

DETERMINANTS OF CORPORATE HEDGING PRACTICES USED BY COMPANIES LISTED IN NAIROBI SECURITY EXCHANGE

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ABSTRACT

Hedging can reduce underinvestment costs since it reduces the probability of financial distress by shielding future stream of cash flows from the changes in the exchange rates. Variability in cash flows will result in variability in the amount of investment. A decrease in planned investment means that the firm is foregoing positive net present value projects and since it has insufficient internal funds the firm is forced to raise costly external finance. Shareholders in Kenyan firms are losing billions of shillings each year due to directors' failure to shop for appropriate hedging instruments. The widespread use of derivatives for hedging is well documented in the corporate hedging literature. Thus, why firms hedge and whether hedging creates value are important questions. However, none of these studies was conducted in Kenya on the determinants of corporate hedging practices, research gap. This study aimed at investigating on the determinants of corporate hedging practices used by companies listed in Nairobi Security Exchange. The specific objectives of this study were to establish the effects of long-term debt ratio, growth option, liquidity ratio and cash flow volatility on the hedging practices used by companies listed in Nairobi Security Exchange. This study used a descriptive design. The target population of this study was therefore 300. This study used purposive sampling to select on the financial managers. The sample size of this study was therefore 60 respondents which is 20% of the target population. The study collected both primary and secondary data. Primary data was collected using questionnaires. On the other hand secondary data was collected from newspapers, published books, journals and magazines as well as other sources such as the companies' prospectus. Primary data was collected using questionnaires that were distributed to the respective respondents. Quantitative data collected was analyzed using descriptive statistics by the help of SPSS (V. 21) and presented through frequencies, percentages, means and standard deviations. Data was then presented in tables, figures and charts. In addition, multiple regression was used to establish the relationship between the dependent and the independent variables. This study established that there is a positive relationship between hedging practices used by companies listed in Nairobi Security Exchange and liquidity ratio, growth option and cash volatility. The study also found that long-term debt negatively influences hedging practices used by companies listed in Nairobi Security Exchange. This study established that most of the companies in Nairobi Security Exchange had experienced liquidity problems in the last 5 years. In addition, the study found that most of the companies in this study had not used hedging practices in the past. This study therefore recommends that companies listed in NSE should make use of hedging practices whenever they are facing liquidity problems.

Key Words: Corporate Hedging, long-term debt ratio, growth option, liquidity ratio, cash flow volatility, Nairobi Securities Exchange.

1.0 INTRODUCTION

1.1 Background of the study

In order to grow an institutional investor base, particularly an international one, the depth and breadth of the bond market will need to increase, inevitably entailing improvements in the liquidity and diversity of available hedging tools (Lien & Yang, 2008). Regulators in many countries have been moving toward increasing support for derivative products, but there are still apparent inconsistencies in policy approaches. In many countries, the ability to maintain currency stability has been an important regulatory consideration since the 1997 Asian crisis. Different policy reactions to the currency speculation during the crisis and the subsequent high level of FX volatility have set the pace for the capital market liberalization (Hagelin, 2003).

Shareholders in Kenyan firms are losing billions of shillings each year due to directors' failure to shop for appropriate hedging instruments. Hedging against foreign currency exposure is increasingly becoming important because of volatile exchange rates that in one swing turn profit into loss and vice versa as companies settle financing and purchase obligations incurred in various hard currencies (Mutuku, 2009). The Access Kenya Group is the latest firm to report a Sh50 million knock on its profit, which left only Sh40 million at the disposal of shareholders. Without the knock, shareholders would have earned a higher dividend and, critically, lowered the price-to-earnings ratio that is used as a price guide in the share market (Mutuku, 2009). Access Kenya group borrowed \$3.5 million from two local banks to finance the importation and installation of the fibre optic cable equipment. Mutuku (2009) further argues that with the shilling losing ground against the dollar, Access Kenya had to use more shillings to purchase dollars to pay its dollar denominated loans.

However, hedging practices can negatively influence the performance of companies. In 2009, Kenya Airways reported an annual loss of KES5.6 billion as its fuel-hedging loss ballooned to KES 8.9 billion for the fiscal year ending March 31. This is KQ's first losing fiscal-year after thirteen years of profitability. Kenya Airways lost KES 8.9 billion equivalent to KES 8.8 per share, in the 2009 fiscal year, compared with a profit of KES 6.5 billion, or KES 9.9 per share, a year earlier. The loss included net charges of KES 8.9 billion related to the falling value of its fuel-hedging positions. Without the charges, however, Kenya Airways would have earned KES 4.8

billion, or 10 cents per share, reflecting a net profit margin of 6.71 percent for the 08/09 fiscal year (Otieno, 2010).

A foreign exchange hedging contract that KenolKobil signed in 2011 to guard itself against volatility of the shilling is likely to impact negatively on the oil marketing firm's half-year results (Mwenda, 2012). The company, which has already issued a profit warning, is expected to book a Sh1.5 billion foreign currency loss, which did not show in its income statement last year as it had not materialized. The company, which engages in huge foreign currency denominated transaction in its importation of oil, had taken the hedging contract after the shilling depreciated to an all-time-low of 107 units to the dollar in 2011 (Mwenda, 2012).

1.2 Statement of the Problem

Shareholders in Kenyan firms are losing billions of shillings each year due to directors' failure to shop for appropriate hedging instruments (Bessembinder, 2006). For instance, throughout the 1990's, Uchumi Supermarkets spearheaded the hypermarket concept in Kenya. Initial restructuring of Uchumi did not forestall the deteriorating performance of the Company and as a result, the Company ceased its operations in the year 2006. Simultaneously, the Capital Markets Authority (CMA) suspended the Company's listing on the Nairobi Stock Exchange (NSE) due to bankruptcy (NSE, 2006). According to Otieno (2010), Kenya Airways in the year 2009 reported an annual loss of KES5.6 billion as its fuel-hedging loss ballooned to KES 8.9 billion for the fiscal year ending March 31. This was KQ's first losing fiscal-year after thirteen years of profitability. Kenya Airways lost KES 8.9 billion equivalent to KES 8.8 per share, in the 2009 fiscal year, compared with a profit of KES 6.5 billion, or KES 9.9 per share, a year earlier.

The widespread use of derivatives for hedging is well documented in the corporate hedging literature. Thus, why firms hedge and whether hedging creates value are important questions. Several research studies have been conducted on determinants of corporate hedging practices. Allayannis and Ofek (2001) conducted a study on exchange rate exposure, hedging and the use of foreign currency derivatives; Allayannis and Weston (2001) did a study on the use of foreign currency derivatives and fair market value, Glaum, (2008) conducted a study on the determinants of selective hedging: Evidence from German non-financial corporations and Kiarie (2010) did a study on turnaround strategies adopted by uchumi supermarket limited under receivership.

However, none of these studies was conducted in Kenya on the determinants of corporate hedging practices, research gap. This study aimed at filling this research gap by investigating on the determinants of corporate hedging practices used by companies listed in Nairobi Security Exchange.

1.3 Objectives of the study

- i. To establish the effects of long-term debt ratio on the hedging practices used by companies listed in Nairobi Security Exchange
- ii. To investigate the effects of growth option on the hedging practices used by companies listed in Nairobi Security Exchange
- iii. To find out the effects of liquidity ratio on the hedging practices used by companies listed in Nairobi Security Exchange
- iv. To determine the influence of cash flow volatility on the hedging practices used by companies listed in Nairobi Security Exchange

1.4 Research Questions

This study sought to answer the following questions;

- i. What are the effects of long term debt ratio on the hedging practices used by companies listed in Nairobi Security Exchange?
- ii. How does growth option influence the hedging practices used by companies listed in Nairobi Security Exchange?
- iii. What are the effects of liquidity ratio on the hedging practices used by companies listed in Nairobi Security Exchange?
- iv. How does cash flow volatility influence the hedging practices used by companies listed in Nairobi Security Exchange?

2.0 LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 Real options theory of growth option

Academic interest in real options theory is emerging in the field of strategic management (Adner & Levinthal, 2004; McGrath, Ferrier, & Mendelow, 2004). Behind this emerging interest are the practical concern that strategic investment decisions are often made under uncertainty and the theoretical appeal that real options theory is able to capture managers' flexibility in adapting their future actions to changing market or technological conditions.

Over the years, strategy research on real options has used the theory both as a model for financial valuation and as a heuristic for managerial decision-making (Kogut & Kulatilaka, 2001). Many corporate investments have been argued to have option-like features, and a large number of studies have conceptualized or evaluated such investment projects using the real options perspective.

2.1.2 Free cash flow theory of cash flow volatility

It was argued that firms with a positive cash flow are able to raise their capital and borrow from the capital market, while firms with a negative or insufficient cash inflow are unable to borrow and therefore facing the risk of default. According to this argument, a firm is assumed to go bankrupt (default) whenever the current year profit or cash flow is negative or less than the debt obligations or whenever the sum of its current year profit and the expected value of equity (without current income) is negative (less than zero).

Regarding the dividends, it has been documented in many studies that Jordanian companies have low dividend ratios. Nevertheless, the retained earnings or cash flows provide the internal source of finance which can be less costly compared with external sources of finance (Othman & Ameer, 2009). The tradeoff between the benefits of free cash flow's as internal finance and the cost of the free cash flow is the main focus of the free cash flow theory.

2.1.3 Monetary theory of liquidity Ratio

Monetary theory is a set of ideas about how monetary policy should be conducted within an economy. Monetary theory suggests that different monetary policies can benefit nations depending

on their unique set of resources and limitations (Minton, Schrand & Walther, 2002). It is based on core ideas about how factors like the size of the money supply, price levels and benchmark interest rates affect the economy. Economists and central banking authorities are typically those most involved with creating and executing monetary policy.

Morris and Shin (2010) conceptually defines the liquidity ratio as “realizable cash on the balance sheet to short term liabilities.” In turn, “realizable cash” is defined as liquid assets plus other assets to which a haircut has been applied. Ration analysis is one of the conventional way that use financial statements to evaluate the company and create standards that have simply interpreted financial sense (Kuhn, 2007).

2.1.4 Modigliani-Miller of debt Ratio

Modigliani-Miller theory claims that in a perfect market the capital structure does not affect the value of a firm. The financial leverage theory demonstrates that the problem is dichotomous because earnings as well as risk increase with increasing debt ratio. While earnings are something positive risk is regarded as a negative consequence. Or we want to maximize profit and minimize risk. M & M's propositions depend on perfect capital markets, but borrowing is costly and inconvenient for many individuals. The most serious capital market imperfections are often those created by the government like taxes (Trueman & Titman, 2004). The theory claims that because of asymmetric information issuing equity capital will undermine the existing value of the company. The theory cannot be used directly on farms because it deals with stock companies. But one important issue from the theory can be used however.

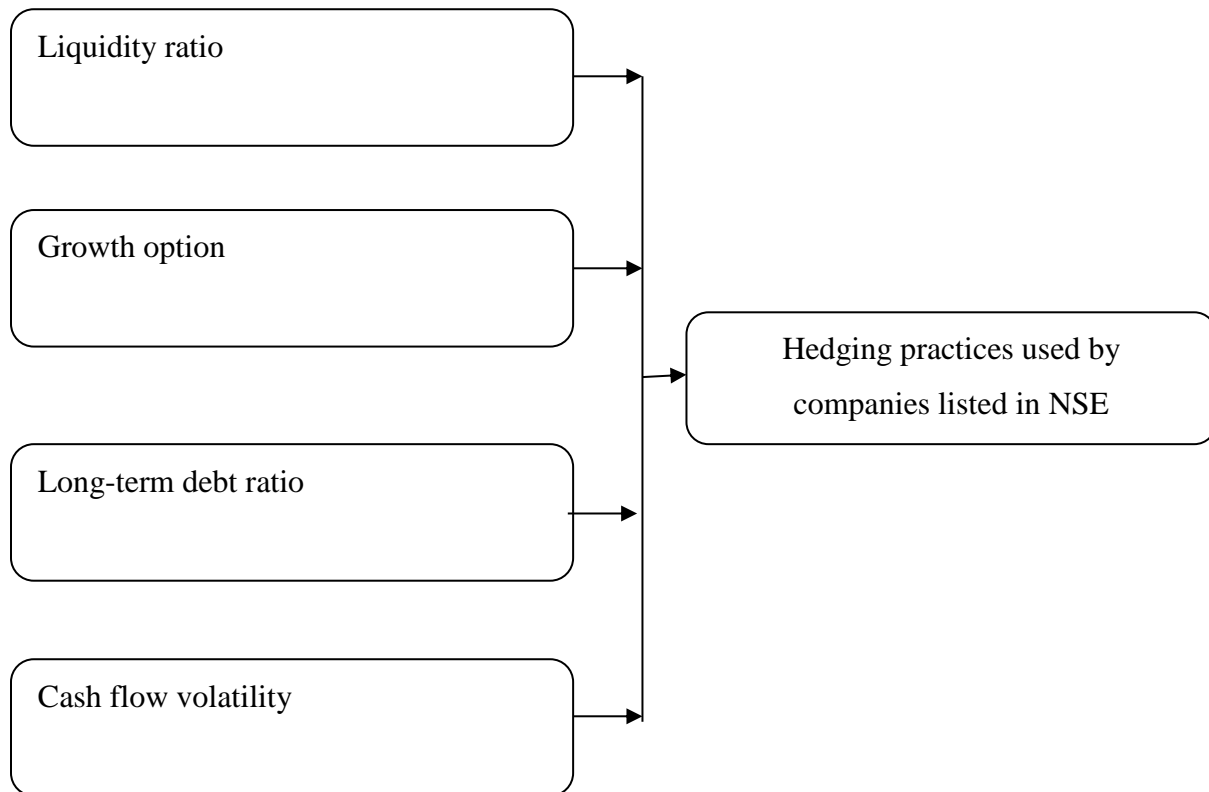
2.1.5 Pecking order Theory of Debt Ratio

The pecking order theory is popularized by Myers when he argues that equity is a less preferred means to raise capital because when managers (who are assumed to know better about true condition of the firm than investors) issue new equity, investors believe that managers think that the firm is overvalued and managers are taking advantage of this over-valuation. As a result, investors will place a lower value to the new equity issuance (Chalmers & Godfrey, 2000).

The theory (or pecking order model) postulates that the cost of financing increases with asymmetric information. Financing comes from three sources, internal funds, debt and new equity.

Companies prioritize their sources of financing, first preferring internal financing, and then debt, lastly raising equity as a “last resort”. Hence: internal financing is used first; when that is depleted, then debt is issued; and when it is no longer sensible to issue any more debt, equity is issued (Allayannis & Ofek, 2001).

2.2 Conceptual Framework



Independent variable

Dependent Variable

Figure 2.1: Conceptual Framework

2.3 Empirical Review

Glaum (2008) conducted a study on the determinants of selective hedging: Evidence from German non-financial corporations. Like previous studies, he found that a majority of firms follow profit-oriented, forecast-based hedging strategies. He adapted the existing hedging theories in order to explain which firms are likely to adopt selective or speculative risk management strategies. The

survey was undertaken in late 2008, early 2004. He surveyed all non-financial German firms listed on the Frankfurt Stock Exchange with a minimum sales volume of DM 400 million in the financial year 2006. Of the 154 companies that met the selection criteria, 74 took part in the survey (response rate: 48%). Multiple logistic regression analysis was applied in order to test the hypotheses.

Kuhn (2007) conducted a study on corporate Risk Management and Hedging Practice by Medium-Sized Companies in Denmark: An empirical investigation of the determinants of companies' foreign exchange risk management. This thesis presents insight into two corporate risk management areas: Using a questionnaire approach, it presents actual empirical evidence about corporate risk management practice and behavior of industrial, unlisted medium-sized firms in Denmark; and, using regression analysis, investigates the determinants of the usage of derivatives and foreign debt as means to manage foreign exchange rate exposure. These selection and restriction criteria reduced the initial sample from 3561 companies down to a population of 771 Danish medium-sized, industrial corporations with total balance of between 50m and 500m DKK and number of employees of between 20 and 499.

Swedish firms are also covered in a study by Hagelin (2003). He investigates the use of foreign exchange derivatives and focuses particularly on transaction and translation exposure. The survey data was collected in 2006 and the study, including 160 companies, gained a response rate of 63%. Descriptive evidence on derivative usage is the following: 60% of the companies use derivatives to hedge foreign exchange exposure and 53% use foreign debt for the same purpose.

2.4 Research Gap

Several research studies have been conducted on determinants of corporate hedging practices. Allayannis and Ofek (2001) conducted a study on exchange rate exposure, hedging and the use of foreign currency derivatives; Allayannis and Weston (2001) did a study on the use of foreign currency derivatives and fair market value; Glaum, (2008) conducted a study on the determinants of selective hedging: Evidence from German non-financial corporations and Kuhn, (2007) did a study on corporate Risk Management and Hedging Practice by Medium-Sized Companies in Denmark An empirical investigation of the determinants of companies' foreign exchange risk management. However, none of these studies was conducted in Kenya, research gap. This study aims at filling this research gap by investigating on the determinants of corporate hedging practices used by companies listed in Nairobi Security Exchange.

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The research design is a blueprint for conducting the research that specifies the procedures necessary to obtain the information needed to structure and solve the research problems (Cooper and Schindler, 2003). This study used a descriptive design. Descriptive research portrays an accurate profile of persons, events, or situations (Kothari, 2000). Descriptive design allows the collection of large amount of data from a sizable population in a highly economical way. The method was chosen since it is more precise and accurate since it involves description of events in a carefully planned way (Babbie, 2004). Therefore, the descriptive research design was deemed the best strategy to fulfil the objectives of this study.

3.2 Target Population

A population is the group that the research focuses on (Cooper and Schindler, 2003). Target population in statistics is the specific population from which information is desired. The target population for this study was financial managers, development managers, human Resource managers, production/operations managers and ICT managers working in companies listed in Nairobi Security Exchange. There were 60 companies listed in Nairobi Stock Exchange. The target population of this study was therefore 300.

3.3 Sampling Frame

In statistics, a sampling frame is the source material or device from which a sample is drawn. The sampling frame of this study included financial managers, development managers, human Resource managers, production/operations managers and ICT managers working in companies listed in Nairobi Security Exchange.

3.4 Sampling Technique and Sampling Size

This study used purposive sampling to select on the financial managers. The researcher believed that financial managers have got the required information on the determinants of corporate hedging practices used by companies listed in Nairobi Security Exchange. Mugenda and Mugenda (2003)

argue that if well chosen, samples of about 10-30% of a population can often give good reliability. The sample size of this study was therefore 60 respondents which was 20% of the target population.

3.5 Data Collection Instrument

The study collected both primary and secondary data. Primary data was collected using questionnaires. On the other hand secondary data was collected from newspapers, published books, journals and magazines as well as other sources such as the companies' prospectus. Primary data was collected using questionnaires that were distributed to the respective respondents. Kothari (2004) observed that questionnaire is a cost effective method to acquiring information especially from a large group of respondents. It also allows for anonymity. Questionnaires were used in this research because of the element of anonymity as some of the information required is sensitive.

3.6 Data Collection Procedure

This study collected quantitative data using a self-administered questionnaire. The respondents were informed that the instruments being administered were for research purpose only and the responses from the respondents would be kept secret and confidential. An introductory letter was also obtained from the University to collect data from the companies then the researcher delivered the questionnaires to the respondents and have them filled in and then collect later: the drop and pick later method.

3.7 Data Analysis

According to Babbie (2002), data analysis procedure includes the process of packaging the collected information putting in order and structuring its main components in a way that the findings can be easily and effectively communicated. Quantitative data collected was analyzed using descriptive statistics by the help of SPSS and presented through frequencies, percentages, means and standard deviations. This was done by tallying up responses, computing percentages of variations in response as well as describing and interpreting the data in line with the study objectives and assumptions through use of SPSS. Data was then presented in tables, figures and charts. In addition, multiple regression was used to establish the relationship between the dependent and the independent variables.

The multivariate regression model was:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where: Y = hedging practices used by companies listed in Nairobi Security Exchange;

β_0 = Constant Term;

$\beta_1, \beta_2, \beta_3$ and β_4 = Beta coefficients;

X_1 = liquidity ratio;

X_2 = growth option;

X_3 = long term debt ratio;

X_4 = cash flow volatility;

ε = Error term

4.0 FINDINGS

4.1 Response Rate

The sample size of this study comprised of 60 financial managers from all the 60 companies listed in Nairobi Security Exchange. The researcher distributed 60 questionnaires out of which 56 were correctly filled and returned. This represents a 93.33% response rate. According to Cooper and Schindler (2003), 50% is adequate for analysis and reporting and response rate of 70% and over is excellent.

4.2 Corporate Hedging practices

The respondents were requested to indicate whether their companies had been using hedging practices in risk management. According to the findings, 60.71% of the respondents indicated that their companies had not used hedging practices while 39.29% indicated that their companies had used hedging practices in the past. From these findings we can deduce that most of the companies in this study had not used hedging practices in the past. Bessembinder, (2006) had earlier argued that shareholders in Kenyan firms are losing billions of shillings each year due to directors' failure to shop for appropriate hedging instruments. This clearly shows that use of appropriate hedging practices is of paramount importance in the performance of a company

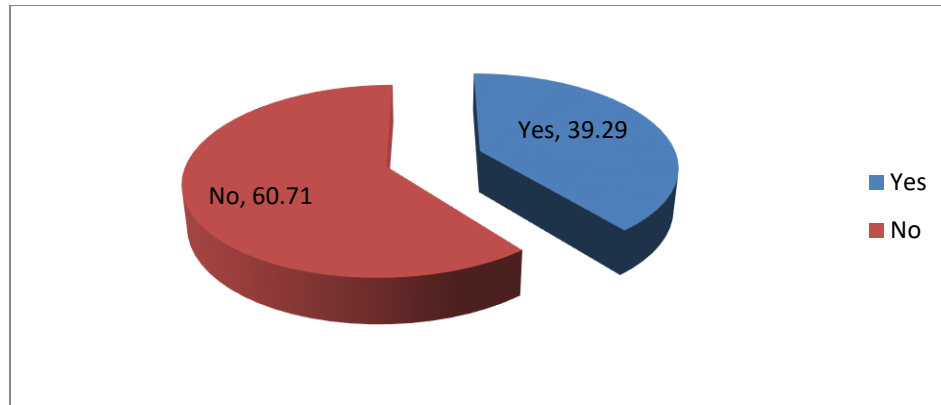


Figure 4.1: Use of Hedging Practices

4.2.1 Determinants of hedging practices

The respondents were further asked to indicate the extent to which the stated factors determine hedging practices in corporation in Kenya. According to Bartram (2008), many Asian currency and interest rate derivatives markets are still in the very early stages of development, while others boast a relatively broad range of derivative products.

Table 4.1: Factors Determining Hedging Practices

Option	Mean	Std. Dev.
Liquidity	4.09	0.976
Cash flow	3.98	0.782
Tax losses	4.02	0.827
Foreign Ratio	4.11	0.872
Institutional ownership	3.79	1.092
Managerial ownership	2.03	1.101
Growth options	4.05	0.982
Long-term debt ratio	3.78	1.022

4.3 Liquidity Ratio

4.3.1 Liquidity Problems in the last 5 years

The respondents were asked to indicate whether their organizations had experienced liquidity problems in the last 5 years. According to Allayannis and Ofek (2001) the payment obligations

include dues to suppliers, operating and financial expenses that must be paid shortly and maturing installments under long-term debt

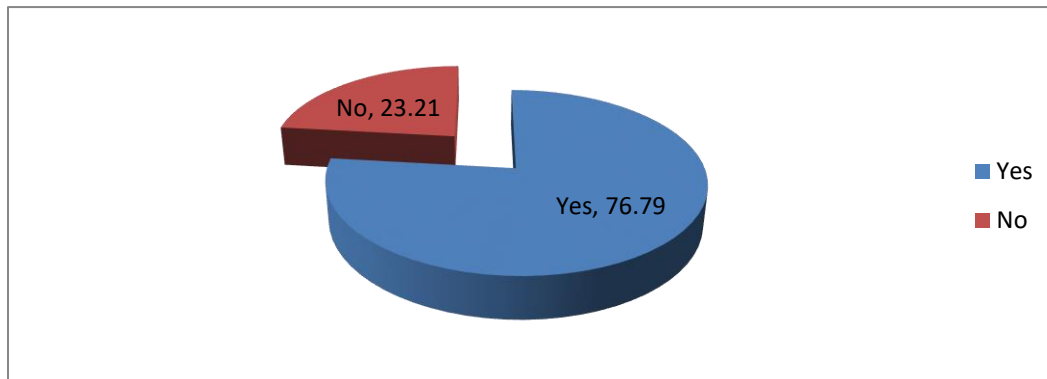


Figure 4.2: Liquidity Problems in the last 5 years

4.3.2 Forms of liquidity ratio and liquidity management

The respondents were further asked to indicate the extent to which their organization had been using the stated forms of liquidity ratios in liquidity management. The findings clearly show that companies listed in Nairobi Security Exchange were using acid test ratio most in the liquidity management of their companies followed by quick ratio and current ratio. These findings correlate with Bartram (2008) argument that liquidity ratios are used for liquidity management in every organization in the form of current ratio, quick ratio and Acid test ratio that greatly affect on profitability of organization.

Table 4. 2: Forms of liquidity Ratio

	Mean	Std. Dev.
Current ration	3.98	0.972
Quick ratio	4.02	1.092

Acid test ratio	4.09	0.928
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4.3.3 Liquidity ratio and firms hedging practices

The respondents were also asked to indicate the extent to which they agreed with the stated statements in relation to liquidity ratio and firms hedging practices. Nance, Smith, & Smithson (2008), posit that corporations can mitigate expected costs of financial distress and agency costs by maintaining a larger short-term liquidity position in terms of having a lower dividend payout ratio or a higher quick ratio. In order to test financial distress cost (underinvestment) and growth option

Table 4. 3: Liquidity ratio and firms hedging practices

Statement	Mean	Std Deviation
Liquidity ratio affect the company's business operations and profitability	4.12	0.982
Firms with fewer current assets will have problem in continuing their operations	4.09	1.021
Firms with higher levels of liquidity will have less need to access costly external financing to fund their investment programme.	4.01	1.093
Corporations can mitigate expected costs of financial distress by maintaining a larger short-term liquidity position in terms of having a lower dividend payout ratio or a higher quick ratio	3.98	1.005

4.4 Growth option

4.4.1 Influence of Growth option on hedging practices

The respondents were asked to indicate the extent to which growth option affect the hedging practices of companies listed in Nairobi Security Exchange. Exchange. Bessembinder (2006) had earlier argued that hedging can mitigate the underinvestment problem because hedging reduces the probability of default, thus creditors' sensitivity to investment risk.

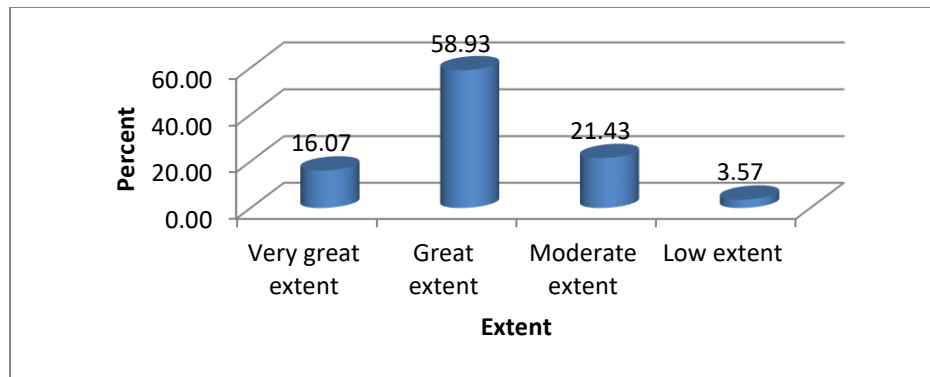


Figure 4.3: Growth option and hedging practices

4.4.2 Growth options and hedging practices

The respondents were asked to indicate the extent to which they agreed with the stated statements in relation to growth options and hedging practices. The findings are also in line with Graham & Rogers (2002) argument that hedging allows equity holders to capture a larger portion of the benefits from new investments. Since underinvestment costs are most severe for firms with attractive investment opportunities and hedging can mitigate the underinvestment problem, the relationship between hedging and growth opportunities should be positive.

Table 4. 4: Growth options and hedging practices

Statement	Mean	Std Deviation
Hedging can mitigate the underinvestment problem because hedging reduces the probability of default, thus creditors' sensitivity to investment risk	4.01	0.918
Hedging allows equity holders to capture a larger portion of the benefits from new investments	4.09	1.021
The relationship between hedging and growth opportunities is be positive	3.97	0.892
Hedging ensures sufficient internal funds for undertaking attractive investment opportunities	4.04	0.911

4.5 Cash flow volatility

4.5.1 Influence of Cash volatility on hedging practices

The respondents were requested to indicate whether cash volatility affects the hedging practices in companies listed in Nairobi Security Exchange. According to Linsley and Shrives (2006) in order

for risk management to matter, smooth financials must be valued at a premium to more volatile ones.

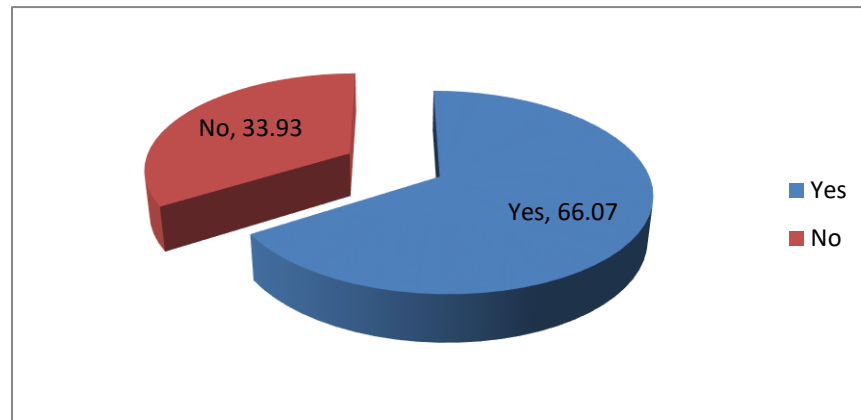


Figure 4. 4: Influence of Cash volatility on hedging practices

4.5.2 Cash flow volatility and hedging practices

The respondents in this study were requested to indicate the extent to which they agreed with the statements in relation to cash flow and hedging practices. The findings are in line with Nance, Smith, & Smithson (2008) argument that cash flow models of foreign exchange exposure suggest that the foreign exposure should be related to net foreign currency revenues (total revenues minus costs) – higher foreign sales would lead to higher use of currency derivatives. Firms with greater variation in cash flows or accounting earnings resulting from exposure to exchange rate risk have greater potential benefits of foreign currency hedging.

Figure 4.5: Statements on Cash flow volatility and hedging practices

	Mean	Std Dev.
Cash flow models of foreign exchange exposure suggest that the foreign exposure should be related to net foreign currency revenues	3.89	0.897
higher foreign sales would lead to higher use of currency derivative	4.41	0.824

Firms with greater variation in cash flows or accounting earnings resulting from exposure to exchange rate risk have greater potential benefits of foreign currency hedging.

4.5.3 Influence of Factors influencing cash flow on hedging practices

The researcher requested the respondents to indicate the extent to which the stated factors influencing cash flow affected hedging practices in companies listed in Nairobi Security Exchange. Nance, Smith, & Smithson (2008) had earlier indicated that the degree to which a firm's cash flows are affected by exchange rate changes should depend on the nature of its activities, such as the level of export and import activity, its involvement in foreign operations, its competitors currencies, and the competitiveness of its input and output markets. Thus, given the exchange rate uncertainty associated with the value of cash flows at a future date that is denominated in the foreign currency can be hedged perfectly in the forward market if the foreign currency value of the cash flow is known with certainty

Table 4. 6: Factors influencing cash flow

	Mean	Std Deviation
The level of export and import activity	3.95	0.782
Competitors currencies	4.02	1.082
The competitiveness of its input and output markets	3.89	0.892
Involvement in foreign operations	4.12	0.981

4.6 Long-term debt ratio

4.6.1 Influence of long-term debt ratio on the hedging practices

The respondents were hence requested to indicate the extent to which long-term debt ratio affect the hedging practices of companies listed in Nairobi Security Exchange. Lien and Yang, (2008) argues that although the issue of the maturity structure of debt is important for both developed and developing countries, there are some aspects of the problem that have been more often (although not exclusively) raised with respect to the latter.

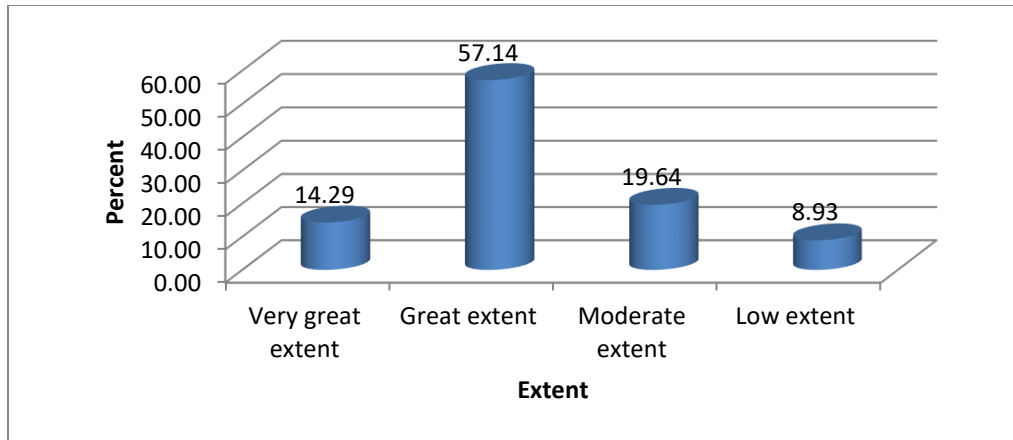


Figure 4.5: Influence of long-term debt ratio on the hedging practices

4.6.2 Statements related to long term debt ratio

The respondents were also requested to indicate the extent to which they agreed with stated statements in relation to long term debt. According to Graham and Rogers (2000), there has been a widespread perception both by domestic and international policymakers that asymmetric information and contract enforcement problems may lead to a shortage of long-term finance. This shortage is thought to have a cost in terms of productivity growth and capital accumulation and it may justify some form of government intervention.

Table 4. 5: Statements related to long term debt ratio

Statement	Mean	Std. Dev.
Asymmetric information and contract enforcement problems may lead to a shortage of long-term finance	4.02	0.987
Shortage of long-term finance has a cost in terms of productivity growth and capital accumulation	3.67	0.892

4.7 Regression Analysis

The researcher conducted a multiple linear regression analysis so as to establish the determinants of corporate hedging practices used by companies listed in Nairobi Security Exchange. The independent variables included long-term debt ratio, growth option, liquidity ratio and cash flow volatility while the dependent variable was hedging practices used by companies listed in Nairobi Security Exchange. The multivariate regression model was:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

The four independent variables that were studied, explain 75.7% of hedging practices used by companies listed in Nairobi Security Exchange as represented by the R^2 . This therefore means that other factors not studied in this research contribute 24.3% of the hedging practices used by companies listed in Nairobi Security Exchange. These findings clearly show that there are other factors that influence the use of hedging practices that were not studied in this study. This is because the four variables (liquidity ratio, growth option, long term debt ratio and cash flow volatility) cater for 75.7% of all the variables that influence the use of hedging practices.

Table 4.6: Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	0.863	0.757	0.774		0.4238

The significance value is 0.0251 which is less than 0.05 thus the model is statistically significant in predicting how long-term debt ratio, growth option, liquidity ratio and cash flow volatility contribute to hedging practices used by companies listed in Nairobi Security Exchange. The F critical at 5% level of significance was 2.353. Since F calculated is greater than the F critical (value = 2.2141), this shows that the overall model was significant.

Table 4.7: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.431	3	1.247	2.353	.0241
	Residual	8.312	53	2.316		
	Total	3.532	56			

The regression equation was;

$$Y = 2.332 + X_1(0.752) + X_2(0.698) - X_3(0.699) + X_4(0.542)$$

The regression equation above has established that taking all factors into account (liquidity ratio, growth option, long term debt ratio and cash flow volatility) constant at zero, hedging practices used by companies listed in Nairobi Security Exchange 2.332. The findings presented also show that taking all other independent variables at zero, a unit increase in liquidity ratio will lead to a 0.752 increase in the scores of hedging practices used by companies listed in Nairobi Security Exchange; a unit increase in growth option will lead to a 0.698 increase in the scores of hedging

practices used by companies listed in Nairobi Security Exchange; a unit increase in long-term debt ratio will lead to a 0.699 decrease in the scores of hedging practices used by companies listed in Nairobi Security Exchange, a unit increase in cash flow volatility will lead to a 0.542 increase in the scores of hedging practices used by companies listed in Nairobi Security Exchange.

Table 4. 8: Coefficient of determination

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
1 (Constant)	2.332	1.335		0.022
Liquidity ratio	0.752	0.128	0.265	0.023
Growth option	0.698	0.241	0.076	0.024
Long term debt ratio	-0.699	0.222	0.186	0.021
Cash flow volatility	0.542	0.134	0.199	0.023

CONCLUSION

The study concluded that there is a positive relationship between liquidity ratio and hedging practices used by companies listed in Nairobi Security Exchange. The study found that a unit increase in liquidity ratio will lead to a 0.752 increase in the scores of hedging practices used by companies listed in Nairobi Security Exchange. The study also concludes that there is a positive relationship between growth option and hedging practices used by companies listed in Nairobi Security Exchange.

The study also concludes that there is a negative relationship between long-term debt and hedging practices used by companies listed in Nairobi Security Exchange. The study established that a unit increase in long-term debt ratio will lead to a 0.699 decrease in the scores of hedging practices used by companies listed in Nairobi Security Exchange.

The study further concludes that there is a positive relationship between cash flow volatility and hedging practices used by companies listed in Nairobi Security Exchange. The study also found that a unit increase in cash flow volatility will lead to a 0.542 increase in the scores of hedging practices used by companies listed in Nairobi Security Exchange.

RECOMMENDATIONS

This study established that most of the companies in Nairobi Security Exchange had experienced liquidity problems in the last 5 years. In addition, the study found that most of the companies in this study had not used hedging practices in the past. This study therefore recommends that companies listed in NSE should make use of hedging practices whenever they are facing liquidity problems

The study also established that hedging ensures sufficient internal funds for undertaking attractive investment opportunities and can mitigate the underinvestment problem because hedging reduces the probability of default, thus creditors' sensitivity to investment risk. This study therefore recommends that in order to reduce underinvestment problems and to undertake attractive investment opportunities companies listed in NSE should make use of hedging practices.

The study also found that long-term debt ratio negatively influences hedging practices. This study therefore recommends that if a company is to use hedging practices it should avoid long-term debt ratio.

Further, the study established that involvement in foreign operations influences hedging practices. This study therefore recommends that when a company is having imports and exports it should make use of hedging practices

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