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## Effect of Cash Forecasting Practice on Performance of Commercial Banks in Kenya

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### **Abstract:**

*The purpose of the study was to analyze the effect of cash forecasting practice on performance of commercial banks in Kenya. The study was based on Portfolio theory of Cash Management, Cash Management theory, Transaction Cost theory, Free Cash Flow theory and pecking order theory. The study used mixed research design which involves collecting and analyzing both qualitative and quantitative data. The target population of the study comprised of the 6913 employees in management and supervisory cadres in commercial banks in Kenya. Stratified sampling technique was used to identify the sample size in every stratum. Data collection instruments were both structured and unstructured questionnaires. Data collection methods were both primary and secondary. The data was analyzed using Statistical Program for Social Sciences (SPSS) windows version 21. Multiple linear regression analysis was carried out to analyze the determinants of cash flow management practice on performance of commercial banks in Kenya. Pilot test was carried out for validity and reliability of research instruments. Regression analysis was carried out to test the significant levels of one variable to the other in the study. ANOVA was carried out to test the hypotheses of the study. The study is significant to the banking sector and the government of Kenya in formulation of different financial decisions and in policy making. The results of the study indicate that all the independent variables have a significant positive effect on performance of Commercial banks Kenya. The findings reveal that commercial banks in Kenya carry out cash forecasting practice and that inflation rates influence interest rates in commercial banks in Kenya. Cash forecasting practice was found to be positively related to performance of commercial banks in Kenya. The study recommends that the management of commercial banks in Kenya should be enhanced through frequent audits to be able to curb interest rates especially the unanticipated inflation which adversely affects the functions of money by undermining wealth holders' confidence in its ability to be used as medium of exchange and store of value. The firms should have plans for their cash needs and requirements during a projected period, particularly one year and above to enable them achieve their set goals in advance and reduce the cost of capital and increase the returns of excess cash. They should also make sure that the banks' cash funds are in the optimal utilization and there are no extra borrowings.*

*They should also focus on surplus funds to invest in marketable securities and that period of inflation is when lenders lose while borrowers gain because the real value of the debt declines. They should also maintain the minimum liquidity requirement as stated by the Central Bank of Kenya as both illiquidity and excess liquidity are financial diseases that can easily erode the profit base of a bank as they affect banks' attempt to attain high profitability level. They should also put into consideration liquidity levels in pursuit of high profit for it can cause great illiquidity, which reduces the customers' patronage and loyalty.*

**Keywords:** Cash forecasting, financial performance

### **1. Introduction**

Globally in 2008, the world economy faced its most dangerous crisis since the Great depression of the 1930s. The contagion, which began in 2007 when sky-high home prices in the United States finally turned decisively downward, spread quickly, first to the U.S. financial sector and then to financial markets overseas. The carnage was not limited to the financial sector, however, as companies that normally rely on credit suffered heavily. In December, the National Bureau of Economic Research, the private group recognized as the official arbiter of such things, determined that a recession had begun in the United States in December 2007, which made this already the third longest recession in U.S. since World War II (Havemann, 2008). Hillier et al., (2013) explained that in recent years, many companies have found cash very difficult to come by. Many banks ran out of cash in 2008 and 2009 as bad debts, lack of short term financing, and poor profitable opportunities combined to cause the most severe crisis in the financial sector for decades. Governments stepped into the breach and used taxpayers' money to shore up their financial institutions.

Canada's financial system successfully navigated the global financial crisis, and stress tests suggest that major financial institutions would continue to be resilient to credit, liquidity, and contagion risks arising from a severe scenario. The regulated and supervisory framework is strong, and is complemented by a credible federal system of safety nets, although there is no single body with an explicit mandate to take a comprehensive view of system risks or undertake crisis preparedness (IMF, 2014). U.K commercial real estate has been buoyant. Annual price growth peaked in early 2015 above 10 per cent per annum. After the recession, domestic banks have reduced their commercial real estate exposures, but

international investors have picked up the slack and now account for more than one half of commercial real estate financing flows IMF, (2014). Ravi, (2012) did a study on the effect of credit risk control on commercial banks profitability in Nepal. He studied the economic report of 31 commercial banks operating in the economy. The study established that money control, cash making plans and cash budgeting have a negative effect on the performance of commercial in the economy of Nepal, the default price being the optimal financial indicator of Nepal's economic performance. The study recommended that commercial banks need to design and formulate techniques which can enable them enhance publicity and profitability.

Regionally, a recent study by Global Financial Integrity (GFI) estimates illicit financial flows out of developing countries at 858 billion U.S. dollars to 1.06 trillion U.S. dollars per year. Amongst developing countries, Africa presents the most analytical difficulties because countries with inadequate data account for nearly 37 per cent of regional GDP. One thing is certain: while African countries have had to shoulder a heavy debt burden, a number of researchers have shown that sustained illicit outflows have turned the continent into a net creditor to the rest of the world (IMF, 2014). Seminal research at GFI on the absorption of illicit funds show that while some of the private assets held outside their countries by developing country nationals may be legitimate, the bulk of such funds are certainly not. This is because an estimate of illicit capital outflows provided by economic models such as the world Bank residual model and the trade misinvoicing model account for the bulk of deposits reported by banks to the Bank for International Settlements and by offshore financial centers (IMF, 2014). Donnelly (2015) affirmed that financial flows from Africa are a large growing problem. Averaging 4% of gross domestic product, they are outstripping foreign direct investment and official development aid to the continent. Africa lost an annual average of 60.3 billion US dollars, or around 4 % of GDP in illicit outflows between 2003 and 2012. During the same period, Official Development Aid (ODA) and Foreign Direct Investment (FDI) averaged 42.1 billion US dollars and 43.8 billion US dollars respectively. Illicit flows for Sub-Saharan Africa, in 2012, were estimated to be 68.6 billion dollars, just slightly less than ODA and FDI combined coming in 41.1 billion dollars and 35.1 billion dollars. Research estimates that Africa's capital stock would have increased by more than 60% if these illicit funds remained on the continent, while GDP per capita would be 15% higher.

Donnelly (2015) confirmed that these unlawful money flows involve practices such as tax evasion-through trade misinvoicing and abusive transfer pricing-money laundering, bribery by international companies and abuse of office by public officials. Referencing research done by a high level panel of the African Union and United Nations Economic Commission for Africa examining illicit financial flows, noted that large commercial corporations account for the vast majority, or 65%, of illicit money flows, following by organized crime (30%) and corrupt practices (5%). Trade misinvoicing- or deliberate over and under invoicing of trade transactions-was the most widely documented method of transferring illegal money across borders, accounting for 67.4% of all illegal outflows between 2003 and 2012.

Nationally, Kenya's financial stability has grown in terms of its contribution to overall Domestic Product (GDP). However, there are downside risks to Kenya's macro- financial conditions. Domestically, the banking subsector faced liquidity risks coupled with skewed distribution and corporate governance issues that resulted in two banks being placed under receivership in 2015; and a third bank for the first half of 2016, for the first time in over a decade. One bank is undergoing liquidation process, while another one was re-opened. The subsector also recorded increased credit risks, with Non-Performing Loans (NPLs) rising faster than historical trends and credit to private sector slowdown to about 14 per cent of GDP Financial Stability Report, (CBK, 2016). The year 2015 also experienced exchange rates and interest rates volatility in Q1 through Q3 that impacted credit markets negatively (CBK, 2015). (World Bank, 2014) observed that coupled with its recent development of an attractive industry, Kenya has in the recent past maintained steady economic growth with a current GDP of 79.66 billion dollars, per capita of 1,796 dollars, and an average GDP growth rate of 4.8 per cent. Kenya is believed to have lost 1.51 billion dollars between 2002 and 2011 to trade misinvoicing. A recent study funded by the Danish government on its five priority countries- Ghana, Kenya, Mozambique, Tanzania and Uganda shows that Kenya's tax loss from trade misinvoicing by multinational corporations and other parties could be as high as 8.3 per cent of government revenue, hampering economic growth and resulting in billions lost tax. A Banking Fraud Investigation Department report (CBK, 2014) revealed that Kenyan Commercial banks lost more than Ksh 137 million to fraudsters in May alone 2014. The institutions targeted that month included First Community Bank, Barclays Bank of Kenya, Equity Bank, Paramount University Bank and Kenya Commercial Bank. Others are Cooperative Bank of Kenya, Commercial Bank of Africa, CFC Stannic, Habib Zurich Bank, National Bank of Kenya, Consolidated Bank and Family Bank (CBK, 2014).

National perspective of cash flow management practice was also discussed in terms of how cash is perceived in our country and the entirety of the economy. This includes the management of cash and cash equivalents that find themselves in the hands of various officials at all levels of the economy and how that cash is utilized and or put to various projects for the common good of the Kenyan citizens within the economy. Lipsey and Chrystal, (2014) affirmed that the three motives for holding cash include the transactions, precautionary and speculative motives. The transactions motive asserts that most transactions require cash. Cash passes from customers to firms to pay for the goods and services produced by firms. Cash also passes from firms to employees to pay for the labor services supplied by workers to firms. Cash balances that are held to finance such flows are called transactions balances. Total transactions balances vary with the value of the wage bill. If the wage bill for any reason grows up twice as much, the transactions balances firms and households hold will grow in the same direction. As it is with wages, so it is with all other transactions. The size of the balances held is positively related to the value of the transactions. Ross, et al., (2009) documented those transactions that relate to needs come from actual payments and collections of the firm. The disbursement of cash includes the payment of wages and salaries, trade debts, taxes and dividends. Cash is collected when operations take place or from the sales of assets and new financing. The cash inflows and outflows are not always balanced and a given amount of cash should be held to satisfy emergencies that arise. Cash balances are kept at commercial banks to compensate for banking services

rendered to the firm. MC Vaish, (2015) affirmed that the second motive of holding money is for precautionary purposes. Apart from demanding money for transactions motives, individuals and businessmen require money to meet unforeseen contingencies. One finds it befitting to hold a certain amount of cash on which he will lean when some unforeseen need arises. Joshi, (2011) confirmed that transaction motive takes care of normal routine functions but the business during its currency is faced with a number of contingencies and emergencies. It protects itself from such contingencies by holding extra cash in hand. This is known as precautionary motive. This cash balance acts as a cushion or buffer to meet unexpected demands. Events warranting extra cash include and not limited to cancellation of an order, lock out, strikes, levy of duty or loss on raw material. Pandey, (2015) affirmed that the speculative motive of cash relates to the holding of cash to invest in short term profit making opportunities as they arise. The opportunity to make profit may arise when the security prices change. Firms hold cash when it is expected that interest rates will rise and security prices fall. Securities can be purchased when the interest rate is expected to fall. Firms also speculate on material prices. If material prices are expected to fall, the firm can postpone purchase and make purchases in future. Karl et al. (2013) asserted that when interest rates are high, the opportunity cost of holding cash balance is high and there is a speculation motive for holding bonds in lieu of cash. You are speculating that interest rates will fall in the future and thus that bond prices will rise. Likewise, when market interest rates are lower than normal, you may expect them to rise in the future. Rising interest rates will bring about a decline in the price of existing bonds. When interest rates are low, not only are the opportunity costs of holding cash balances low, but, also there is a speculative motive for holding a larger amount of money. In my opinion and to the best of my knowledge and belief, reasons for holding cash in our Kenyan economy have never been embraced, upheld and fully practiced by various economic participants. Most often when there is extra cash in the economy it ends up in the hands and pockets of faithless officials who use it for their own evil intentions and purposes. Some officials physically defraud the economy of its cash and either keep it in foreign banks or allow it to circulate in the economy as illicit cash flows to satisfy their malicious desires. This vice is what the Central Bank of Kenya Governor Dr. Patrick Njoroge is fighting through changing the currency of our economy. At every level of fraudulent activity cash is drained from the exchequer which in the end causes the economy's performance to drop. When the economy's performance drops due to lack of cash, the government resorts to both internal and external borrowing which is an extra burden to her citizens. This borrowing has in the past increased taxes thus robbing the citizens of their bargaining and purchasing powers. Once this occurs, citizens remain beggars in their own land as it is currently the case in the economy of Zimbabwe where transactions are now being carried out in foreign currency.

The National perspective of cash flow management practice was further discussed in terms of the commercial banks and other organizations that operate in the Kenyan economy and how they manage the cash flow at their disposal. Holt, et al (1999) explained that commercial Banks constitute the largest proportion of financial institutions in the economy and contribute immensely to economic growth. The main functions of Commercial Banks include lending money, accepting deposits from customers, and transferring money across the economy. Commercial banks in Kenya provide approximately 40 percent of all mortgage loans and approximately 50 percent of all other loans as compared to other financial institutions. Saleem (2017) documented that a commercial bank is a financial institution that deals with money and gives credit, established for profit making purposes. They receive their income from interests charged on the loans they advance to customers. A commercial bank accepts deposits from customers and pays them interest and thereafter gives loans at a higher interest rate to those in need of such loans. Gitman and Chad, (2016) declared that commercial banks are one of the most important financial institutions in the economy. This is because they provide savers with a safe place to invest funds and offer individuals and companies loans to finance investments, for example, the purchase of a new home and the expansion of their businesses. The business model of commercial banks is accepting deposits from customers and investing those funds at higher interest rates. This instills confidence in depositors and assures them of the safety of their investments.

Gaitho, (2010) conducted a survey of cash management practices with the aid of SACCOs in Nairobi. The findings revealed that most of the SACCOs use cash planning practices to minimize risks. Muthama, (2016) conducted a study on effects of cash management practices on operational performance of selected public hospitals in Kisumu County, Kenya. The study found out that cash budgets assist in making cash flow projections, ensures budgetary control, reduces initiative and innovation and controls a hospital's spending habits. The study noted that cash budgets do not interfere with the achievement of the hospital's goals and cannot cause competition to resources and policies.

Ngumi, (2013) studied on the effect of bank innovations on financial performance of commercial banks in Kenya. The study revealed that bank innovations influence the financial performance of commercial banks. The implementation of innovations in commercial banks in Kenya is a very big driver toward improvement of financial performance and ultimately maximization of shareholders' wealth. Abdifatah, (2010) conducted a study on the link between liquidity threat and profitability of commercial banks in Kenya. The study found out that money collection of Kenyan commercial banks has a negative effect due to the liquidity gap and leverage.

Weda, (2015) carried out a study on influence of working capital management practices on financial performance of small and medium manufacturing enterprises in Nairobi county, Kenya. The study found out that about 51.3 per cent often prepare cash budgets and preparing and reviewing cash budgets are frequently based on monthly periods. Ndirangu, (2017) carried out a study on the effect of cash management of Companies listed at the Nairobi Securities exchange. The study established that the cash conversion cycle had a positive effect on the Companies listed at the Nairobi Securities exchange at 5% level of significance.

In a nutshell and also in my opinion, cases to do with cash management practice in Kenya are scaring and demand immediate attention which is the reason this study was undertaken to address the looming problem on the ground. Each day in our country, the economy has enough cash trouble for itself. Both public and private sectors compose and sing the

same songs, dance the same tune, jump up the same height, and subscribe to the same tenets of faith as illicit cash flows find circulation in the economy through commercial banks of Kenya. Officials at all levels of the economy are in a stiff competition to be called either the richest Kenyans or the richest Africans in Kenya and therefore any cash that gets into their view finds its way either out of the exchequer or out of the organizations they serve thereby leaving the economy and those organizations within the economy to collapse. Cases of commercial banks in Kenya loosing cash to fraudsters and fraudulent practices are no longer news and no longer a surprise. Commercial banks in Kenya have become a home and cash cow of fraudsters and a safe haven where illicit financial flows find destiny. For example golden bag, Anglo leasing, NYS and NHIF scandals have robbed the economy of its millions because fraudsters have walked away scot free with illicit cash flows because of collaboration, coordination, supervision and arrangement between them and commercial banks in Kenya to perpetuate, achieve and satisfy their evil schemes and intentions. A few of the studies carried out by various scholars on various areas do not address the subject of the determinants of Cash Flow Management practice on performance of Commercial Banks in Kenya. This study is therefore timely designed to fill this knowledge gap.

## 2. Cash Forecasting Practice

Cash forecasting refers to the projection of the cash requirements of an organization during a given period Brigham and Ehradt, (2005). Hussain, (2016) submitted that cash forecasting is the way a firm plans for its cash needs and requirements during a projected period, particularly one year and above. Blocks and Hirt, (2012) affirmed that cash forecasting are various ways a firm employs to make sure that it has enough cash requirements during an accounting period. Pandey, (2015) documented that cash forecasts are needed to prepare cash budgets. Cash forecasting is done on short term or long term basis. The forecasts of one year or less are considered short- term while those extending beyond one year are considered long term. The functions of short term cash forecasts include determination of operating cash requirements; anticipation of short term financing and management of investment of surplus cash. Rajendra, (2013) affirmed that the purpose of cash flow forecasting is to create visibility into company's cash and liquidity position. These cash and liquidity position are achieved through simulation and location of cash inflows and outflows in advance. The aim of cash flow forecasting is to determine whether there will be need for additional financing and to ensure that the company's cash is optimally utilized to avoid borrowing. Successful cash flow forecasting also reduces the cost of capital and increases the returns of excess cash.

Ross et al, (2009) admitted that if the cash requirements are not determined, it is impossible for the management to ascertain the amount of cash to be held in hand, extent to bank financing can be depended upon and whether surplus funds will be available to invest in market securities. Brealey et al, (2009) affirmed that short run cash forecasts serve many other purposes. Multi-divisional firms use them as a tool to coordinate the flow of funds among various divisions and to make financing arrangements for operations. These forecasts also serve as a tool in determining the margins or minimum balances to be maintained with banks, planning reductions of short and long term debt. Other functions include scheduling payments in connection with capital expenditure programs, planning forward purchases of inventories, checking accuracy of long range cash forecasts, taking advantage of cash discounts offered by suppliers and guiding credit policies.

Long term cash forecasts are prepared to provide a glimpse of a company's financial requirements in the distant future. They are used to evaluate the impact of new product developments or plant acquisitions on the firm's financial conditions for a period of three or more years in the future. Uses of the long term cash forecasts include indication of company's future financial needs for its working capital requirement, helping in evaluation of proposed capital project, pinpointing the cash required to finance projects and cash to be generated by the company to support those projects and improvement in corporate planning. Long term cash forecasts compel each division to plan for future and to formulate projects carefully Brealey, et al. (2005).

Weda, (2015) found out that about 51.3 percent of SMEs often prepare cash budgets, and preparing and reviewing cash budgets are frequently based on monthly periods. The opinions of many researchers were supported by results of the survey, which demonstrated that most of the owners or managers of SMEs have rarely been trained in skills of financial management. However, this research showed that SMEs are familiar with using cash budgets as a tool to plan and control cash flows of the firm. On the other hand, about 65.4 percent of SMEs determined cash balance based on the owner/manager's experience. This suggests that experience is viewed as more important than theory in practicing cash management. Muthama, (2016) found out that cash budgets assist in making cash flow projections, ensures budgetary control, reduces initiative and innovation and controls a hospital's spending habits. The study noted that cash budgets neither interferes with the attainment of the hospital's goals nor creates competition for resources and policies. The results from regression analysis revealed that cash budgeting accounts for 38.9% of the factors influencing operational performance.

Saleem, (2017) documented that for the preparation of realistic budgets, various factors like inflation rates, interest rates, revenues and expenses should be considered. Bowen, et al, (1986) studied a variety of the measures of cash flows and how they predict future cash flows. The findings demonstrated that the current operating cash flows better predict future cash flows from the point of view of operating current accounting outcome.

Shaw, et al, (2001) documented that inflation refers to the persistent increase in the general price level. It is a positive rate of growth of the general price level. Moomaw and Olson, (2007) affirmed that inflation is commonly defined as any increase in the price level. Inflation rate is calculated by subtracting previous year's price level from current year's price level divided by previous year's price level multiplied by one hundred. Hardwick et al, (1999) submitted that the efficiency with which money performs its functions is greatly dependent upon the stability of its purchasing power. Inflation especially unanticipated inflation, adversely affects the functions of money by undermining wealth holders

confidence in its ability to be used as medium of exchange and store of value. In its medium of exchange role, money provides wealth holders with a convenience yield in the sense of saving time and effort in undertaking transactions. This yield will fall in a period of inflation because a progressively larger amount of money will be to pay for the same quantity of goods and services. Money holders will, therefore, suffer a loss of purchasing power. The store of value function is equally threatened by inflation. As the real value of money falls, wealth holders are induced to switch to real assets, such as houses, cars and other consumer durables. This will exert upward pressure on the prices of real assets and so make inflationary conditions worse.

Mudida, (2014) asserted that inflation inhibits the ability of money to perform its functions as a means of exchange. When inflation is extremely high, people are more likely to revert back to the barter economy or use money alternatives, for example, gold or a foreign currency whose value will increase against the currency of hyperinflation economy. Inflation inhibits the power of money as a unit of account and contributes to the variations of the relative values of different commodities over time since individual goods or services do not rise in price by the same proportion. This inhibits the stability of money as a unit of account. It also inhibits the power of money as a standard of deferred payment because in periods of inflation, lenders lose while borrowers gain because the real value of the debt declines. Lenders, may, therefore, only accept to lend at very high rates of interest in order to compensate for the fall in the real value of the loan. Grant and Stanlake, (2011) documented that inflation, especially if it is at a higher and accelerating level, affects the ability of money to carry out its functions. If the general price level is rising rapidly, people may become reluctant to keep their savings in the form of money, for, example, current accounts, as this will be losing its value in terms of purchasing power. People may, instead, seek to hold assets which rise in value by more than the rate of inflation, for example, antiques and property. When there is hyperinflation people may also become reluctant to accept money in settlement of debts.

Ngugi, (2011) in his study on empirical analysis of interest rate spreads in Kenya found out that rising inflation resulting from expansionary fiscal policy, tightening of monetary policy, yet-to-be realized efficiency of banks and high intermediation costs explained interest rate spreads. Afanasieff et al, (2002) studied on bank interest spreads in Brazil and found out that the factors that mostly explain interest rate spread behavior are macroeconomic variables particularly inflation. A study conducted by Folawewo and Tennant (2008) in South Africa found out that inflation plays a significant role in explaining variations in interest rate spread in Africa. Khawaja and Din, (2007) in Pakistan carried out a study on interest rate spreads and established that a rise in inflation increases the credit risk premium. Credit risk premium is the spread that banks demand but higher rates caused hamper the repayment capacity of borrowers. Samuel and Valderrama, (2006) in their study on money policy regime on banking spreads in Barbados found out that high and volatile inflation reduces rapidly and unpredictably. This scenario deprives the private sector the ability to fulfill its planned financial obligations, for example, debt obligations. Banks can hedge against risks of high and volatile inflation by fixing a risk premium in their lending rates to increase their interest rates.

Interest rate is the fee paid by borrowers for the use of money they borrow from a lender/financial institutions or price paid on borrowed assets Crowley, (2007). Interest rate is the price paid for borrowing money or the price that borrowers need to pay lenders for transferring purchasing power to the future. Interest rate is calculated as a percent per year Samuelson and Nordhaus, (2008). Interest which is a price of money reflects market information regarding expected change in the purchasing power of money or future inflation Ngugi, (2011). Interest rate is the opportunity cost of holding money. It represents the rewards from investing in financial assets, such as bonds, or savings accounts. As the interest rate rises, these rewards become larger so the demand for money will fall Chamberlin and Linda, (2011). Amongst the many economic indicators in an economy, interest rates arouse a great deal of public attention. Changes in their general pattern have widespread repercussions on individuals, families businesses and governments. Interest rate changes affect individuals' decisions whether to save and or spend. Business decisions whether to buy equipment or build a new factory depend on the relationship between the rate of interest and the expected rate of return on the project. Similarly, a government's decision about the proportion of its budget deficit by borrowing is affected by interest rate movements Hardwick et al. (1999). Kithinji and Waweru, (2007) asserted that interest is rent of money.

Lipsey and Chrystal, (2014) submitted that in addition to fiscal policy, government has available the tools of monetary policy. Monetary policy involves changing interest rates to influence the economy. High interest rates are a symptom of a tight monetary policy. When interest rates are high, firms find it more costly to borrow, and this makes them reluctant to invest. Individuals with mortgages or bank loans are also hit by high interest rates since it costs more to make their payments. Hence interest rates tend to reduce demand in the economy since firms invest less and those with mortgages have less to spend. When interest rates are too low, the CBK purchases government bonds to increase the money supply.

Khawaja and Din (2007) studied on determinants of interest rate spreads in Pakistan and found out that determinants of interest rate spread are; industry's market structure, bank specific factors, macroeconomic variables, and financial regulations. Aikaeli et al. (2011) conducted a study on determinants of interest rate spread in Tanzania and found out that factors that determine interest rate spread are bank specific factor. These include; size of capital structure, management efficiency, ownership pattern, quality of portfolio, overhead costs, profit maximization motive and shares of liquid and fixed assets. A study carried out by Wanjiru, (2015) on determinants of interest rate spread among commercial banks in Kenya found out that statistically inflation is insignificant in explaining interest rate spread among commercial banks in Kenya.

Dechow, et al, (1998) found out that earnings are the most excellent predictors of future cash flows, whether standing alone or combined with cash flows from other activities of the firm. The strength of the predictive power of accounting outcome is because of accruals that are the difference between earnings and cash flows from operations. Therefore earnings are equal to cash flow plus accounting accruals. These accruals include any changes in operating items

plus other factors that have effect on cash flows. Bowen, et al, (1986) studied a variety of the measures of cash flows and how they predict future cash flows. The findings demonstrated that the current operating cash flows have a better prediction of future cash flows from the point of view of operating current accounting outcome. The study by Bath, et al, (2001) gives insights on the role of accruals in predicting future cash flows. This study establishes that simple regression method based on operating cash flows is the best way for predicting future cash flows than the ones founded on earnings. Secondly, this study demonstrates that predictions of cash flows by the accounting results are improved by defusing the latter in operating cash flows and totals of accruals. This approach improves explanatory strength by defusing total accruals into their major components, i.e.; changes in accounts receivable, accounts payable, inventories, debts, depreciation and provisions for depreciation. The study found out that the variable cash flow from operations is useful and relevant in the model and every component of accruals is a significant indicator of future cash flows.

FASB (1978) affirmed that the previous earnings provide a better base for the forecast of future operating cash flow than the data based on last cash flows. A study by Finger (1994) that compared cash flows from operations to accounting outcome and how they predict future cash flows showed that cash flows have an earlier predictor. Thus future cash flows are positively related to the accounting outcome of operations. This study focused on a number of firms in the United States of America from 1935 to 1987.

Revenues refer to the receipts of the organization during a given financial period. Revenues are the flows of funds, that is money or rights to money, which have resulted from the trading activities of the business, as distinct from funds (capital) invested by the owner or loans made by creditors and others (Glautier, et al.2011). Wood and Sangster (2012) documented that revenues are the financial value of goods and services sold to customers. Examples of revenues are subscriptions, rent receivable, commissions' receivable, and discounts receivable, bank charges and interests received. Nzomo, (2000) affirmed that revenues present actual or expected cash flows or the equivalent from the ongoing or central operations of the enterprise during the accounting period. Lerner and Gokarn (2007) stated that revenue is the increase in capital resulting from the delivery of goods or rendering of services by the business. In amount, the revenue is equal to the cash and receivables gained in compensation for the goods or services rendered. Joshi, (2011) explained that nothing can move unless revenues are realized. Revenues provide an index of company's operations because they determine the size of the company. When revenues are higher, it means the company is bigger. The accuracy of revenues during a particular period depends on their forecasts in the sales budget.

Lerner and Gokarn, (2007) explained that expenses are the decrease in capital caused by the business revenue-producing operations. In amount, the expense is equal to the value of goods and services used up or consumed in obtaining revenue. Wood and Sangster asserted that (2012) expenses are the value of all the assets that are used up to obtain revenues. Examples of expenses are rent paid, postages, commission paid, stationary, salaries and wages, insurance, bank interest, motor vehicle expenses, general expenses, overdraft interest and audit fees. Wild, et al. (2007) documented that expenses are the items that decrease equity and are the costs of assets or services used to earn revenues. Joshi, (2011) stated that expenses are heterogeneous items of costs incurred to earn revenue. Each expense is required to be assessed separately, considering its previous sum and future needs. Expenses can be forecasted under fixed, semi- variable and variable headings.

### 3. Methodology

The study used mixed research design which was both qualitative and quantitative and studies were carried out at the same time and both were given equal weights. Creswell (2009) gives a broader definition of qualitative study as indicated by Denzin & Lincoln (2007) that qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive and material practices that make the world visible. The target population of the study comprised of 6913 management and a supervisory cadre within commercial in Kenya which represented commercial banks in other countries. With a sample size of 346 respondents through stratified sampling techniques, data collection instrument used was questionnaire. Piloting was done to test the reliability and validity of the instrument. Data was analyzed through an SPSS package. Multiple regression analysis was done to test the significance levels of one variable to the other.

### 4. Discussions

Cash forecasting refers to the projection of the cash requirements of an organization during a given period Brigham and Ehradt, (2005). Hussain, (2016) submitted that cash forecasting is the way a firm plans for its cash needs and requirements during a projected period, particularly one year and above. Blocks and Hirt, (2012) affirmed that cash forecasting are various ways a firm employs to make sure that it has enough cash requirements during an accounting period. Pandey, (2015) documented that cash forecasts are needed to prepare cash budgets. Cash forecasting is done on short term or long term basis. The forecasts of one year or less are considered short- term while those extending beyond one year are considered long term. The functions of short term cash forecasts include determination of operating cash requirements; anticipation of short term financing and management of investment of surplus cash. Rajendra, (2013) affirmed that the purpose of cash flow forecasting is to create visibility into company's cash and liquidity position. These cash and liquidity position are achieved through simulation and location of cash inflows and outflows in advance. The aim of cash flow forecasting is to determine whether there will be need for additional financing and to ensure that the company's cash is optimally utilized to avoid borrowing. Successful cash flow forecasting also reduces the cost of capital and increases the returns of excess cash.

Ross et al, (2009) admitted that if the cash requirements are not determined, it is impossible for the management to ascertain the amount of cash to be held in hand, extent to bank financing can be depended upon and whether surplus

funds will be available to invest in market securities. Brealey et al, (2009) affirmed that short run cash forecasts serve many other purposes. Multi-divisional firms use them as a tool to coordinate the flow of funds among various divisions and to make financing arrangements for operations. These forecasts also serve as a tool in determining the margins or minimum balances to be maintained with banks, planning reductions of short and long term debt. Other functions include scheduling payments in connection with capital expenditure programs, planning forward purchases of inventories, checking accuracy of long range cash forecasts, taking advantage of cash discounts offered by suppliers and guiding credit policies. The study sought to determine the effect of cash forecasting on performance of commercial banks in Kenya. The findings are presented in a five point Likerts scale where SA=strongly agree, A=agree, N=neutral, D=disagree, SD=strongly disagree and T=total.

Table 4 contains a summary of data relating to the attitude of respondents towards cash forecasting practice of commercial banks in Kenya. For instance when respondents were asked whether commercial banks in Kenya carry out cash forecasting practice, the distribution of findings showed that 8.3 percent of the respondents strongly agreed to the statement that commercial banks in Kenya do carry out cash forecasting practice, 47.2 percent of them agreed, 28.2 percent of the respondents were neutral, 10.9 percent disagreed while 5.4 percent of them strongly disagreed. These findings implied that commercial banks of Kenya do carry out cash forecasting practice. The findings concur with Rajendra, (2013) who affirmed that the purpose of cash flow forecasting is to create visibility into company's cash and liquidity position. This cash and liquidity position is achieved through simulation and location of cash inflows and outflows in advance. The aim of cash flow forecasting is to determine whether there will be need for additional financing and to ensure that the company's cash is optimally utilized to avoid borrowing. Successful cash flow forecasting also reduces the cost of capital and increases the returns of excess cash.

The findings are also in agreement with Ross et al, (2009) who admitted that if the cash requirements are not determined, it is impossible for the management to ascertain the amount of cash to be held in hand, extent to which bank financing can be depended upon and whether surplus funds will be available to invest in market securities. Brealey et al, (2009) also affirmed that short run cash forecasts serve many other purposes. Multi-divisional firms use them as a tool to coordinate the flow of funds among various divisions and to make financing arrangements for operations. These forecasts also serve as a tool in determining the margins or minimum balances to be maintained with banks, planning reductions of short and long term debt. Other functions include scheduling payments in connection with capital expenditure programs, planning forward purchases of inventories, checking accuracy of long range cash forecasts, taking advantage of cash discounts offered by suppliers and guiding credit policies.

The respondents were also asked whether inflation rates influence interest rates of commercial banks in Kenya. The distribution of the responses indicated that 5.7 percent strongly agreed to the statement, 30.9 percent of them agreed, and 32.7 percent of them were neutral, 22.7 percent of them disagreed while 8.0 percent of them strongly disagreed to the statement. These findings implied that inflation rates influence interest rates of commercial banks in Kenya. These findings concur with Ngugi, (2011) who studied on empirical analysis of interest rate spreads in Kenya found and out that rising inflation resulting from expansionary fiscal policy, tightening of monetary policy, yet-to-be realized efficiency of banks and high intermediation costs explained interest rate spreads. Afanasieff et al, (2002) also studied on bank interest spreads in Brazil and found out that the factors that mostly explain interest rate spread behavior are macroeconomic variables particularly inflation. A study conducted by Folawewo and Tennant (2008) in South Africa found out that inflation plays a significant role in explaining variations in interest rate spread in Africa. Khawaja and Din, (2007) in Pakistan also carried out a study on interest rate spreads and established that a rise in inflation increases the credit risk premium. Credit risk premium is the spread that banks demand but higher rates hamper the repayment capacity of borrowers. Samuel and Valderrama, (2006) in their study on money policy regime on banking spreads in Barbados found out that high and volatile inflation reduces rapidly and unpredictably. This scenario deprives the private sector the ability to fulfill its planned financial obligations, for example, debt obligations. Banks can hedge against risks of high and volatile inflation by fixing a risk premium in their lending rates to increase their interest rates.

The respondents were further asked whether inflation rates and interest rates influence cash forecasting practice of commercial banks in Kenya. The distribution of the responses indicated that 7.3 percent strongly agreed to the statement, 47.3 agreed, 29.1 were neutral, 5.5 disagreed and 10.8 strongly disagreed to the statement. The findings implied that inflation and interest rates influence cash forecasting practice of commercial banks in Kenya. These findings are in agreement with Saleem, (2017) and Bowen et al, (1986) who documented that for the preparation of realistic budgets, various factors like inflation rates, interest rates, previous cash flows revenues and expenses should be considered. They are also in harmony with Mudida, (2014) who asserted that inflation inhibits the ability of money to perform its functions as a means of exchange. When inflation is extremely high, people are more likely to revert back to the barter economy or use money alternatives, for example, gold or a foreign currency whose value will increase against the currency of hyperinflation economy. Inflation inhibits the power of money as a unit of account and contributes to the variations of the relative values of different commodities over time since individual goods or services do not rise in price by the same proportion. This inhibits the stability of money as a unit of account. It also inhibits the power of money as a standard of differed payment because in periods of inflation, lenders lose while borrowers gain because the real value of the debt declines. Lenders, may, therefore, only accept to lend at very high rates of interest in order to compensate for the fall in the real value of the loan.

The respondents were further asked whether previous cash flows predict future cash forecasting practice of Commercial banks in Kenya. The distribution of the responses indicated that 7.1 percent strongly agreed to the statement, 23.8 percent of them agreed, 40.0 percent of them were neutral, 17.2 disagreed while 11.9 percent of them strongly disagreed to the statement respectively. These findings implied that previous cash flows predict future cash forecasting

practice of Commercial banks in Kenya. These findings concur with Bowen, et al, (1986) who studied a variety of the measures of cash flows and how they predict future cash flows. The findings demonstrated that the current operating cash flows have a better prediction of future cash flows from the point of view of operating current accounting outcome. The study by Bath, et al, (2001) also gives insights on the role of accruals in predicting future cash flows. This study establishes that simple regression method based on operating cash flows is the best way for predicting future cash flows than the ones founded on earnings. Secondly, this study demonstrates that predictions of cash flows by the accounting results are improved by defusing the latter in operating cash flows and totals of accruals. This approach improves explanatory strength by defusing total accruals into their major components, i.e.; changes in accounts receivable, accounts payable, inventories, debts, depreciation and provisions for depreciation. The study found out that the variable cash flow from operations is useful and relevant in the model and every component of accruals is a significant indicator of future cash flows. FASB (1978) also affirmed that the previous earnings provide a better base for the forecast of future operating cash flow. A study by Finger (1994) that compared cash flows from operations to accounting outcome and how they predict future cash flows showed that cash flows have an earlier predictor. Thus future cash flows are positively related to the accounting outcome of operations. This study focused on a number of firms in the United States of America from 1935 to 1987.

The respondents were further asked whether revenues determine cash forecasting practice of commercial banks in Kenya. The distribution of the responses indicated that 13.6 percent strongly agreed to the statement, 18.2 percent of them agreed, 40.0 percent of them were neutral, 22.7 percent of them disagreed while 5.5 percent of them strongly disagreed to the statement respectively. These findings implied that revenues determine cash forecasting practice of commercial banks in Kenya. These findings concur with Nzomo, (2000) who affirmed that revenues present actual or expected cash flows or the equivalent from the ongoing or central operations of the enterprise during the accounting period. Lerner and Gokarn, (2007) also stated that revenue is the increase in capital resulting from the delivery of goods or rendering of services by the business. In amount, the revenue is equal to the cash and receivables gained in compensation for the goods or services rendered.

The respondents were also asked whether expenses determine cash forecasting practice of commercial banks in Kenya. The distribution of the responses indicated that 19.1 percent strongly agreed to the statement, 46.4 percent of them agreed, and 17.2 percent of them were neutral, 17.3 percent of them disagreed while none percent of them strongly disagreed to the statement respectively. These findings implied that expenses determine cash forecasting practice of commercial banks in Kenya. These findings are in harmony with Lerner and Gokarn, (2007) who explained that expenses are the decrease in capital caused by the business revenue producing operations. In amount, the expense is equal to the value of goods and services used up or consumed in obtaining revenue. Wood and Sangster (2012) also asserted that expenses are the value of all the assets that are used up to obtain revenues. Examples of expenses are rent paid, postages, commission paid, stationary, salaries and wages, insurance, bank interest, motor vehicle expenses, general expenses, overdraft interest and audit fees. Wild, et al. (2007) documented that expenses are the items that decrease equity and are the costs of assets or services used to earn revenues.

The respondents were further asked whether cash forecasting practice determines performance of commercial banks in Kenya. The distribution of the responses indicated that 7.5 percent strongly agreed to the statement, 42.5 percent of them agreed, 27.3 percent of them were neutral, 11.8 percent of them disagreed while 10.9 of them strongly disagreed to the statement respectively. These findings implied that cash forecasting practice determines performance of commercial banks in Kenya. These findings concur with Ross et al, (2009) who admitted that if the cash requirements are not determined, it is impossible for the management to ascertain the amount of cash to be held in hand, extent to bank financing can be depended upon and whether surplus funds will be available to invest in market securities. They also concur with Brealey et al, (2009) who affirmed that short run cash forecasts serve many other purposes. Multi-divisional firms use them as a tool to coordinate the flow of funds among various divisions and to make financing arrangements for operations. These forecasts also serve as a tool in determining the margins or minimum balances to be maintained with banks, planning reductions of short and long term debt. Other functions include scheduling payments in connection with capital expenditure programs, planning forward purchases of inventories, checking accuracy of long range cash forecasts, taking advantage of cash discounts offered by suppliers and guiding credit policies.

Brealey, et al. (2005) also affirmed that long term cash forecasts are prepared to provide a glimpse of a company's financial requirements in the distant future. They are used to evaluate the impact of new product developments or plant acquisitions on the firm's financial conditions for a period of three or more years in the future. Uses of the long term cash forecasts include indication of company's future financial needs for its working capital requirement, helping in evaluation of proposed capital project, pinpointing the cash required to finance projects and cash to be generated by the company to support those projects and improvement in corporate planning. Long term cash forecasts compel each division to plan for future and to formulate projects carefully.



Statements		SA	A	N	D	SD	T
Commercial banks in Kenya do carry out cash forecasting practice	%	8.3	47.2	28.2	10.9	5.4	100
Inflation rates influence interest rates of commercial banks in Kenya	%	5.7	30.9	32.7	22.7	8.0	100
Inflation rates and interest rates influence cash forecasting practice of commercial banks in Kenya	%	7.3	47.3	29.1	5.5	10.8	100
Previous cash flows predict future cash forecasting practice of commercial banks in Kenya	%	7.1	23.8	40.0	17.2	11.9	100
Revenues determine cash forecasting practice of commercial banks in Kenya	%	13.6	18.2	40.0	22.7	5.5	100
Expenses determine cash forecasting practice of commercial in Kenya	%	19.1	46.4	17.2	17.3	0	100
Cash forecasting practice determines performance of commercial banks in Kenya	%	7.5	42.5	27.3	11.8	10.9	100

Table 1: Effect of cash forecasting practice on performance of commercial banks in Kenya

#### 4.1. Inferential Statistics

##### 4.1.1. Pearson 4 Correlation

The study sought to establish the strength of the relationship between independent and dependent variables. Pearson correlation coefficient was computed at 95 percent confidence interval (error margin of 0.05). Table 2 illustrates the findings of the study.

Variances		Performance of Commercial Banks
Cash flow forecasting practice	Pearson Correlation	.553**
	Sig. (2-tailed)	.000
	N	340

Table 2: Correlation Matrix

As shown on Table 4.10, the p-value for cash forecasting practice was found to be 0.000 which is less than the significant level of 0.05, ( $p < 0.05$ ). The result indicated Pearson Correlation coefficient (r-value) of 0.553, which represented an average, positive relationship between cash forecasting practice and performance of commercial banks in Kenya.

##### 4.1.2. Multiple Linear Regressions

Multiple linear regressions were computed at 95 percent confidence interval (0.05 margin error) to show the multiple linear relationships between the independent and dependent variables of the study.

##### 4.1.2.1. Coefficient of Determination (R<sup>2</sup>)

Table 4.11 shows that the coefficient of correlation (R) is positive 0.529. This means that there is a positive correlation between determinants of cash flow management practice and performance of commercial banks in Kenya. The coefficient of determination (R Square) indicates that 28.7% of performance of commercial banks in Kenya is influenced by the determinants of cash flow management practice. The adjusted R<sup>2</sup> however, indicates that 25.3% of performance of commercial banks in Kenya is influenced by the determinants of cash flow management practice leaving 74.7% to be influenced by other factors that were not captured in this study.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.533a	.287	.253	9.20118
a. Predictors: (Constant), cash flow forecasting practice, cash accounting practice, receivables management practice, payables management practice and liquidity management practice.				

Table 3: Model Summary

#### 4.1.2.2. Analysis of Variance

Table 4 shows the Analysis of Variance (ANOVA). The p-value of 0.000 which is < 0.05 indicates that the model is statistically significant in predicting how determinants of cash flow management practice affect performance of commercial banks in Kenya. The results also indicate that the independent variables are predictors of the dependent variable.

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	686.766	5	192.603	48.172	.000b
	Residual	1891.232	335	17.965		
	Total	2840.000	340			

Table 4: ANOVAa

#### 4.1.2.3. Regression Coefficients

From the Coefficients table (Table 4.12) the regression model can be derived as follows:

$$Y = 54.239 + 0.726X_1 + 0.421X_2 + 0.483X_3 + 2.174X_4 + 2.224X_5$$

The results in table 4.12 indicate that all the independent variables have a significant positive effect on performance of Commercial banks in Kenya. The most influential variable is liquidity management with a regression coefficient of 2.224 (p-value = 0.000), followed by payables management with a coefficient of 2.174 (p-value = 0.000) then cash forecasting practice with a coefficient of 0.726 (p-value = 0.000). Receivables management practice had a coefficient of 0.483 (p-value = 0.024) and lastly cash accounting practice with a coefficient of 0.421 (p-value = 0.017). According to this model when all the independent variables values are zero, performance of Commercial banks in Kenya will have a score of 45.743.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	45.743	2.638		54.239	0
	Cash flow forecasting practice	0.726	0.132	0.696	3.964	0

Table 5: Regression Coefficients

#### 4.1.3. Hypotheses Testing

- Ho1: Cash forecasting practice does not have a significant effect on performance of Commercial banks in Kenya.

From Table 5 above, forecasting ( $\beta = 0.726$ ) was found to be positively related to performance of commercial banks in Kenya. From t-test analysis, the t-value was found to be 3.964 and the p-value 0.000. Statistically, this null hypothesis was rejected because  $p < 0.05$ . Thus, the study accepted the alternative hypothesis and it concluded that cash forecasting practice affects performance of Commercial banks in Kenya.

## 5. Conclusion and Recommendation

In conclusion, Cash forecasting practice was found to be positively related to performance of commercial banks of Kenya. From Table 5 above, forecasting ( $\beta = 0.726$ ) was found to be positively related to performance of commercial banks in Kenya. From t-test analysis, the t-value was found to be 3.964 and the p-value 0.000. Statistically, this null hypothesis was rejected because  $p < 0.05$ . Thus, the study accepted the alternative hypothesis and it concluded that cash forecasting practice affects performance of Commercial banks in Kenya. The study recommends that the management of commercial banks in Kenya should be enhanced through frequent audits to be able to curb interest rates especially the unanticipated interest inflation which adversely affects the functions of money by undermining wealth holders' confidence in its ability to be used as medium of exchange and store of value. The firms should have plans for their cash needs and requirements during a projected period, particularly one year and above to enable them achieve their set goals in advance and reduce the cost of capital and increase the returns of excess cash. They should also make sure that company's cash funds are in the optimal utilization and there are no extra borrowings. They should also focus on surplus funds to invest in marketable securities and that, that period of inflation; lenders lose while borrowers gain because the real of debt declines. They should also carry out cash accounting to practice to evaluate cash performance in these commercial banks. Commercial banks within the country should manage their cash receivables to enhance organizational performance. The government should manage creditors' turnover and payables deferral period to determine payables management to enhance performance of commercial banks. They should maintain the minimum liquidity requirement as stated by the Central Bank of Kenya as both illiquidity and liquidity are financial diseases that can easily erode the profit base of a bank as they affect bank's attempt to attain high profitability level. They should also put into consideration liquidity levels in pursuit of high profit for it can cause greater illiquidity, which reduces the customers' patronage and loyalty.

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