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Abstract

The purpose of this study was to analyze the effect of foreign hedging practices on financial performance of non-financial firms listed at the Nairobi Securities Exchange. This study adopted a descriptive design. This descriptive research design was preferred because the study needed to establish the effect of foreign hedging practices on financial performance of non-financial firms listed at the Nairobi Securities Exchange. The study targeted a population of all 39 listed non-financial firms at NSE in Kenya. The questionnaire comprised of both open and closed ended questions. SPSS was used to produce frequencies, descriptive and inferential statistics which was used to derive conclusions and generalizations regarding the population. Regression analysis was used to show the sensitivity of profitability (PBT), ROA and ROE to various independent variables. Coefficient of determination (R^2) was used to measure the amount of variation in the dependent variable explained by the independent variable Information was sorted, coded and input into the statistical package for social sciences (SPSS) for production of graphs, tables, descriptive statistics and inferential statistics. Descriptive statistics included; frequencies, mean and standard deviation. Data analysis output was presented using tables and cartographies like pie charts and line graphs. The study findings indicated that employees were concerned about the financial performance so as to enhance the whole organizations performance. This was demonstrated by the extent of agreement with the statements in the questionnaire in support of the financial performance. Results indicated that swaps, currency futures, options and forward contracts influenced financial performance of non- financial firms positively. Results also led to a conclusion that training had increased efficiency and job satisfaction among the employees hence the organizational performance at large. The study recommends that the firms listed in the Nairobi Stock Exchange should explore avenues to enhance capacities within firms for managing foreign currency risk exposure. They should explore the route of continued education for those in workplaces through short term training that should be very practical oriented, this could involve professional organizations for finance specialists, bankers, accountants and consultants.

Key Words: *Swaps, Foreign Currency, Options, Forward Contract, Financial Performance*

Introduction

With a growing diversity of business operations and globalization, increase in financial risks naturally comes along such as fluctuating currencies, commodity prices and interest rates (Hausin *et al*., 2008). These risks, if not managed, result in losses, financial distress or total business failure (Mahidhar, 2006 and Chapman, 2006). Besides, consequent discrepancies in cost and revenue models results in operational and strategic risks (Mahidhar, 2006). Commodity prices fluctuations, for example, increases firm's cost of supplies/inputs; as such, cuts into profits; impacts on price strategy; and, reduce product/service demand (Mungai, 2011). Interest rate fluctuations affect performance of firms by increasing the cost of borrowing.

Firms operating in Kenya are exposed to varied risks ranging from currencies, commodity prices and interest rates risks. Unlike financial firms whose nature of business heightens their aptitude in financial risk management, non-financial firms listed at the NSE rarely hedge their financial risks, have not identified the determinants of doing the same and are, thus, vulnerable to unexpected changes in exchange rates, interest rates or commodity prices (Nzuki, 2010). Shilling exchange rate volatility has been erratic with the same being ranked the worst performing currencies in Africa and the world's third-worst performing currency after Suriname's Dollar and Maldives' Rufiyaa after trading at all-time low of 108 Ksh/USD in September from 77Ksh/USD at the beginning of 2011; about 43% depreciation (Legovini, 2002 and Turana, 2011). In addition, Kenyan commodities markets experienced highly unstable prices owing to erratic inflation which rose from 5.4% in January to 19.7% in November 2011 (McGregor & Doya, 2011 and Mungai, 2011). In reaction to inflationary pressure, CBK increased its base lending rates from 5% in January to 11% in October and 16.5% in December; effectively increasing banks' lending rates to between 20-25% from 10% (Okoth, 2011).

Owing to foreign exchange risks, Kenol Kobil made a foreign exchange loss of Sh1.2 billion on its 2011 operations, up 79% from 2010; CMC Holdings made a Sh11.9 million loss; while, Athi River Mining (ARM) made a Sh685 million loss within the same period. Kenya Airways posted a Sh4 billion loss in 2008 owing to fuel hedging losses (Kibuthu, 2011, Okoth & Anami, 2012 and Ombok, 2012). Besides, CFC Stanbic, PTA Bank, Shelter Afrique and Safaricom faced a four-fold jump in their corporate bonds' interest costs pegged on movement of the 182-day treasury bills which surged by 4.5% points to 9.94% in 2011 (Michira, 2011).

Hedging provides a medium through which these risks can be mitigated; that is, hedging against financial risk exposures helps to achieve greater stability of cash flow and business operations (Smithson and Simkins, 2011). However, despite the importance of hedging financial risks, these practices such as derivative instruments are rarely used by companies in Kenya. Nzuki (2010) established that derivatives usage in Kenya oil companies is below the optimal level; 31 to 60% against an optimal of 93%. This begs the question on what are the effects of hedging practices on financial performance of firms in Kenya.

Few local studies have been done on the effects of hedging against financial risks. Karp (2009) studied fuel hedging cost in aviation industry established that Kenya Airways ineptly hedged its price commodity risks. Nzuki (2010) studied how oil companies in Kenya manage price risk using futures and the study established that the oil companies under-hedge their futures markets and are exposed to high price risks resulting from the underlying price volatility. Njunge (2010) studied foreign exchange rate risk management practices among Micro Finance Institutions (MFIs) and the study established that some MFIs use price

adjustment, delay of payment when foreign currency is strong and accelerate when weak, swaps and price negotiation while some do not have foreign exchange risks hedging policy. The research had a gap since it did not address the effects of foreign exchange hedging practices on financial performance of non-financial firms in Kenya. Looking at the emphasis that is laid on foreign exchange hedging practices by the firms, the level of contribution of this factor to profits has not been sufficiently analyzed. It is for these research gaps that this study wishes to establish the effects of foreign exchange hedging practices on financial performance of non-financial firms in Kenya.

Study Objective

The main objective of the study was to establish the effect of foreign exchange hedging practices on financial performance of non-financial firms listed at the Nairobi Securities Exchange. The specific objectives were:

- To establish the influence of swaps on the financial performance of non-financial firms listed at the Nairobi Securities Exchange.
- To determine whether foreign currency futures affect financial performance of non-financial firms listed at the Nairobi Securities Exchange
- To evaluate the influence of options on the financial performance of non-financial firms listed at the Nairobi Securities Exchange.
- To establish whether forward contract has an influence on financial performance of non-financial firms listed at the Nairobi Securities Exchange

Empirical Literature

Moraa (2010) established that Kenya Airways Limited (KQ) hedging practices has maximized on profits and minimized on losses to the company through effective management of fuel price risks. The findings indicate that the use of forwards and futures has been able to effectively manage fuel price risks. With regard to challenges facing KQ when determining fuel hedges, the study found that KQ should enter into short term contracts, hedge 50% of its fuel requirements and hire hedge experts to negotiate fuel hedge contracts on their behalf. The study recommended that KQ should continue hedging as it manages fuel price risk, stabilizes profits and cash flows. KQ should continue using forwards and futures and also introduce the use of dollars to effectively manage fuel price risk more effectively.

Singh (2013) did a study on the relationship between foreign exchange trading and financial performance of commercial banks in Kenya. The objective of the study was to establish the relationship between Foreign exchange trading and financial performance of commercial banks in Kenya. The study adopted a survey research design where all 42 commercial banks were the focus of the study. Data was collected from secondary sources: annual financial reports of commercial banks and foreign trading data (currency forwards and swaps, and spot trading) reported to CBK. Pearson correlation, descriptive statistics and multiple linear regression analysis were used. The study established that from the multiple regression analysis, the coefficients for spot trading was 13.491 ($p<.001$), currency forwards 3.113 ($p = .057$) and currency swaps 4.820 ($p = .095$). The study concluded that: currency swaps and forwards are negatively related with ROA while currency spot is positively related with financial performance. Thus, currency swaps, forwards and spots are significantly related with commercial banks" financial performance.

Ubindi (2006) in his research on foreign exchange risk management by forex bureaus in Kenya, focused on a sample of forex bureaus in Kenya. Transaction exposure was rated as most critical compared to others. Transaction exposure was

through buying and selling foreign currencies, cross currency dealings and investing and financing in foreign currencies. The US dollar, sterling pound and Euro were currencies that were greatly traded and thus had the greatest contribution to foreign exchange risk. The foreign exchange risk management practices they used to mitigate foreign exchange risk were forward contracts (most frequently used), money market hedge, currency swap, and currency option. Most forex bureaus indicated that their foreign exchange risk management systems were governed by guidelines set by the central bank of Kenya as well as their individual decisions.

Bartram et.al (2005) in their study concluded that in the presence of deviations from parity conditions such as purchasing power parity and the international Fisher effect, non-financial corporations are confronted by risks stemming from the impact of unexpected exchange rate changes on the value of the firm. They also found that professional firm-wide risk management does not yet seem to be in place at all non-financial institutions, therefore justifying the strong need for implementing or improving risk management systems outside the financial sector. Jong, Ligterink and Macrae (2002) examined the relationship between exchange-rate changes and stock returns for a sample of Dutch firms over the years 1994-1998 and found that that over fifty percent of the firms were significantly exposed to exchange-rate risk. Barumwete and Rao (2008) on the other hand, in his study on the impact of currency exchange rate movements on the stock returns of European based car companies with market interests in the US, noted that for five out of the six investigated companies, short movements in exchange rates did not significantly affect their stock returns. They analyzed the annual reports of the five companies and found that derivatives instruments such as currency option, foreign exchange forwards, currency futures and currency swaps were used to hedge exchange risk and acknowledged that this might be one of the reasons why it was difficult to capture exchange rate risk.

Research Methodology

The study adopted a descriptive research design. The target population was all the non-financial firms listed at the NSE. Population is generally a large collection of individuals or objects that is the main focus of a scientific query and to whose benefit the study is done (Castillo, 2009).

In this study, the target population was the non-financial firms listed at the NSE regardless of whether they hedge as a financial risk mitigation strategy or not. Thus, the study was a census of these forms.

The study used purposive sampling technique. Sampling is the process of selecting units (people, organizations) from a accessible population so that by studying the sample one fairly generalize results back to the target population (Castillo, 2009). The sampling technique to be chosen is based on the target population being heterogeneous (consisting of 39 companies which practice hedging practices, all of which must be represented in the sample). Purposive sampling technique was used within the firms as it is possible to identify respondents that are knowledgeable and can provide the researcher with appropriate in-depth information (Davies, 2007).

Findings

Effect of Swaps and Financial Performance of Firms

The first objective was to establish the influence of swaps on the financial performance of non-financial firms listed at the Nairobi Securities Exchange. 81.6% agreed that swap outstands fixed rate to floating rate 92.1% agreed with the statement that swaps outstands floating rate 73.7% agreed that swaps fix in advance the rate (Spread) on new debt, and 86.8% agreed that swaps reduced costs or lock-in rates based upon

market view affects performance. The mean score for the responses was 4.27 which indicate that many respondents agreed to the statements on the influence of swaps on the financial performance.

The findings of the study agrees with those of Goetz and Hu (1996) argue that currency swaps are more cost-effective for hedging foreign debt risk, while forward contracts are more cost-effective for hedging foreign operations risk. This is because foreign currency debt payments are long-term and predictable, which fits the long-term nature of currency swap contracts. Foreign currency revenues, on the other hand, are short-term and unpredictable, in line with the short-term nature of forward contracts. This shows that hedging is necessary to protect a company against currency losses.

The findings also agree with those of Madura (2007), in his survey he points out that currency swaps are better for hedging against translation risk, while forwards are better for hedging against transaction risk. This study also provides anecdotal evidence that pricing policy is the most popular means of hedging economic exposures. These results however can differ for different currencies depending in the sensitivity of that currency to various market factors. Regulation in the foreign exchange markets of various countries may also skew such results. Currency swaps are still not the most ideal for Kenyan companies whose operation are in local currency but have obligations in foreign currency.

Currency Futures and Financial Performance

The second whether foreign currency futures affect financial performance of non-financial firms listed at the Nairobi Securities Exchange. 92.1% agreed they minimize exposure through early payments of foreign currencies before they are due, 94.7% agreed that if possible, they do delay foreign currency payments to a later date (lagging), 73.7% agreed that they also match costs with revenues denominated in similar currencies to reduce the impact (matching strategy), 86.5%agreed that at times they also forego foreign currency denominated financing if its anticipated that exchange rates was volatile later, 92.1%agreed that they request our bankers to reconsider their positions in case of adverse foreign exchange risk exposures.The mean score 4.23 which indicates that majority of the respondent agreed that foreign currency futures affect financial performance of non-financial firms.

The findings agrees with those of Allen (2003) who stated that firms with significant exchange rate exposure often need to establish an operational framework of best practices. These practices or principles may include identification of the types of exchange rate risk that a firm is exposed to and measurement of the associated risk exposure; development of an exchange rate risk management strategy; creation of a centralized entity in the firm‘s treasury to deal with the practical aspects of the execution of exchange rate hedging; development of a set of controls to monitor a firm‘s exchange rate risk and ensure appropriate position taking; and establishment of a risk oversight committee in the firm.

Options and Financial Performance

The third objective of the study was to evaluate the influence of options on the financial performance of non-financial firms listed at the Nairobi Securities Exchange. 81.5% of the respondents agreed currency options are expensive, 84.2% agreed that the firm lacks necessary knowledge to use currency options, 84.2% agreed that currency options are unavailable. Eighty one point six percent of the respondents agreed that at times, we retain foreign exchange risk whenever the potential cost due to exchange rate movements is small relative to company profits, 86.8% agreed that they at times also retain foreign exchange risk when the

exchange rate movement is in our favour, 73.7% agreed that sometimes they contain the risk because other currency risk management strategies are somewhat expensive and 92.1% agreed that sometimes they contain the risk because other currency risk management strategies are somewhat expensive. The mean score 4.34 which indicates that majority of the respondent agreed that options affects the financial performance of non-financial.

The findings agree with those of Marshal (1997) examined the extent of derivatives and the reasons for their use by carrying out surveys in 250 large UK companies. They found a wide spread use of both forwards and options (96% and 59% respectively). They pointed out that comparing to the primary reason for the use of forwards were company policy, commercial reasons and risk aversions, a good understating of instrument, and price were prominent. While the primary reason to use options was company management.

Forward Contracts and Financial Performance

The fourth objective of the study was to establish whether forward contracts has an influence financial performance of non-financial firms, 81.5% of the respondents agreed currency options are expensive, 89.5% agreed that forwards are better suited for your exposure, 91.1% agreed that their firm often carries out foreign exchange exposure projections in different currencies. Ninety two point one of the respondents agreed the firm sets extensive budgeting systems to handle currency risk projections, 92.1% agreed that their firms purchases exchange rate forecasts from the foreign exchange advisory services to make its own forecasts, 94.7% agreed that they have an up-to-date system that helps to handle currency risk projections, 84.2% agreed that they have an up-to-date system that helps to handle currency risk projections and eighty four point two of the respondent agreed that There are revenue projections incorporating foreign exchange rate movements in this firm. The mean score 4.31 which indicates that majority agreed that forward contracts has an influence financial performance of non-financial firms.

The findings conquer with those of Bodnar and Richard (1998) indicated that the most frequently used method is forward exchange contract. With forwards, the firm can be fully hedged. However, some risks including settlement risk that exchange rate moves in the opposite direction as either forecast, and counter party risk which the other party is unable to perform on the contract, the high cost of forward contracts will sometimes prevent firms to exercise this tool to fully hedge their exposures

Financial Performance

The main objective of the study is to establish the effect of foreign exchange hedging practices on financial performance of non-financial firms listed at the Nairobi Securities Exchange. This section tested the views of the respondents regarding financial performance of non- financial firms. 81.6% agreed their firms has experienced an increase in total revenue collected over the last 5 years 86.5% agreed that the their firms has experienced an increase in assets over the last 5 years, 57.9% agreed that their firms has a higher market value, 92.1% agreed that the interest expense to total operating revenue ratio is low (meaning the firm may be less reliant on overdraft), 89.5% agreed that the insurance company is more inclined to decisions that enhance returns on its physical capital rather than relational capital ,92.1%agreed that they have competitive advantage and superior firm performance and 91.1% agreed that their firms budget outrun ratio is low (meaning the firm always spent less than it had budgeted).The mean score of the responses for this section indicates that more employees agreed that there is positive effect of foreign exchange hedging practices on financial performance of non-financial firms. The

mean score for the responses was 4.21 which indicate that many respondents agreed to the statements regarding financial performance of non- financial firms and therefore it can be concluded that there is improved financial performance of non- financial firms.

Bivariate Correlation

Table 1 displays the results of correlation test analysis between the dependent variable (financial performance) and independent variables and also correlation among the independent variables themselves.

positive relationship. This was also evidenced by the p value of 0.000 which is less than that of critical value (0.05).

Table 1: Bivariate Correlation

Variable		Financial Performance	Foreign Hedging Practices	Currency Futures	Options	Forward Contracts
Financial Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
Swaps	Pearson Correlation	0.811	1			
	Sig. (2-tailed)	0.000				
Currency Futures	Pearson Correlation	0.925	0.96	1		
	Sig. (2-tailed)	0.000	0.000			
Options	Pearson Correlation	0.532	0.477	0.51	1	
	Sig. (2-tailed)	0.001	0.002	0.001		
Forward Contracts	Pearson Correlation	0.611	0.164	0.348	0.664	1
	Sig. (2-tailed)	0.00	0.326	0.032	0.00	

Regression Analysis

In order to establish the statistical significance of the independent variables on the dependent variable (financial performance) regression analysis was employed. The regression equation took the following form.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$

Where;

Y =financial performance

X_1 = Swaps

X_2 = currency futures

X_3 = options

X_4 = forward contracts

In the model, β_0 = the constant term while the coefficient $\beta_i i = 1....4$ was used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables. μ is the error term which captures the unexplained variations in the model.

Table 2 shows that the coefficient of determination also called the R square is 0.966.

This means that the combined effect of the predictor variables (swap, currency futures, options and forward) explains 96.6% of the variations in financial performance. From the model summary table below adjusted R^2 was 0.961 this indicates that the combined effect of predictor variables (swap, currency futures, options and forward) explains 96.1% of variations in financial performance.

The correlation coefficient of 98.3% indicates that the combined effect of the predictor variables has a strong and positive correlation with financial performance of non-financial firms. This also meant that a change in the drivers of project performance (swap, currency futures, options and forward) has a strong and a positive effect on financial performance of non- financial firms

Table 2: Regression Model Fitness

Indicator	Coefficient
R	0.983
R Square	0.966
Adjusted R Square	0.961
Std. Error of the Estimate	0.09129

Analysis of variance (ANOVA) on Table 3 shows that the combined effect of (swap, currency futures, options and forward) was statistically significant in explaining changes in financial performance. This is demonstrated by a p value of 0.000 which is less that the acceptance critical value of 0.05.

Table 3: ANOVA

Indicator	Sum of Squares	Df	Mean Square	F	Sig.
Regression	6.427	4	1.607	192.806	.0000
Residual	0.225	27	0.008		
Total	**6.652**	**31**			

Table 4 displays the regression coefficients of the independent variables. The results reveal that swaps is statistically significant in explaining financial performance (beta=0.537, p value 0.01). The findings imply that an increase in swap by one unit leads to an increased financial performance of non-financial firm's effectiveness by 0.537, units.

Regression results indicate that currency future and financial performance had a positive and significant relationship (beta=0.938 p value 0.000). The findings imply that an increase in currency future by one unit leads to an increased financial performance of non-financial firms by 0.938 units.

Results further indicate that options and financial performance was positive and significant (beta=0.257, p value 0.002). The findings imply that an increase in options by one unit leads to an increased financial performance of firm's effectiveness by 0.257units.

Finally, the results indicated that forward contracts had a positive and significant relationship with financial performance (beta=0.448, p value 0.000). The findings implied that a forward contract was statistically significant in explaining financial performance of non-financial firms listed at the Nairobi Securities Exchange.

Table 4: Regression Coefficients

Variable	Beta	Std. Error	T	Sig
Constant	0.149	0.24 3	0.615	0.543
Swap	0.537	0.16	0.625	0.01
Future Currency	0.938	0.17	5.49	0.000
Options	0.257	0.074	3.453	0.002
Forward contracts	0.448	0.071	6.313	0.000

After the analysis the model arrived at was as follows;

$Y = 0.149 + 0.537X_1 + 0.938X_2 + 0.257X_3 + 0.448X_4 + \mu$

Financial Performance = 0.149 + 0.537 Swaps+ 0.938 Future Currency + 0.257 Options + 0.448 Forward contracts + μ

The Y- intercept is 0.149 which is the predicted value of financial performance when all the others variables are 0, implying that without inputs of the independent variables the effectiveness of financial performance would be 0.149.

Summary

The main objective of the study was to establish the effect of foreign exchange hedging practices on financial performance of non-financial firms listed at the Nairobi Securities Exchange One of the key findings was that employees from non-financial firms participating in the project were concerned about the financial performance of the firms. This was demonstrated by the extent of agreement with the statements in the questionnaire in support of the financial performance.

Conclusion

Base from the study; it was possible to conclude that there was increased and improved financial performance in non-financial firms.

Swaps and Financial Performance

It was possible to conclude that swap is a significant tool in financial performance. It allows the buyer to exchange one set of cash flows for another. Thus the buyer of a swap agrees to make periodic payments based upon some financial price and in return receives periodic payments based upon some other financial price this helps in bettering the financial performance of non-financial firms.

Currency Futures and Financial Performance

Based on findings it was possible to conclude that there was a positive and significant relationship between currency futures and financial performance of non-financial firms.

Options and Financial Performance

Based on findings it was possible to conclude that there was a positive and significant relationship between options and financial performance. Results led to the conclusion that there is a clear trade-off for investors mitigating currency risk in least non-financial firms in the form of contract fees for the benefit of protection against currency fluctuations.

Forward Contracts and Financial Performance

It was possible to conclude that forward contracts influences financial performance positively. Results revealed that a forward contract was important and effective in improving financial performance; which helped the firm to be fully hedged.

Recommendations

Swaps and Financial Performance

From the findings the firms should emphasize in the use of currency derivatives hedging on corporate performance and value. It allows companies to increase their capital expenditures and to also smooth their investment policies. It

helps firm's foreign debt capacity to increases when it utilizes financial derivatives and it also adds to its firm value from tax shield.

Currency and Financial Performance

From the findings of this research, the study recommends that firms listed in the Nairobi Stock Exchange should explore avenues to enhance capacities within firms for managing foreign currency risk exposure. They should explore the route of continued education for those in workplaces through short term training that should be very practical oriented, this could involve professional organizations for finance specialists, bankers, accountants and consultants. Such training should ideally be out of site because of the need to meet participants from diverse businesses and orientations for training and assessment to avoid internal interruptions.

Options and Financial Performance

Basing on the results of the study, the following recommendations could be of help to the listed companies in the NSE. The companies should develop a robust foreign exchange risk management framework which clearly shows its currency risk assessment procedure and implementation of foreign exchange risk management strategies. This should be regularly monitored and adjustments made where necessary. The company should emphasize the use of currency risk transfer strategies through hedging, insuring and diversification of foreign exchange risk. These are the most commonly recognized foreign exchange risk management strategies. With currency risk transfer strategies, the risk is completely transferred. However, the danger is to outlook other FERM strategies

Forward Contracts and Financial Performance

Since the study established that hedging practices have a significant positive influence on the return on equity, managers of listed companies should concentrate their efforts towards allocating more funds to buying foreign currencies in bulk for scheduled future transactions. This will help in increasing profit and reducing exchange rate losses.

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