959	19.42874
61	I&M Bank	2019	248639566	0.03552	30000643	17.21673	8528825	15.95896	9826949.004	16.10064	19.33151
61	I&M Bank	2018	240110741	0.140439	1210400	14.00646	29568348	17.20222	52650997.31	17.7792	19.29661
61	I&M Bank	2017	210542393	0.098156	48834.56	10.79619	18818851	16.75037	4831892.62	15.39075	19.1652
61	I&M Bank	2016	191723542	0.02288	13899567	16.44737	4288492	15.27145	2151463.8	14.58166	19.07157
62	KCB Bank	2020	898572213	0.257954	3102315	14.94766	184259622	19.03186	235002972.7	19.27511	20.61632
62	KCB Bank	2019	714312591	0.104603	7908000	15.88339	67643652	18.02976	43698863.52	17.59283	20.38683
62	KCB Bank	2018	646668939	0.086401	20158000	16.81911	51429296	17.75572	84953888.82	18.25762	20.28735
62	KCB Bank	2017	595239643	0.066558	-9082000	-16.0218	37145489	17.43035	-24156952.3	-17.0001	20.20447
62	KCB Bank	2016	558094154	0.066153	4426320	15.30308	34629031	17.3602	-21440066.4	-16.8808	20.14004
63	National Bank of Kenya	2020	112028747	-0.02456	3002575	14.91498	-2820358	-14.8524	5097670.353	15.44429	18.53427
63	National Bank of Kenya	2019	114849105	0.045288	-1442967	-14.1822	4975965	15.42013	3871655	15.16919	18.55913

63	National Bank of Kenya	2018	109873140	-0.01974	693456	13.44944	-2212990	-14.6099	-774001	-13.5593	18.51484
63	National Bank of Kenya	2017	112086130	-0.10646	-1E+07	-16.1656	-13354186	-16.4073	-13141854	-16.3913	18.53478
63	National Bank of Kenya	2016	125440316	-0.00786	4420398	15.30174	-993227	-13.8087	-2021831	-14.5195	18.64734
64	NIC Plc bank	2020	210666601.4	0.01084	3514579	15.07243	2259184.4	14.63051	7544648.765	15.83635	19.16579
64	NIC Plc bank	2019	208407417	0.01084	8978277	16.01032	2234957	14.61973	-861287.672	-13.6662	19.15501
64	NIC Plc bank	2018	206172460	0.216651	22935735	16.94821	36713475	17.41865	37298340.75	17.43446	19.14422
64	NIC Plc bank	2017	169458985	0.022141	829395	13.62845	3670717	15.1159	-11366286.8	-16.2462	18.94812
64	NIC Plc bank	2016	165788268	0.020667	-4831081	-15.3906	3356923	15.02654	-5311002.75	-15.4853	18.92622
65	Stanbic Bank Kenya Ltd	2020	292705136	0.041829	6251794	15.64838	11752124	16.27954	15540981.3	16.55899	19.49468
65	Stanbic Bank Kenya Ltd	2019	280953012	0.129511	53120365	17.78807	32214293	17.28792	43859998.97	17.59651	19.4537
65	Stanbic Bank Kenya Ltd	2018	248738719	0.158634	8985225	16.01109	34055990	17.34352	35965705.2	17.39808	19.33191
65	Stanbic Bank Kenya Ltd	2017	214682729	0.029891	-8486372	-15.954	6230814	15.64502	-289090.656	-12.5745	19.18467
65	Stanbic Bank Kenya Ltd	2016	208451915	0.023998	21121982	16.86582	4885123	15.40171	-141998.865	-11.8636	19.15522

66	Standard Chartered Bank	2020	302139056	0.058636	-4825000	-15.3893	16735033	16.63301	18361084.58	16.72574	19.5264
66	Standard Chartered Bank	2019	285404023	-0.00112	-3777000	-15.1444	-320418	#NUM!	-5932392.72	-15.5959	19.46942
66	Standard Chartered Bank	2018	285724441	0.140698	-2251947	-14.6273	35242441	17.37776	40707700.87	17.52193	19.47054
66	Standard Chartered Bank	2017	250482000	0.070594	-2143629	-14.578	16516553	16.61987	11102936.57	16.22272	19.3389
66	Standard Chartered Bank	2016	233965447	0.081059	27718885	17.13762	17543080	16.68017	11245329.54	16.23546	19.27068

