The Effect Of Currency Risk Internal Hedging Strategies On The Value Of The Firm: Evidence Of Listed Commercial Banks In Kenya

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ARTICLE INFO	ABSTRACT
Corresponding author **Joseph Mwangi Chege** Department of Economics, Accounting and Finance . Jomo Kenyatta University of Agriculture and Technology. P.O. Box 62000-00200, Nairobi. jspmwas@gmail.com	This paper argues that English plays a complementary rather than a conflicting role in the Nigerian linguistic context. Nigeria is the most linguistically heterogeneous country in the African continent, with more than 500 indigenous languages spoken within its borders. With such a linguistically diverse landscape, a common language is needed to facilitate inter-ethnic communication and social interaction among the people. English, like French and Portuguese in other parts of Africa, has played this role since the post-colonial era. As an exoglossic lingua franca and the official language of the country, the use of English has helped to minimize inter-ethnic rivalry and conflict that would erupt if any indigenous language were imposed to play these roles in Nigeria. The paper further argues that there is a stable diglossic relationship between English and the indigenous languages in Nigeria because these languages have maintained clearly distinct linguistic domains in which they function; the High language (English) in formal domains and the Low (indigenous languages) in informal domains. With proper language planning and the formulation and implementation of a pragmatic language policy, especially in the domain of education, English and the indigenous languages can continue to co-exist and complement one another. This paper has used the concepts of diglossia and domain analysis as the theoretical framework

ABSTRACT

Currency fluctuations are a global phenomenon, and can affect multinational companies directly through their cash flow, financial result and company valuation. The exposure to currency risks might however be covered against or 'hedged', as it is called, by different internal corporate strategies. However, some of these strategies might include a risk themselves as they can be expensive and uncertain. It is therefore an interesting question whether if these strategies are actually applied in practice, and if so which strategies are

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favored and why. Specifically the study sought to determine the effect of netting on the value of listed commercial banks in Kenya, to find out the effect of leading and lagging on the value of listed commercial banks in Kenya and to establish the effect of pricing adjustment on the value of listed commercial banks in Kenya. The target population of this study was all the 10 listed commercial banks in Kenya. The study was based on secondary data which was collected from the annual reports submitted to the CBK by the banks and annual financial reports by banks for the period between 2009 and 2015. Descriptive analysis and panel data regression analysis were applied in the study. The study found that use of internal hedging tools had a significant influence on the value of listed commercial banks in Kenya. Particularly netting, leading and lagging and price adjustment were all found to have positive effect on the value of commercial banks in Kenya. The study therefore recommended the use of different internal hedging techniques to eliminate the currency risk that affect the value of commercial banks.

Keywords: Netting, Leading and Lagging, price adjustment,

1.0 Background of the Study

In business, there are always risks to be considered from the company's point of view. However, as companies enter the global market and become multinational firms, a whole new world of opportunities opens up. However, with the aspect of new opportunities comes a new set of challenges and problems, which means that the risks multinational firms face are more and wider than those faced by domestic firms. The goal of most companies is profit maximization, and in the case of limited corporations, shareholder interest. Due to these factors, it is imperative that companies do not neglect the risks that follow business in the international environment, but instead adapt proper strategies for identification and management of international business risks

There are several types of international business risk factors, and one of the most interesting and important ones is the currency risk. Currency fluctuations are a global phenomenon, and therefore it affects all companies around the world involved in international business. The risks of currency can be either long-term or short-term and can affect the company's cash flow, financial result and firm valuation directly. Therefore, it is not only of the company's best interest, but almost an imperative factor, that the company has structured methods for dealing with currency risks. However, currency risk itself might be divided into several sub-categories and therefore the methods and strategies that companies use to deal with them might vary.

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Ederington (1979) and Haushalter (2000) emphasize the importance of determining the characteristics of each currency risk exposure. The motivation for this argument is that each currency exposure has specific characteristic that eventually impact the usefulness of each financial hedging instrument in reducing that particular exposure. For instance the exposure arising from foreign debt is generally long term in nature and requires multiple subsequent payments from the determination until the maturity of the contract. A firm's purchase of raw material is also considered to be a short term transaction as it generally requires a single subsequent payment or in the context of payment on credit (e.g. trade payable account balance) the installment generally settles within one year. Therefore although the purchase transaction is frequent but the transaction is also uncertain with respect to amount and timing.

By determining the characteristics of each exposure, firms are able to match the characteristics of the exposure being hedged with the financial hedging instrument used to hedge. The motivation is based on the basis risk argument developed by Ederington (1979). He argues that a firm's decision to hedge exposure reduces as the firm faces greater basis risk from using a particular instrument. Basis risk is defined as the difference between characteristic of the underlying currency exposure being hedged and characteristic of underlying hedging instrument such as maturity and price (Ederington, 1979).

1.2 Problem Statement

Numerous theories found empirical evidence on the hedging premium, which implies a positive correlation between hedging and firm value. Previous studies indicate that hedging helps to mitigate the underinvestment problem, agency cost and reduce corporate taxes (Mayers and Smith, 1982; Stultz 1984; Froot, Scharfstein and Stein, 1993). Firms can hedge in several ways, for example by using options such as futures, forwards and swaps but also by operational and accounting strategies and by issuing foreign debt in order to hedge foreign currency exposure (Allayanis and Ofek,2001; Petersen and Thiagarajan, 2000).

There are many studies done on the relationship between hedging and firms value, for example Jin and Jorion (2006) investigated the correlation between firm value and oil hedging for US oil and gas producers between 1998 and 2001. Allayannis and Weston (2001) examined the FX derivative usage and its direct impact on firm value for US firms from 1990 to 1995. Carter, Rogers and Simkins (2006) explored commodity hedging and firm value in the U.S airline industry. Jankensgård (2015) studied a sample of Swedish firms listed on the Stockholm Stock Exchange in the end of 2009. He examined whether centralized vs. decentralized decision making impacts firm value.

Locally, Njunge (2012) conducted a survey of the foreign exchange rate risk management practices adopted by MFI"s in Kenya; Oduori (2012) did a study focusing on the strategies used by banks in combating emerging operational, strategic and credit risks while Mutua (2013) did a survey of foreign exchange risk management practices by foreign owned commercial banks in Kenya. These previous studies have focused

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on the external foreign exchange risk management practices adopted by microfinance institutions and selected banks. Unfortunately, few studies if any have focused specifically on the internal strategies for hedging currency risk and the effectiveness of these strategies in influencing the value of the listed commercial banks at the Nairobi Securities Exchange. The lack of knowledge on this areas is significant in an effort to reduce this gap, which is useful for future improvements on currency risk management. The study is therefore timely and significant.

1.3 Objectives of the study

The general objective of the study is to establish the effect of internal hedging strategies for currency risk management on the value of the commercial banks listed in Kenya.

a) To determine the effect of netting as a risk hedging strategy on the value of listed commercial banks in Kenya.

b) To find out the effect of leading and lagging on the value of commercial banks in Kenya.

c) To establish the effect of pricing adjustment on the value of listed commercial banks in Kenya.

2.0 Review of Literature

2.1 Theoretical Review

2.2.1 Modigliani and Miller Theorem and Currency Risk Hedging

Franco Modigliani and Merton Miller published in 1958 what has become somewhat of a startingpoint for al most any discussion of corporate finance theory (McDonald 2006).They realized that decisions of how to go vern a corporation (e.g. how much debt a company should have)   could affect the cash flow in several ways, but as long as the total cash flow paid to all stakeholders remained unchanged, the value of all claims, and thus the value of the company, would be the same. Because, as they argued, if financial policy could change enterprise value then there would would be profitable arbitrage in the market. The only way financial decisions could affect firm cashfow, and thus firm value, is if they somehow either affect the ability the firm has to operate its   business, or if it redu ces the incentive the management/owners have to invest in the future.

The theorem, which initially was applied to an analysis of a firm's choice of debt versus equity financing (Grinblatt 1998), can also be used when discussing other elements of corporate finance,such as fix ed versus floating interest rate, dividend policy and currency hedging. In theory, none of these should affect firm value as long as Modigliani and Miller's conditions hold.

These assumptions are no taxes, perfect capital markets (no difference in borrowing rates) and no transaction costs (Brealey et al. 2008).

The irrelevance of the firm's leverage influence on firm value in Modigliani and Miller's theorem can be illustrated by the individual investor who himself can choose his combination of equity and debt to finance

his own portfolio. It is of no concern to him whether the company he invests in takes up a lot of debt to increase its operations; if he wants to be more exposed towards that particular company's operations he might as well borrow money from his local bank to buy more shares. One can easily see how this also could be applied to risk management; it is possible for an investor to undo or duplicate any decision the management of the firm makes regarding risk choice.

2.2.2 Capital Asset Pricing Model and Currency Risk Hedging

The capital asset pricing model is a "set of predictions concerning equilibrium expected returns

On risky assets" (Bodie 2008: 293). Harry Markowitz was the pioneer of modern portfolio management in 1952, and his ideas inspired Sharpe, Lintner and Mossin to develop the CAPM a decade later. In the model, the risk of an asset is measured by the Beta, which gives the volatility in comparison to the market as a whole.

$$E(r_i) = R_F + [E(R_M - R_F)]\beta_i$$

$$\text{Where} \quad \beta_i = \frac{\text{Cov}(r_i, r_m)}{\text{Var}(r_m)}$$

The covariance describes the relationship between two variables (Keller 2005.

From this we see that if the assets not are perfectly positively correlated (i.e. $-1 = < 1$) ,

Putting the two together in a portfolio will be less risky than investing in only one. Every assetin a market has two different types of risk, systematic and unsystematic. The systematic risk is ofthen called market risk. It is the risk of the market as a whole, e.g. macroeconomic factors suchas interest rates, energy costs etc.; factors that are likely to affect most assets.

Unsystematic risk however, is risk connected to a single asset or company, and can be diversifiedaway by creating a portfolio using the covariance of the assets. In modern portfolio theory, and the CAPM, no reward or premium is given to an investor whoinvests in an asset with high unsystematic risk as it could be removed by diversification. And we believe that currency risk is exactly that kind of risk, risk that can be removed by diversificationConsequently, hedging against currency fluctuations could not change the expected return of an asset.

2.2.3 Taxes and Currency Risk Hedging

Smith and Stultz (1985) argued that if a tax regime is constructed a particular way; it might encourage companies to take positions in financial instruments for hedging purposes. This is valid when firms are facing a convex tax function; i.e. when taxable income is low, the effective marginal tax rate will be low, while as taxable income increases, so does the marginal tax rate. Graham and Smith (1998) later argued that firms that faces such a tax function, and hedge (smoothing their earnings), will experience that the tax increase in circumstances where income would have been low is smaller than the tax reduction in circumstances where income would

have been high. Consequently, hedging reduces expected tax cost, and increases expected cash flow (and thus firm value).

A company that experiences a loss does not get a tax refund from the authorities, they are allowed to carry that loss forward and deduct their tax benefit from any future tax payments. But when such losses are carried forward, they are treated in nominal terms, which implies that the real value of tax benefits from losses are actually lower than the nominal value at the time the loss occurs. Hence, the effective tax rate on losses (benefit) is lower than the effective tax rate on earnings (liability). This creates in fact a convex tax function where the degree of convexity would depend on the time (i.e. number of years) until the company makes a profit and is allowed to take advantage of the tax benefits carried forward. The longer the time, the more convex the tax function would be and the more would the company gain from hedging their foreign currency cash flows.

2.3 Empirical Review

2.3.1 Netting and firm's value

The strategy of netting applies when the company and its foreign subsidiaries net off intra-organizational currency flows at the end of each period, leaving only the balance exposed to risk and hence in need of hedging. A netting strategy involves netting out exposures in currencies. If a firm has receivables and payables in different currencies they can net out the exposure in each currency by matching receivables with payables. For example a company and its foreign subsidiaries might net off the intra-organizational currency flows at the end of each period, so that only the balance is exposed to risk. Then they can use hedging instruments on this exposed balance.

Pike et al. (1999) classify netting as bilateral netting and multilateral netting. Bilateral netting refers to pairs of companies in the same group that net off their positions without a central treasury. The multilateral netting is more complex as it occurs with netting the cash flow payments of many foreign subsidiaries, but follows the same rationale. Rather than having all the transaction of the payments between subsidiaries taking place, only the netted amounts are exchanged through a netting Centre. Thus, companies that have foreign currency cash inflows and outflows can identify currency exposure by making cash forecasts for each currency. If there is a cumulative gap (deficit or excess currency) between cash inflows and outflows, then hedging could be needed. In many cases cash flows offset over time, and this is therefore a timing issue. (Horcher, 2005).

2.3.2 Leading & Lagging and firms value

An additional operating technique that can be used by companies is leading and lagging foreign currency receipts and payments. Leading refers to paying or collecting early, while lagging means to pay or collect late (Antl, in Antl (1989). A company would like to lead soft currency receivables and lag hard currency payables to avoid the loss from depreciation of the soft currency and benefit from the appreciation of the

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hard currency. For the same reasons, companies should attempt to lead hard currency payables and lag soft currency receivables. This strategy will reduce the transaction exposure that the firm faces.

In spite of the internal applicability, this technique might also be applicable for inter-firm payments and receipts under a condition in which both firms receive the financial benefit (Eiteman, Stonehill, and Moffett, 1998). A firm that has a receivable denominated in soft currency has to be collected early and might offer a discount to the firm that holds the payable. The amount of the discount has to be more than the benefit of collecting the soft currency earlier than demanded.

2.4.4 Price adjustments and firms value

These are techniques that are useful for firms engaged with international trade such as exporting production outputs and importing productions inputs. Price adjustments is a technique involves changing prices to obtain the favorable effect of exchange rate variability. First when the local currency of a foreign subsidiary is depreciated, the subsidiary can increase the prices, to cancel the effect of the depreciation. This technique can be used in countries where devaluation is high and where derivatives markets are inefficient. The disadvantage of this technique is the difficult implementation of this method, which needs to be signaled. Prices cannot be raised without any consideration about competitors, because if the price highly increases, customers can choose an equivalent and cheaper product from competitors. Logically, a firm can increase the export price, but there are many forces that can prevent this to happen.

An alternative is to implement currency clauses in the agreement between firms. They can agree to share the currency risk on payments involving them, so that the impact of volatile exchange rate fluctuations falls on both parties. This is often the situation between firms with continuing buyer-supplier relationship, and it may help to maintain mutually beneficial long-term trade (Eiteman et al.2004). Froot et al. (1993) show that if capital markets are imperfect, hedging may increase firms' value by ensuring that they have sufficient internal funds. A variable cash flow would lead to more variability either in the amount raised externally or in the investment. Hence, firms with higher growth opportunities would prefer to hedge in order to mitigate their underinvestment problem.

Griffin and Stulz (2001) find the effect of exchange rate shocks is minimal in explaining relative US industry financial performance and is even smaller in other countries that are more open to trade finding that industry effects are more significant than exchange rate effects. While there may be some differences in empirical findings, as Marston (2001) shows, foreign exchange exposure most likely depends on the competitive structure in an industry.

3.0 METHODOLOGY

This study adopts a descriptive research design which generally describes characteristics of a particular situation, event or case. The research will use regression analysis to test the extent to which internal

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strategies for currency risk management impacts on the value of the firm. The study used secondary data for the analysis. The Secondary data was collected from annual reports submitted to the CBK by the banks from the CBK website. Annual reports of the banks was analyzed for the period between 2009 and 2015, which is the study period.

Panel data regression model was used to determine the effect of currency risk management strategies on the firms' Return on assets. The regression model will be useful for its ability to test the nature of influence of independent variables on the dependent variable. The aim is to test empirically the relationship between internal hedging strategies and the value of the firm. The regression method will be used to estimate the parameter values. The empirical model is defined by Equation,

In $Y = \alpha + \beta_{1t} x_{1t} + \beta_2 x_{2t} + \beta_3 x_{3t} + \varepsilon_t$

Y = ROA which is a profitability measure is the value of the dependent variable.

X_1 = Netting, X_2 = leading and lagging, X_3 = Price adjustment, ε = Error term

Hausman test was used in this study to test the right model between random and fixed effect models. Random model is based on the assumption that data follow a random effect while fixed effect model assumes that data follow a fixed effect (Hausman, 1978).

4.0 RESULTS AND DISCUSSION

Descriptive Statistical Analysis

The results from the descriptive statistics are in table 4.1. On average the banks return on asset for the period was 4.597 while the standard deviation was 1.324 meaning that there was a small dispersion of the returns around the mean. To test for data normality, Jaque Bera normality test was used. The data for the study was found to be normally distributed since the p values for Jarque Bera test were greater than 0.05 for all the variables. This was further confirmed that there was normal distribution of the data. All the variables depicted a normal distribution.

Table 4.1 Descriptive Statistics

	ROA	*Netting*	*Leading and lagging*	*Price adjustment*
Mean	4.597	11.810	1.526	1324.071
Median	2.23	10.614	1.477	0
Maximum	6.71	12.63	5.86	2927.43
Minimum	2.37	10.57	0.26	83.14
Standard Deviation	1.324	0.590	1.695	1122.105
Kurtosis	0.687	0.958	2.230	1.788

Skewness	0.134	0.893	2.181	0.018
Jarque-Bera	4.79	4.91	2.56	1.49
Probability	0.45	0.59	0.56	0.68

4.2. Correlation Analysis

The study used correlation analysis to establish if relationship exists between the variables as well as multicollinearity. The study findings showed a positive significant relationship between return on assets and netting (rho = 0.604, p value <0.05). The study also found out that there was a positive significant relationship between leading and lagging and return on assets among listed commercial banks in Kenya, (rho=.119, P value <0.05). Moreover, price adjustment was found to have a significant weak positive significant relationship between with value of the listed commercial banks (rho=0.094, p value <0.095).

Table 4.2 Correlation analysis

	ROA	Netting	Leading & Lagging	Price adjustment
ROA	1			
Netting	0.604**	1		
Sig. (2-tailed)	0.032			
Leading and Lagging	0.119**	0.507	1	
Sig. (2-tailed)	0.044	0.067		
Price adjustment	0.094	0.176	0.172	1
Sig. (2-tailed)	0.095	0.313	0.317	

4.3 Diagnostic Test for Panel Data Analysis

The diagnostic analysis of this study was done based on panel data diagnostics, serial correlation, heteroscedasticity as well as time fixed effects. The test for appropriate model was based on Breusch Pagan LM test in order to assess pooled effects regression and random effects regression model. The results showed that the p value was less than 0.05; an implication that there was a significant difference on the value of banks listed in Kenya. Thus the pooled effects regression modelling could not be appropriate.

Table 4.3 Chi-Square values for the Breusch-Pagan LM Test

Model	Dependent variable	X2-value	p-value
1	Return on asset	4.034	0.02578

In order to determine whether dummy variables are needed a test time fixed effects was necessary. The findings in table 4.4 showed no significant time effects thus, therefore it was not appropriate to introduce dummy variables in the panel regression models.

Table 4.4 Tests result for Time Fixed Effects

Model	Dependent variable	F- value	p-value
1	Return on asset	4.334	0.0156

In testing for heteroscedasticity, modified Wald was used in this study, while Wooldridge Drukker test was employed in testing for serial correlation. Results in Table 4.5 confirmed the absence of heteroscedasticity. In addition, the outcome showed that there was that no serial correlation existed among the panels since the p value is greater than 0.05.

Table 4.5 Tests for Heteroscedasticity and Serial Correlation

	Test for heteroscedasticity			Serial Correlation	
Model	Dependent variable		p-value	*F-value*	*p-value*
1	Return on asset	4.15	0.1846	1.342	0.615

4.4 Fixed versus Random effects Tests

Since the secondary data collected had both cross sectional and time series characteristics, Hausman test was used to test for fixed and random effects. Fixed Effect regression modelling is more appropriate when the study seeks to examine the effect of independent variables over time. Moreover the independent entity should have a relationship with the independent variables. In contrast Random effect modelling assumes that independent variables have no collinearity with independent entities. In addition, it assumes that there are random variations across the error terms and both independent variables and specific's entities are also treated as independent variables. Since the p value is less than 0.05 fixed effects regression model is more appropriate as shown in table 4.6.

Table 4.6 Hausman Test Result

Variable	Fixed	Random	Variable (Diff.)	Prob
Netting	1.6397	1.6298	0.0099	0.587
Leading and lagging	0.1980	0.1972	0.0008	0.134
Price adjustment	1.1078	1.1052	0.0026	0.384
	Chi square = 14.84, Prob =0.049			

4.5. Panel Multiple Regression Analysis

The study sought to establish the significance of the relationship between various independent variables on the regression model and value of the bank. The level of significance of the independent variables was also calculated to help in determining whether their change would result in a significant effect in the Firm value.

Table 4.7 Panel Multiple Regression Modelling

Variable	Coefficient	Std. Error	t-Statistic	Prob
Constant	-14.479	0.1185	-1.533	0.000

Netting	1.6397	0.0006	1.9997	0.000
Leading and lagging	0.1980	0.0011	0.694	0.043
Price adjustment	1.1078	0.0001	0.0294	0.554
R-squared	0.644	Mean dependent variable		17.349
Adjusted R-squared	0.631	S.D. dependent variable		0.100
S.E. of regression	52.046	Akaike info criterion		228.628
Sum squared residue	93.119	Hurvich and Tsai's Criterion		229.566
Log likelihood	218.628	Schwarz's Bayesian Criterion		239.871
F-statistic	12.296	Durbin-Watson stat		2.618

4.5 Interpretation of the Findings

The results in the Table 4.7 illustrates the strength of the relationship between the value of commercial banks and independent variables. From the determination coefficients, it can be noted that there is a strong relationship between dependent and independent variables given an R^2 values of 0.644 and adjusted R of 0.631. This shows that the independent variables (Netting, Leading and Lagging, and Price Adjustments,) accounts for 63.1% of the variations in profitability as measured by ROA, while 36.9% was brought about by other variables. The study also used Durbin Watson (DW) test to check that the residuals of the models were not auto-correlated since independence of the residuals is one of the basic hypotheses of regression analysis. Being that the DW statistic were close to the prescribed value of 2.0 (2.618) for residual independence, it can be concluded that there was no autocorrelation

The first objective of the study stated that there was no significant relationship between netting and value of commercial banks. The study established that the effect of the use of netting in the hedging of currency risk on the value of banks is positive and significant (β=1.632, p value< 0.05). This implies that a unit increase in netting leads to an increase in return on assets by 163.2%. The results were consistent with previous studies. For instance, Otieno,(2014) found a positive and statistically significant effect of exposure netting on the financial performance of forex bureaus in Kenya.

The second hypothesis of the study was that there was no significant relationship between leading and lagging and the banks value. The result of the study revealed that there was a positive significant relationship leading and lagging and banks value (β =0.1980, p value <0.05). This implies that a unit increase in Leading and Lagging, while holding other factors (Price Adjustments and Netting) constant, will lead to an increase in ROA by 19.80%. This correlates with Abor (2005) that the firm must be in position to exercise some control over payment terms. Leading and Lagging is a zero sum game, that is while one party benefits, the counterpart loses. Thus the benefit gained from taking advantage of exchange may be outweighed by the cost of losing business due to the zero sum nature of this method. The practice of leading and lagging has developed as one of many methods of hedging against adverse impact of exchange rate movements.

The third hypothesis of the study was that there is no significant relationship between price adjustment and banks value. The results of the analysis revealed that effect of the use of price adjustments in the management of currency risk on the value of commercial banks is positive but not significant (β =1.1078 ,p value=0.5775). This could be attributable to the fact that it causes the least effect on the bank profitability in terms of return on asset compared to the other techniques.

Therefore the use of price adjustments leads to an increase in return on assets by 110.78%. This result was similar to a study by Mwangi (2013), who found that the relationship between price adjustments and the performance of MFIs in Kenya was not statistically significant. However this result was inconsistent with a study by Limo (2014) who found a significant relationship between the price adjustment and financial performance of banks in Kenya.

5.0 Summary

The current study aimed at investigating the effect of internal hedging strategies for currency risk on the value of listed commercial banks in Kenya. In consideration of the first variable, exposure netting, the study found a positive significant relationship between exposure netting and the value of the listed commercial banks in Kenya. This implies that use of netting in the hedging of currency risk affect the value of banks positively. The findings were consistent with earlier studies.For instance, Otieno,(2014) Limo(20140 and Mwangi(2013) found a positive and statistically significant effect of exposure netting on the financial performance of banks in Kenya.

The study also revealed that there is a positive significant relationship between Leading and lagging and banks value. This implies that a unit increase in Leading and Lagging, while holding other factors constant, will lead to an increase in the value of listed commercial banks in Kenya.

Lastly the study also found a positive relationship between price adjustments and the value of listed commercial banks in Kenya. However the relationship was not statistically significant. This implies that the use of price adjustments leads to an increase in return on assets by 110.78%. This result was similar to a study by Mwangi (2013), who found that the relationship between price adjustments and the performance of MFIs in Kenya was not statistically significant. However this result was inconsistent with a study by Limo (2014) who found a significant relationship between the price adjustment and financial performance of banks in Kenya.

5.2 Conclusions

Based on the study findings, the study established that internal hedging strategies positively affects the value of the commercial banks. Of the control variables used in the study, it was established that exposure netting, leading & lagging and price adjustment are crucial in determining the value of the banks.

5.3 Recommendation

The study recommends the use of different internal hedging techniques to eliminate the currency risk that affect the value of commercial banks. The central bank should ensure that the fluctuation in the exchange is under check. The central bank should also share information with the banks on the changes that are taking place in the currency exchange market to help them mitigate the risk of currency exposure. The finding that the use of internal hedging strategies under study had a positive effect on the value of commercial banks, revealed the need by the managers to consider these techniques managing currency risks.

5.4 Suggestions for Further Studies

This study suggests that empirical studies need to be undertaken within the context of the development of capital markets in foreign exchange risk hedging by firms. This could be through the introduction of derivative instruments such as futures contracts, interest rate swaps, exchange rate swaps and their role in foreign exchange risk mitigation. Additionally, it would be ideal to research on how foreign exchange risk management compares to other risk management, specifically credit risk management and financial risk management to the financial performance of financial institutions in Kenya.

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