

**RELATIONSHIP BETWEEN COMMERCIAL PAPER RATES AND
STOCK MARKET RETURNS AT THE NAIROBI SECURITIES
EXCHANGE**

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**A RESEARCH PROJECT PROPOSAL SUBMITTED IN PARTIAL
FULFILLMENT FOR THE REQUIREMENT OF THE AWARD OF THE
DEGREE OF MASTER OF BUSINESS ADMINISTRATIO, UNIVERSITY
OF NAIROBI**

OCTOBER, 2013

DECLARATION

This project is my original work and has not been presented for a degree in any other University.

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This research project has been presented for examination with my approval as University supervisor.

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DEDICATION

I dedicate this project to my family and friends. Without their encouragement, understanding, support and love, completion of this study could not have been possible.

Acknowledgement

First and foremost is my sincere gratitude to the Almighty God for the gift of life, resources, a sound mind and everything else that enabled me to sail through the program. I will forever be grateful.

This study in its present form has been made possible with the support and assistance by a number of people and institutions to whom I am indebted and wish to express a lot of gratitude.

To my supervisor Dr. Josiah Aduda, I extend my sincere thanks for his guidance, suggestions, comments, criticisms and his constant encouragement throughout the period of this research project. Also, to my lecturers and colleagues at the MBA class for their support, encouragement and intellectual discussions.

I am grateful to my dear sister Julia Ngonyo Munyua. who rely supported me throughout the project period, and I also wish to express my sincere appreciation to other members of my family and friends for their understanding, patience, encouragement and support during the period of my study.

Finally to my adorable parents, Mr. and Mrs. Peter Munyua for their continuous love and sacrifices they made to see me through to this level of education.

ABSRACT

This research looks at the relationship between commercial paper rates and stocks returns at the NSE. It draws upon mostly secondary sources including statistical bulletins by CMA, All share indexes and 20 share index from the NSE and published studies. The goal of the research project is to link the two variables and show their extent of correlation using the Kenya financial market. The first phase of the project involves creating a project proposal in the first 3 chapters. The final phase involves collection of data and analysis and then reporting. This is done to examine the connection between the variables. The anticipated outcome was that there is a positive relationship between the two variables. The findings may be useful in explaining why commercial papers are not often used in Kenya.

Kenya being a developing country and with an infant financial market compared to others like the US which are fully developed, its commercial paper market and stock markets are also at the development stage. Though there are a few firms that have issued commercial paper in Kenya, it is showing the same kind of relationship between commercial paper rates and stocks returns. Mostly commercial papers are used to finance short term projects like inventory and salaries payments and it is less risky than stocks because they can be asset backed and they have a short period to maturity. Commercial paper rates of return is set higher than the treasury bill rate because they are a bit risky than treasury bill which is a risk free instrument of investment. In order to find out the relationship between commercial paper rates and stocks returns in at NSE, 20 share and all share indexes were used to determine the rate of returns from the stocks. Quarterly rates were regressed to seek a correlation between the variables. The study covered a period of six years from 2007 to 2012. Regression model was used for analyzing the relationship, which was found to be highly positive and they do affect each other significantly. This depicted the expected results from the study which have been the results from other studies from other markets. The findings of the study were that there is a positive correlation between the two variables and thus equity returns do significantly influence the commercial paper rates, hence there exist a positive relationship between the two variables. The implications of these findings are that Kenya financial markets do depict the same kind of results obtained in the developed nations.

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LIST OF ABBREVIATION

ABCP – Asset Backed Commercial Paper

ANOVA – Analysis of Variance

CP – Commercial Paper

CMA – Capital Market Authority

CBK – Central Bank of Kenya

GCR – Global Credit Rating

NSE – Nairobi Securities Exchange

U.S – United States

VAR – Vector Auto Regression

Q1 – Quarter 1

SPSS – Statistical Package for Social Sciences

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Commercial Paper (CP) is a short term finance which typically defined as debt provided for periods of one year or less. It is usually easier to obtain and less expensive than longer term finance. CP can also be defined as short term unsecured promissory note issued by major corporations to fund working capital requirements. Its origin can be traced back to the 1800s in the U.S. Banks are prepared to make short term lending arrangements with clients since it roughly corresponds to the maturities of deposits in their banks. In recent years commercial paper has partly displaced bank borrowing as a source of funds for non-financial companies in virtually all segments in NSE. CP can be said to be in registered form whereby ownership is recorded in the books of the issuer or issuer's agent i.e., registrar is available although it's rare. Dealers typically advise issuers on pricing and they purchase positions that do not sell in the market, (Stigum&Crescenzi, 2007). In Kenya the study on CP and stock returns will be expected to yield positive relationship but stock prices and returns do sometimes affects the rate of commercial paper.

1.1.1 Commercial paper rates

Like treasury bills, rates on commercial paper are quoted on a discount basis the discount return to commercial paper holders is the annualized percentage difference between the price paid for the paper and the par value using a 360-day year. Returns available from Commercial Paper investments tend to be similar to money market rates, but since Commercial Paper is usually issued at a discount to face value, its returns usually come in the form of capital appreciation. Interest rates on commercial paper are often lower than bank loan rates, which makes the commercial paper market an attractive alternative to issuers, particularly in periods of Tight Money and high interest rates. Most commercial paper rates are quoted on a discount basis, although some paper is interest-bearing. Issuers market their paper through dealers, or alternatively through direct placement with an investor. Commercial paper is rated by debt rating agencies and generally is backed by a bank Line of Credit. Because it is usually issued at a

discount to its eventual maturity amount, the difference between the purchase price and the face value equals the investor's return on the commercial paper. Since commercial paper is usually issued in minimum amounts of Ksh, 1 million or more, it is primarily purchased by money market mutual funds and other corporations looking to maximize their short-term deposits. Hence, all commercial paper interest rates are quoted on a discounted basis. Moody's rating agencies, in the rating of commercial paper, silent features that affect a commercial paper issuer's financial and competitive position. Our appraisal includes, but is not limited to the review of factors such as: quality of management, industry strengths and risks, vulnerability to business cycles, competitive position, liquidity measurements, debt structure, operating trends, and access to capital markets. Differing weights are applied to these factors as deemed appropriate for individual situations, (Abken,. 1981).

1.1.2 Stock Market Returns

Over a long period of time stocks have earned a higher rate of return than treasury bonds and other financial instruments. Hence due to this fact many investors have focused more on stocks investments. The realized equity premium is mostly used in measuring stock returns which is the difference between yields on equities and treasuries. According to Diamond (1999), there has been an increased return from stocks which is attributed to a significant decline in bond returns, since long term stock returns have been quite stable. With a trend toward increased investment in mutual funds, this suggests that the required equity premium in the future should be lower than in the past since greater diversification means less risk for the investor.

The divergence do occur because a greater willingness to hold stocks, relative to bonds and other instruments tends to increase the price of stocks hence higher returns. This is because as price rise may yield higher realized return. The Gordon Formula says that stock returns equal the ratio of adjusted dividends to prices plus the growth of stock prices. Several related developments in the capital market should lower the required equity premium in the future relative to historical values. First, mutual funds provide an opportunity for small investors to acquire a diversified portfolio at a lower cost by taking advantage of the economies of scale in investing. In Kenya the stock return last year was 20.9% bet to date it has fallen 8 percentage points, with a year to date return of 12%.

1.1.3 Commercial Paper Rates and Stock Market Returns

Commercial paper is sold at a discount and pays face value at maturity, with the holder receiving the capital gain in lieu of interest. Firms generally "roll over" outstanding issues; that is, they sell new paper to pay off maturing paper, Stojanovic and Vaughan (2010). Also they also argue that, banks have lost a large part of their traditional lending business to the commercial paper market. Large, creditworthy corporate borrowers have increasingly turned to commercial paper because the interest costs are lower than those on bank loans. Governments and states can issue commercial paper to finance projects and providing disaster relief fund or even finance wars. Most investors in the commercial paper market purchase the paper at issuance and hold it until maturity. Hence, there is little trading of commercial paper in secondary markets.

Stock market returns is the indicator of the market as a whole or of a specific stock. It gives signal to the investors about their future moves. The movement in the price of a stock and the indexes gives the idea of the near future trend of the stocks, sector or the economy as a whole. As financial domain is the most important one of the overall health of the economy. Stock prices are the indicator of the performance of the stock and the return. Hence, if it is rising it's perceived that it has certain positive news or signals. But if it decreases then there must be some news regarding its performance. Stock performance can be affected by many factors such as economic, political, international, and company specific issues.

Pennacchi (2006) describes money market mutual funds, the primary investors in commercial paper as wanting to hold only very high quality assets to limit the risk of "breaking the buck". Meaning a fund value falls below \$1 per share. Assets Based Commercial Paper (ABCP) can be grouped into Multi-seller with receivables and term loans being the assets conduits, single seller with credit card and mortgage loans being the asset conduit, Covitz *et al* (2009). CP is generally issued on a discount basis with the implicit interest payment being equal to the difference between the issue price and face value of the instrument. Although commercial paper is unsecured a salient recent financial innovation has been the introduction of an "asset-backed" variety. Asset backed commercial paper originated in 1983 in the U.S where it has enjoyed spectacular growth, (Allworth and Borio, 1993). The value of underlying assets generally exceeds the purchase price or a third party credit enhancements and liquidity backups.

Depending on the issuer, there are three categories of commercial paper: asset-backed, financial, and corporate commercial paper.

In issuance of commercial paper there must be an agreed rate of return between the issuer and the buyer which is received at maturity when one receives the amount in full after buying at a discount. But it is a very different issue in stocks market because the returns will depend on market performance and it does not have maturity period. Thus stock rate of returns might be very high compared to the commercial paper rate.

According to Nandkumar&Rozeff (1994), there is evidence that initial rating of commercial paper influences common stock returns. Highly rated industrial issues of commercial paper, unaccompanied by bank letters of credit, are associated with significantly positive abnormal returns, lower rated issues are not. The stock price effects that causes changes in commercial paper ratings also demonstrates the relevance of ratings to financing firms. Rating downgrades, especially those that imply an exit from commercial paper market, produce significantly negative abnormal returns, upgrades have no effects. Initial CP ratings and subsequent rerating appear to help investors sort firms by their future prospects. If credit rating changes it does convey information to investors and influence stock prices. Wakeman (1984) hypothesizes that initial ratings attest to accuracy of the firm's financial statements, reduce investor's uncertainty, and enable the new issue to command a higher price. But Slovin *et al* (1988) concluded that stock prices are insensitive to credit ratings carried by new issues of commercial paper. The highly rated CP issues are associated with positive stock prices hence impacting on the stocks returns. Hence using the data from the Kenyan markets the study found out that, there is a correlation that is positive between the two variables.

1.1.4 Commercial Paper and Stock Market in Kenya

In Kenya, CP is regulated by the Capital Markets Authority (CMA) whose published draft "Guidelines for Issuance of Corporate Bonds and Commercial Paper" offers directives, procedures and qualifications for issuance. It offers investors short-term investment opportunities because it yields above the Kenyan Treasury bill rate; it pays premiums ranging from 0.5% to 2.5% above the 90-day Treasury bill. As well, Commercial Paper interest rates are set below the prevailing bank overdraft rates because the funds are raised directly from investors avoiding the

high cost of bank services or at the same time expensive, which allows corporations to save costs while paying high premiums to investors. There is a variety of programs available in the Kenyan Commercial Paper market which offers investors a range of investment profiles to suit their individual investment needs.

The Kenyan commercial paper market has had few issuers since its inception by Brook Bond in 1994, but it has grown to be a key source of funding for major businesses players. These include firms that have been illustrated in tables 4.1 to 4.4 and the amounts issued. The program size is the maximum amount a corporation can have outstanding or borrow at any given time. All Commercial Paper programs must be reviewed and approved by the Capital Markets Authority on an annual basis. While the minimum investment is Ksh. 1 million, most investors are institutional and invest in blocks of Ksh. 10 million and larger.

There is investment benefits associated with commercial paper which includes high interest premium over Kenyan Treasuries, flexible short-term tenors: 30, 60, 90 and 180-day paper available, existence of selection and variety of risk and reward profiles, including guaranteed and non-guaranteed paper and also regular availability. Since Commercial Paper is an unsecured promissory note, any company issuing Commercial Paper must represent a good credit risk. Commercial Paper issuers are typically household names and have a substantial net worth. Also Commercial paper issues may also be backed by credit enhancement arrangements. This is intended to protect investors even in the event of a serious deterioration in the underlying credit worthiness of the issuer. Commercial Paper can be sold directly or indirectly via intermediaries like agents. The CMA has approval requirements which acts as a guideline to the issuing firms which includes, three year average debt to equity ratio less than or equal to 400%, minimum paid-up share capital of Kshs. 50 million, three year average operating cash flow to total debt greater than 40%, and corporate profit for two of the last three years preceding application. If a company does not meet the above requirements it must have a bucking guarantee for it to issue commercial paper, where the guarantor institutions are often large banks or insurance companies which do meet the Capital Markets Authority guidelines. Some companies, currently issuing Commercial Paper in the Kenyan market, have been credit rated by Global Credit Rating Company (GCR). GCR is the only credit rating agency approved by the Capital Markets

Authority. Credit Rating agencies provide independent third-party analysis and review of corporations and their credit risk.

There are 60 listed firms in the Nairobi Securities Exchange (NSE) whose shares are currently trading. The stock market in Kenya has been performing very well in the past years, though the performance of stocks in Kenya has fallen. It is still possible for pension funds, insurers and other capital investors to report good gains at the end of the year this is according to analysts. Other assets has seen their returns dip in the last few months, with treasury bonds and bills yields dropping to as low as 5% from the average of 12% at the beginning of the year. The NSE has had a market capitalization of Kshs 1.61 trillion by the end of June 2013.

1.2 Research Problem

With the growing interest to investigate the cross- market linkage and transmission between stock returns on and commercial paper rates. It will be useful to investigate the relationship that exists between the two financing instruments; i.e. commercial paper and stocks. Thus, it will be the problem of this study to ascertain whether commercial paper rates do have a significant relationship with the returns in equity. With the analyses of data and evaluation it will give an explanation why commercial paper market in Kenya is inferior to Treasury bills and equity and other forms of financing.

Fama and French (1993) in their study common risk factors in the returns on stocks and bonds used a three factor model to explain power in the time series regress of U.S excess stock return. This methodology has been widely used to explain bonds and stocks data. Vichet Sum (2013) used the unrestricted vector auto regression analysis to show how commercial paper rates positively respond to the innovations in excess returns. The response was strong during the first few months following shocks to stock market risk premium. (Campbell & Ammer, .1993) found that found that the variability between commercial paper rates and excess returns in equity can be explained using other factors like discount rate and expected inflation. Though there are no much studies that have been done in Kenya to investigate commercial paper and the existence of a link between commercial paper and equity. Thus, it can be noted that there are hindrances to its operations in Kenya, (Kinyua,.2010). In Europe and the United States of America, the market is even bigger than the treasury bills market. In the USA the early years of the commercial paper

market and in the nineteenth century non-financial firms were the major issuers of commercial paper. After the second world war, increased sales of durable goods on credit, encouraged expansion of consumer finance companies and in turn the commercial paper market, (Stigum&Crescenzi,.2007).

Although there many factors explain price and return behavior in the equity and debt markets like inflation and the general economic factors it can be noted that in this study looked at how commercial paper rates have performed since its inception in Kenya. Thus the problem of the study will be to investigate how Kenya commercial paper rates have responded to returns in equity. This enabled the study to explore the link that exists between commercial paper rates and returns in stock over the same period in Kenya.

The questions of the study are, is there a link between equity market returns and commercial paper market? The study results expected are therefore, there is a link that exists between the CP market and equity returns. But commercial papers in Kenya are not famous with individual investors but with hedge funds, mutual funds and retirement schemes. By answering the above questions the study availed more information to assets managers and risk management in a portfolio. Further it added value into understanding of the common factors that explains return on equity and commercial paper.

1.3 Objectives of the Study

To establish the link between commercial paper rates markets and equity returns at the Nairobi Securities Exchange.

1.4 Value of the Study

The study is of great importance to investors so that they can be able to make investment decisions when a firm is seeking for finances from the financial markets. ie they will have knowledge to decide between available options. It will be a source of information to the fund managers and also the finance managers of various corporate in Kenya. This is because it points out how well commercial paper has been used and turned out to be a success world over and in

the country. To the regulators like CMA and NSE who controls the commercial paper and equity markets, they will be able to make informed decisions regarding commercial paper and the stocks returns. It will help create awareness to the general public who does not have any knowledge regarding commercial papers existence in the market and how they will have a reduced risk compared to bonds and equity, mostly if they are asset backed.

CHAPTER TWO

LITRATURE REVIEW

2.1 Introduction

In this chapter the study investigates the studies that have been done before regarding commercial papers world over. With commercial papers being in existence since 1800 which is one of the oldest money market instruments used for short term funds. In existence since 1983, asset-backed commercial paper programs have grown substantially over the past two years. These programs involve the securitization of assets and are attractive to companies because they provide a stable source of funding. At the same time, they appeal to banking organizations because they provide a means of earning fee income and meeting customers' needs for credit and, at the same time, eliminate the need to maintain the amount of capital that would be required if loans were extended directly to the companies, (Cavanaugh, Boemio and Edwards,. 1992).

Fama and French (1992a) state that a fund that is used alone or in combination of other variables, β has little information about average returns. If markets are integrated there is probably some overlap between the return processes for commercial papers and stocks. According to Brunnermeier and Oehmke (2012) there is a shorter maturity to lower ratings and it is specifically that maturities shorten when programs assets become riskier.

2.2 Theoretical Literature Review

Assets based commercial paper program share bank like features because assets are opaque, liabilities are shorter term and more liquid than assets. Acharya, Schnabl and Suarez (2009), argues that the avoidance of capital requirements was an important driver behind the growth of Assets Backed Commercial Paper (ABCP). Since mid-1980's banks have moved an increasing volume of assets off their balance sheets and funded them through asset backed commercial paper programs. Due to the default risk asset backed are better. As noted by Kavanagh, Boemio and Edwards, the growth of commercial paper market continued to accelerate during early 1980. Because of uncertainty regarding future rates favored shorter maturity and as corporations waited for lower interest rates before issuing bonds.

Money market mutual funds are the largest investors in commercial paper, even though they have grown within the last two decades. In U.S.A commercial paper had overtaken Treasury Bills to become the largest money market instrument by 1997, Stojanovic and Vaughan (2010). With financial innovations in place it has helped to explain a large part of the growth in commercial paper market. In the past it is only the blue chip companies that could issue such unsecured debt like commercial paper after being rated highly by rating agencies.

In the recent years with information readily available in financial markets and increased competition in underwriting more firms are able to issue commercial paper. Innovations like liquidity enhancements, credit enhancement and securitizing programs further have reduced risks to commercial paper holders. According to Stojanovic and Vaughan (2010), supply and demand determines commercial paper yield. Munywoki (2000) notes that company's cash flows, interest on bank overdraft and Treasury bills rate significantly affect the demand for commercial paper, and hence they have a negative relationship. Kinyua, (2010) argues that lack of adequate information and cost of issuance has impacted negatively on the development of commercial paper in Kenya.

According to Allworth and Borio (1993), the issuance of commercial paper generally takes place under a preannounced program and when it is announced the issuer is free to raise funds from the markets and when required with considerable gains in terms of flexibility. Young *et al* (1989 a) states that a common type of third party support for commercial paper issues takes the form of backup liquidity lines. Liquidity lines are designed to allow issuers to meet their maturing obligations in the context of a lack of synchronization between payments and receipts. The precise mechanisms vary across markets depending on local practices and legal framework, Young *et al* (1989 b). The mechanisms can be credit enhancement or liquidity enhancement. There can be a secondary market for commercial paper which is typically modest in comparison with that of other securities. This is mainly due to its short maturity, Alworth and Borio (1993). Though it's most practiced in Europe and accounts for 20% of transactions, Grodzkiet *al*, (1991).

There are quite a number of theories in finance that do link commercial paper rates and the stock returns. Though CP is not favored by many in raising short term finances in Kenyan financial

market, they do have a high interest in equity. In other parts of the world CP has been extensively used thus studies have been done regarding this topic.

2.2.1 Liquidity Theory of Commercial Paper

According to Gatev and Strahan (2000) banks have unique ability to hedge against market wide liquidity shocks where deposit inflows provide funding for loan demand shocks that follow declines in market liquidity. When market liquidity dries up and commercial paper spreads increase, banks experience funding inflows. These inflows allows banks to meet increased loan demand from borrowers drawing funds from pre-existing commercial paper backup lines without running down their holdings of liquid assets. Moreover the supply of cheap funds is sufficiently large so that pricing on near lines of credit actually falls as market spreads widen. A decline of liquidity is typically caused by an increase in arm's length investors' perceived opaqueness of firms. Systematic information can lead to equilibrium credit rationing in the commercial paper market. (Stiglitz & Weiss, 1981) show that credit rationing is optimal due to both adverse selection and moral hazard. They argue that during normal times (high liquidity), funds flow directly from investors to firms. According to (Myers & Rajan, 1998), holding liquidity assets earns low returns and creates additional agency problems for financial institutions.

The bank's ability to sell liquidity insurance more cheaply than other financial institutions provides an explanation for the viability of their business in this particular market. They tested how the funding costs for banks versus finance companies changes with the commercial paper spread. They found that yields on finance-company-issued paper do not hence they concluded that banks have a competitive advantage over their closest competitor in offering liquidity insurance. Therefore expected illiquidity risk should be priced and unexpected illiquidity should have a negative impact on a bank's stock price, given that investors do not want to hold stocks that are strongly correlated with illiquidity. Hence stock returns are sensitive to illiquidity in commercial paper market, (Allen 2005).

Covitz & Downing (2002) argue that movements in yields on short- and long-term corporate debt can only be explained by accounting for liquidity risk as well as default risk. As evidence, they show that yields on commercial paper reflect firm-level liquidity risk as well as default risk,

whereas yields on long-term corporate bonds reflect only firm-level characteristics related to default risk, although they would not contribute to banks' comparative advantage in commitment lending. To the extent that a decline in market liquidity captures a systematic widening of spreads, the latter can be due to any number of underlying factors. In effect we can interpret a single priced systematic liquidity factor as the projection of the stochastic discount factor that captures a number of underlying systematic factors on the commercial paper market.

2.2.2 Fama and French Three Factor Model

The traditional asset pricing model, known formally as the Capital Asset Pricing Model (CAPM) uses only one variable to describe the returns of a portfolio or stock with the returns of the market as a whole. In contrast, the Fama–French model uses three variables. They stated with the observation that two classes of stocks have tended to do better than the market as a whole: first small caps and second stocks with a high book-to-market ratio, customarily called value stocks, contrasted with growth stocks). Small stocks tend to act very differently than big stocks in almost all market conditions. In the long run, small stocks have generated higher returns than large stocks, although the extra return is not free. There is more risk in small stocks. They concluded that 5% of the return could be explained by the portfolio's sensitivity to the market (beta), the size of stocks in the portfolio (size), and the average weighted book-to-market.

2.2.3 Modern Portfolio Theories

It was developed by Harry Markowitz and published under the title "Portfolio Selection" in the 1952 Journal of Finance. Modern Portfolio Theory (MPT) says that it is not enough to look at the expected risk and return of one particular stock. By investing in more than one stock, an investor can reap the benefits of diversification - chief among them, a reduction in the riskiness of the portfolio. MPT quantifies the benefits of diversification, also known as not putting all of your eggs in one basket. The theory demonstrates that portfolio diversification can reduce investment risk.

2.3 Empirical Literature Review

There have been a number of studies regarding commercial paper in America and Europe which can give empirical evidence regarding the CP market and the stock market excess returns. Though commercial paper is highly rated they did play a central role during the financial crisis of 2007-2009. This is because before then investors regarded commercial paper as a safe asset due to its short term maturity and high credit rating. One of the main studies is Fama and French (1993) which provide empirical evidence of the linkage between equity and bond markets by showing that the market factor, size factor, growth factor, and maturity, default risks and dividend yields are prime candidates in explaining excess return variability of government bond returns Vichet Sum (2013). They came up with a three factor model where they identified three factors having a high explanatory power in the time-series regress of the U.S excess stock returns. They used it to explain monthly data on 25 portfolios formed on size and book to market remarkably well. Since this initial work, their methodology has been widely used in finance to describe bonds and stock data.

In addition, both stock and bond prices are affected by discount rate and expected inflation Campbell & Ammer, (1993). Evidence of the linkage between stock and bond markets is also empirically documented in studies conducted by Sum (2012a and 2012b) which show that stock and bond returns can be predicted by business and consumer confidence. Another study by Wilson and Jones (1990) shows that January effect is observed in the returns on commercial paper and bond. Kairys (1993) finds a persistent relationship between stocks returns and commercial paper rates.

Sharpe (1966) came up with Sharpe ratio provides a simple way to compare two assets with the same expected return showing which will give the greatest return given an equal level of risk. The key advantage of the Sharpe ratio is that it can be easily calculated without needing any additional data regarding the asset's profitability. This is crucial in my study because it can be used to show the risk return relationship between commercial paper and equity. Campbell and Ammer (1993) find that bond returns are largely driven by news on future inflation. In general, while stocks are more volatile than bonds, over the long run, stocks are expected to yield higher returns than bonds.

Faust and Wright (2009) add to this finding that predictability of bond returns is mainly coming from price changes during the release of important macro-economic data on employment, production and inflation. Dicke and Hess (2012) confirm the findings of Campbell and Ammer on basis of intraday prices changes around macro-economic data releases.

According to Calomiris (1995) there was run like episodes in unsecured commercial paper market when Penn Central collapsed in 1970. It did trigger declines in commercial paper issued by other institutions. Also Gatev&Strahan (2006) found similar adverse spillovers effects on commercial paper issuers from Enron's bankruptcy in 2001. Also the Lehman Brothers bankruptcy on September 15, 2008, was a major disruption to the CP market. Covitz, Liang and Suarez (2009) notes that commercial paper run can be triggered by panics and observable macroeconomics shock. Investors in ABCP likely know little about actual exposures of individual programs to subprime or other risk mortgages.

More information is revealed about an issuer's default probability at rollover dates, allowing short term investors to extract rents from long-term investors. In the U.S there have been lobbying by various agencies recommending improvements in disclosures of assets held in Assets Based Commercial Paper programs. Covitz, Liang and Suarez ascertain that multi-seller programs are the traditional and most common programs types. At the beginning of 2007 commercial paper was largest U.S short term debt instrument with more than \$1.97 trillion outstanding where financial sector accounted for 92% of all commercial paper Kacperczk and Schnabl (2010). The non-financial corporation's do invest in commercial paper through conduits which are hedge funds established to increase liquidity, they are like securities arbitrage conduits. Acharya, Gale and Yorulmazer (2009). In repayment of commercial paper most issuers repay by rolling it over, if not firms can get credit from banks to repay. According to Keogh, (2007) some conduits did not manage to roll over their paper resulting to defaults. This was due to 2007-2009 crises. Most of the investors were worried that banks could not provide credit to the conduits hence it caused panic and triggered a run in commercial paper market, (Mollenkamp,. 2007). In most cases the central banks must intervene to calm the market jitters as

Federal Reserve did during the crises in the U.S, Stojanovic and Vaughan (2010). This is to cool down the crisis and to boost the investors' confidence and to compensate them.

There have been a decline in non-financial commercial paper and firms have turned to corporate bond issuance. Aderson and Gascon (2010). This can be attributed to the fact that buyers of commercial paper such as money market funds learned during the financial crisis that commercial paper was riskier than they initially thought. As a result investors needed higher returns to compensate them for bearing more risk, (Kacperzyk and Schnabl,,2010).

2.4 Local Studies on Commercial Paper

The local research that has been done before on commercial paper in Kenya is on commercial paper demand byMunywoki (2000) on factors affecting demand for commercial paper as a short term source of finance for publicly quoted companies in NSE. The study was aimed at the identification of the factors critical to the development of the Commercial Paper market and whether the companies issuing Commercial Paper achieved the cost minimization strategy. He concluded that, company's cash flow, interest on Bank Overdraft and the Treasury bill rate significantly affect the demand for Commercial Paper. On the other hand, demand Bank overdraft rate was found to have a negative relationship with the Demand of Commercial Paper. He also found out that the cost of borrowing of all companies studied decreased after engaging Commercial Paper and the Treasury Bills rate was found to affect the Commercial Paper interest rate.

Another study was by Kinyua, (2010) and it was about the possible hindrances on the commercial paper usage in Kenya. The study comprised of all firms that met the CMA requirements with a sample of 100 firms being selected. Approval time by CMA and NSE, lack of adequate information and cost of issuance were found to have impacted on the development of commercial paper in Kenya. Hence as per the two studies Kenyan commercial paper market has not rely developed and it's in its infant age.

2.5 Summary of the Literature Review

As per the literature review it can be summarized that there have been many studies that have been done on commercial paper but mostly in the U.S where they have been adversely used as a way of financing by firms. Also in Europe their origin can be traced long time ago while in Africa and other parts of the world there is no much regarding commercial paper. As discussed in the literature review commercial paper is adversely affected by financial crisis which has been elaborated by studies like, Calomiris (1994) on Penn Central perspective. The returns of stock market will have to research using the data from NSE and compare it with the commercial paper returns in the same market. Commercial paper can be sold in secondary market but by a way of professional trading.

In most of the studies mentioned monthly returns are regressed on one or more predictor variables and the implied variation in expected monthly returns is only a small fraction of the total. Although the returns might be negative at some point but they are rarely significant. This study will focus on the Kenyan market where stock returns will be regressed against commercial paper rates. This study is necessary because it furthers the understanding the common factor explaining returns on the equity and commercial paper rates market in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter the study looks into finer details and components such as, research design, study population and sample size, data collection, data analysis and reporting, and the expected outcomes. It is crucial because it was the guidance in the next chapter.

3.2 Research Design

Research is the plan and the structure of investigation so as to facilitate answers to the research questions and make conclusions. Linear regression model was used to show how the two instruments of raising finance are related in our case. This enabled a wide range of data to be used to make the right conclusions.

3.3 Population and Sample

The population in this study considered all the firms that has been allowed to issue commercial paper by the CMA, in creating a sample the study used all the firms that has issued commercial paper within the last six years, see appendix two. On the hand, returns in equity was from all the listed firms at the NSE, see appendix one. This helped in finding the exact returns in equity market at the NSE.

3.4 Data and Data Collection Instruments

Secondary data was used in the study and it was accessed from the relevant authorities, i.e. Nairobi Securities Exchange, the Central Bank of Kenya, CMA and underwriting agencies. Monthly data of stock market returns and changes in the one-, two-, and three-month non-financial and financial commercial paper rates from 2011 to 2013. This helped access the performance of commercial paper market and the returns in the equity market within that period and explained the existence of correlation in Kenyan market.

3.5 Data Analysis

The data was analyzed using two models as illustrated below.

3.5.1 Conceptual Model

It takes the form of a mathematical function:

$$Y = f(x_1, x_2, \dots) \dots \dots \dots (i)$$

The monthly returns i.e., rates on commercial paper was regressed on the returns to a market of stocks in the NSE. Whereby indices at NSE was used, i.e. all share index, 20 share index. Commercial paper rates were the dependent variables and the equity indices were the independent variables. The vector auto regression will be used to capture the linear independence among multiple time series.

3.5.2 Analytical Model

The basis for using linear regression model is that, it was used by (Fama and French,. 1993) “common risk factors in stock and bonds return” also (Vichet Sum,. 2013) in his study namely commercial paper rates and stock market excess returns applied auto vector regression analysis to access whether there is positive response between the two variables. More specifically, regression analysis helps one understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed.

The analytical model will have an algebraic expression as shown below.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \epsilon_t \dots \dots \dots (ii)$$

Where,

β_i = Coefficient of the independent variables

Y = Monthly returns on commercial paper

X1= All share index

X2= 20 share index

NB: The data was analyzed using the Statistical Package for Social Sciences S.P.S.S to aid in regression of the variables.

It is expected that a change in share indexes i.e., the independent variables will lead to a significant change in commercial paper rates which is the dependent variable.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents analysis and findings of the study based on data collected from the secondary sources. The analysis was focused on answering the research questions. The objective was to establish the relationship between commercial paper rates and stock returns at the NSE. A linear regression analysis was carried out to measure and determine the relationship between the two main variables i.e., commercial paper rates and stocks returns.

4.2 Data analysis and discussion

The data corrected to facilitate the study was commercial paper rates, and issued from 2007 to 2012 and the respective 20 share indexes and all share indexes at the NSE. All the firms that are listed at the NSE were involved in the study (see appendix I).

4.2.1 Commercial Paper Rates

Commercial paper rates were crucial and a key focus of this study since the study sought to establish how they do relate with stocks returns at the NSE. The firms that issued commercial papers are in Appendix II. The rates did vary from one firm to the other and some did renew the commercial paper and others withdraw at some periods. The rates seem to be on the rise as the year's move from 2007 to 2012.

Table 4.1: Holding of commercial paper as at September 2009

ISSUER	AMOUNT (Ksh M)	Date of Approval	Expiry date	Status of program	Outstanding (Ksh m)	Average yield (%)
Kenya Hotel properties	550	13-03-07	13-03-10	1 st Renewal	550.00	9.7
Ecta (Kenya)	70	14-02-07	14-02-07	2 nd Renewal	59.01	9.2
Cooper Kenya Ltd	100	27-03-07	27-03-10	3 rd Renewal	100.0	9.7
CMC holdings	250	08-09-07	05-09-09	6 th Renewal	249.82	9.8
Davis&Shirlif Ltd	100	17-03-08	28-02-09	First issue	7.04	9.9
Total	1070				965.87	

Source: CMA

From the table above it can be noted that as at September 2009 there was Ksh 965.87 million outstanding amounts of commercial papers. It can also be noted that the rates were almost the same depicting a picture of well-considered rates of return as par the economy.

Table 4.2: Holding of Commercial Paper by Class of Investor as at December 2009

Issuer	Amount (Ksh Million)	Date of approval	Expiry date	Status of program	Outstanding Ksh million	Average yield (%)
1. ECTA (Kenya)	70	14-02-09	14-02-10	2 nd Renewal	70	9.2
2. Cooper Kenya Ltd	140	26-03-09	26-03-10	4 th Renewal	140	9.7
3. CMC holdings	250	08-03-09	08-03-10	7 th Renewal	249.11	9.8
4. Crown Berger	300	13-08-09	13-08-10	2 nd Renewal	257.318	11.83
Total	760				716.428	

Source: CMA

As at December 2009 the outstanding amount of total CP in Kenya was Ksh 716.428 million which was a reduction from previous quarter. The rates of return changed at the same period of time. Thus the economic dynamics changed thus investors demanded for higher return from their investments.

Table 4.3: Approved Commercial Paper as at Sept 2011

Issuer	Approved amount (Ksh m)	Date of approval	Date of expiry	Outstanding Ksh millions	Average yield (%)
Davis and shirliff	100,000,000.00	16-Mar -11	16-Mar -12	46,068,517.64	9.4
Crown Berger	300,000,000.00	29-Jul -11	29-Jul -12	71,997,467.33	8.36
KenolKobil	1500,000,000	26-July -11	26-July -12	1,070,890,000.00	10.34
Kenya kaziltd	250,000,000	16-Mar -11	16-MJun-11	178,494,854.52	15

Source: CMA

As at September 2011 the outstanding amounts of the issued commercial paper has rely diminished because it was at Ksh 178.494 million. This shows that the investors and issuers are

reducing leading into conclusion that the CP market is diminishing. The rates of return continue to raise thus it can be the cause of issuers losing interest in the market of commercial paper.

Table 4.4: Approved commercial papers as at March 2011

Issuer	Amount (Ksh millions)	Date approved	Date of expiry	Outstanding Ksh millions	Average yield (%)
ECTA (Kenya ltd)	70	14-Feb-09	14-Feb-10	Closed	9.2
Cooper(Kenya ltd)	140	26-Mar-09	26-Mar-11	Closed	9.56
Davis and Shirtliff	100	12-Mar-09	12-Mar-11	Renewed August 2010	9.0
Crown Berger	300	13-Aug -08	13-Aug -09	14,416,500,000.00	8.36
KenolKobil	1500	14-May -10	31-May -11	Under private placement from march 2011	10.34
CMC holdings	500	8-Mar-09	8-Mar-10		7.32

Source: CMA

At this period in time many of the issued commercial papers were closed and there was not much activities in the market. The fluctuating rates of returns which are not stable can be a big cause because the investors lack confidence with the market.

4.3 The Summary of Descriptive Statistics

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891(a)	.793	.745	.19440

Source: Research Findings

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.745 an indication that there was variation of 74.5% on commercial paper rate in Kenya due to 20 share index and all share index at 95% confidence interval. This shows that 74.5% changes in commercial paper rate in Kenya could be account for by 20 share index and all share index. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown by 0.891. Standard error is a measure of variability that a constant would be expected to show during sampling and a result of 0.1944 means the variability in our model is low.

Table 4.6: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.488	4	0.372	3.131	.048 ^b
	Residual	6.251	19	0.329		
	Total	7.739	23			

Source: Research Findings

Analysis of variance (ANOVA) is a method of testing the null hypothesis that several group means are equal by comparing the sample variance estimated from the group means to that estimated within groups. From the ANOVA statistics in table above, the processed data, which is the population parameters, had a significance level of 0.017 which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 5%. The calculated was greater than the critical value ($1.699 < 3.131$) an indication

that 20 share index and all share index were significantly influencing commercial paper rate. The significance value was less than 0.05, indication that the model was statistically significant.

Table 4.7: The Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	.298	.453		2.165	.006
	20 share index	.237	.160	.198	1.479	.012
	All share index	.231	.126	.245	1.834	.001

Source: Research Findings

From the data in the above table the established regression equation was

$$Y = 0.298 + 0.237 X_1 + 0.231 X_2$$

From the above regression equation it was revealed that 20 share index and all share index to a constant zero, commercial paper rate would be 0.298, a unit increase in 20 share index would results to increase in commercial paper rate by a factors of 0.237, unit increase in all share index would lead to increase in commercial paper rate by factors of 0.231.

4.4 Interpretations of Findings

The implication of the findings is that 74.5% changes in commercial paper rate in Kenya could be accounted for by 20 share index and all share index. This is because the two variables do directly affect each other with a relationship of 89.1%.With the results it can do recommended that the issuers of commercial paper should consider stocks returns in the same market when setting their rates.

With a great level of limitations and weakness in the study, it could have a relative importance to the interpretation of the results and the validity of the findings, for example, with the study covering a period of six years it might have left out some economic dynamics hence it could have created some other kind of results if the period was a bit longer. The tools used for data

analysis were few hence it might have some more meaning to the study if they were more than what were used.

The relationship between the two variables is big as per the findings hence from the literature the expectations here that there is a link between stocks market and commercial paper market hence the results are acceptable and consistence with the previously published knowledge.

The regression results indicate that there is a positive relationship between commercial paper rates and stocks returns. The $R = 0.891$ indicating a strong relationship between the dependent and independent variables. This is confirmed by coefficient of determination (R^2) value of 0.793, therefore (R^2) of 79.3% can indicate a very high relationship between commercial paper rates and stocks returns.

Analysis of variance, sum of squares due to regression equal to 1.488 indicate the variation due to the model, the f statistic indicate that the variation due to regression is significant since the significant level (sig) $0.048 < 0.05$. Residual sum of squares (1.488) which illustrates that most of the variation of the model is due to other factor other than the independent variables.

This study sets to find one the relationship between commercial paper rates and stocks returns at the NSF. The study was guided by the following objective as follows, to establish the link between commercial paper rates market and equity returns at the Nairobi Securities Exchange. In order to test the relationship between the two variables, the study used secondary data from the NSE and CMA. The study findings show there is significant relationship between the two. This does concur with the previous studies that have been done on the same using data from other economies across the globe.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The purpose of this study was to determine the relationship between commercial paper rates and stocks returns at the NSE. The study was carried out in the diminishing rate in issuance of commercial paper in Kenya. The data was analyzed by use of SPSS package to produce the correlation as well as regression analysis. Tables were used to describe the data and draw conclusions on the findings. The research problem was developed in chapter one which is supported, with literature review in chapter two. The research methodology was outlined in chapter three and the findings presented in the previous chapter. The study used correlation coefficient describing the association between movements of the three variables. This study has also used coefficient of determinant, which depicts how the movement in one variable can be explained by the movement in the other in percentages. The coefficients depict the effective of one variable over the other.

The study reveals that commercial paper rates and stocks returns have got a positive relationship and they significantly influence one another. Though commercial papers are not widely used to raise cash by most firms in Kenya, it can be noted that they are affected by performance of listed shares at the securities exchange. This is so because of the rates of returns from the two instruments.

With the research question and objective of the study being to find the link that exists between the commercial paper rates and stock returns. The background of study is on Kenyan market on commercial paper and stocks and how the commercial paper rates are quoted. In the literature review most of the arguments do support the hypothesis that commercial paper rates are affected by stocks returns hence it does support the findings in the study using the Kenyan market data.

The methodology that was used was a liner regression model to find the relationship that exist between the two variables. Quarterly CPrates and stock returns were regressed to find the correlation and relationship, and the data was collected from the relevant authorities i.e. NSE

and CMA. The study may be improved by increasing the number of years in the study period and also by using more tools to process and analyze the data.

5.2 Conclusions

With the topic being the relationship between commercial paper rates and stocks return in at the NSE it is important because it will be of value of many participant in the financial market.

The implication of the findings is that there is a linkage that exists between the commercial paper rates and stocks returns. Due to its scope or its limitations the study could have had other outcomes that are more diverse and precise to the problem stated. This calls for further research on the same using other methods and research tools. The study has gone some way towards enhancing our understanding of commercial paper market and stocks market hence with the current findings it does add to a growing body of literature on decision making regarding commercial paper and stocks and it do confirm the period previous findings and constricts additional evidence that suggests an existence of linkage between the two variables. In this study it can be concluded that the Kenya market for stocks and commercial paper have got a positive relationship and they influence one another in a big way. This has been demonstrated elsewhere by other scholars and it seems to be the same case in the Kenya market. The findings do concur with a study done by (Vichet Sum, 2013) who used the data from the US financial markets.

Kenyan financial markets has not been able to fully utilize the commercial paper to raise funds for their short term obligations, thus they tend to use other modes like debt and stocks. This can be deemed to be a contributing factor for firms failing to issue papers and favor stocks and bonds. As at September 2011 the outstanding amounts of the issued commercial paper has rely diminished because it was at Ksh 178.494 million. This shows that the investors and issuers are reducing leading into conclusion that the CP market in Kenya is in diminishing trend. The rates of return have been on the rise hence the issuers are discouraged to issue more. This can be a major cause of non-outstanding commercial paper even today. This can also confirm that the CP market in Kenya is at infant stage and there is a lot that need to be done by the relevant authorities. Many issuers are now using private placement like banks to get short term cash in form of commercial paper.

5.3 Policy Recommendation

According to the findings and interpretations of the study it should be important for the policy makers and other decisionmakers to consider the stocks return in the market when issuing commercial paper. This is due to the fact that they do positively relate to each other hence the rates of returns from the two financial instruments moves together. This will affect the investor's decisions when considering making an investment in either of the two.

When creating policies which affects the two variables authorities like NSE and CMA should consider the rates of returns because if a certain policy will be set for one certain policy will be set for one of the two instruments will have an adverse effect on the other. Stocks returns in most of the markets is always high than other instruments like bonds thus there must be a policy which will increase the uptake issuance of commercial paper in Kenyan Market.

CP is not much used to raise funds in Kenyan market and its rates should be set close to the stocks returns to encourage investments in it. CP programs should be highly recommended by authorities in Kenya so that they can be issued often by firms because it is a lucrative market which can even be bigger than treasury bills market which is the case for many developed countries like USA.

The study recommends that CP rates be set using stocks returns as the bench mark because there is a very high relationship in form of percentage in relation between the two variables though other factors do also have a portion of effect. This will increase competitiveness between stocks and commercial papers.

In Kenya commercial paper investment requires a huge amount of money which is beyond reach by many individuals hence left for big financial institutions and funds that can afford them. This should be reduced to encourage more individual investors to invest in CP which are less risky compared with stocks and they also have high rate of returns within a short period of time.

5.4 Limitations of the Study

The study considered duration of 6 years. A longer period is usually recommended for modeling time series data. This can lead to more conclusive information regarding the CP market.

The data used was mainly drawn from the Nairobi Securities Exchange and the Capital Market Authority and hence limited to the companies quoted at NSE and those that have issued commercial paper thus it does not present a fair view of the whole financial market in Kenyan economy.

The choice of a few selected scientific tools of analysis is also a major limitation on this study. The coefficient correlation tools are showing one variable as the only one affecting the dependent variables while others may have been present. This to use other statistical models like multivariate functions among others to check whether the same conclusions would be made.

Data availability is a big hindrance to the study because it takes time before it is available to the researcher by relevant authorities. Also lack of local studies that has been done in the same area was a major challenge, because it could have been given the researcher another perspective in his study.

5.5 Suggestions for Further Research

This study may be viewed as a starting point for several other studies related to it. Further researchers can be done on areas like, why commercial paper is not adversely used to raise short term cash by most Kenyan firms.

Future research can be conducted on the same project but using different analytical tools and different methodology of data collections and analysis. Mostly on commercial paper market in Kenya which seems to lag behind compared to other nations mostly those that are developed. The replication of research would determine if the same conclusions can be made.

Also the study can be done using a bigger number of years to increase the period of study and follow various trends in the two financial markets. This will allow dynamism in the study and sound conclusions can be made.

Appendix one: List of the listed firms in the NSE.

Agriculture

- Rea Vipingo Ltd
- Sasini Tea and Coffee Ltd
- Kakuzi Ltd

Commercial and Services

- Access Kenya
- Marshal's EA
- Car and General
- Hutchings Biemer (suspended)
- Kenya Airways
- CMC Holdings
- Uchumi Supermarkets (suspended)
- Nation Media Group
- TPS (Serena)
- Scan Group
- Standard Group
- Safaricom

Finance and Investment

- Barclays Bank of Kenya
- CFC Stanbic Bank
- Housing Finance
- Centum Investment
- Kenya Commercial Bank
- National Bank of Kenya
- Pan Africa Insurance Holding
- Diamond Trust Bank of Kenya
- Jubilee Insurance
- Standard Bank
- NIC Bank
- Equity Bank
- Olympia Capital
- Co-operative Bank of Kenya
- Kenya Re-Insurance

Industrial and Allied

- Athi River Mining Ltd
- BOC Kenya

- British American Tobacco Kenya
- Carbacid Investments
- EA Cables
- EA Breweries
- Sameer Africa
- Kenya Oil
- Mumias Sugar Company
- Unga Group
- Bamburi Cement
- Crown Berger (K)
- EA Portland Cement
- Kenya Power & Lighting Company
- Total Kenya
- Eveready East Africa
- KenGen

Alternative Market Segment

- A Baumann & Company
- City Trust
- Eaagads

- Express
- Williamson Tea Kenya
- Kapchorua Tea
- Kenya Orchards
- Limuru Tea Company

Appendix Two: List of Firms that have Issued Commercial Paper in Kenya

- Davis &Shirtliff
- Crown Berger
- KenolKobil
- Kenya Kazi
- K – Rep Bank ltd
- CMC Holdings ltd
- Athi River Mining ltd
- Kenya Hotel Properties
- Cooper Kenya ltd
- Ecta Kenya ltd
- Synergy Industrial Credit ltd
- TPS Serena ltd
- Kenya Oil Company
- Mabati Rolling Mills ltd
- Pan Paper Mills ltd
- KPLC ltd
- Nation Media Group
- General Motors (K) ltd
- Bidco ltd
- Caltex Oil Kenya ltd
- Shell Kenya ltd
- Total Kenya ltd
- Unilever Kenya ltd

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