INTEREST RATES, FOREIGN EXCHANGE RATE EXPOSURE AND FIRM VALUE

A CASE OF UGANDA TELECOM LIMITED (2000 – 2006)

By

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DECLARATION

I, ROBERT ROY APEGU, declare to the best of my knowledge that this Dissertation is truly my original work and has never been published and/or submitted for any other degree award to any other University before.

Signature……

Date……..

APPROVAL

This is to certify that this dissertation has been submitted for examination with my approval as University Supervisor.

Signed…….

DR. NKOTE NABEETA

Signed……

PROF. DR. THOMAS WALTER

DEDICATION

To my late Dad, Master Eraut Francis, my Mom Domittilah Agoe, my brothers Julius Okello, Late Richard Stephen Okiror, Emmanuel Malinga and Gilbert Oloit.

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ABBREVIATIONS

DFCU	Development Finance Company of Uganda.
EADB	East African Development Bank
ERM	Enterprise Risk Management
EUR	Euro
FASB	Financial Accounting Standards Board
FCF	Future Cash Flows
FERE	Foreign Exchange Rate Exposure
GDP	Gross Domestic Product
ITU	International Telecommunication Union
LCY	Local Currency
MNC	Multinational Companies
NURP	Northern Uganda Reconstruction Programme
PTA	Preferential Trade Area Bank
ROA	Return on Assets
ROE	Return on Equity
RRR	Required Rate of Return
SCB	Standard Chattered Bank
Ugx	Uganda Shillings
UPTC	Uganda Posts and Telecommunication Corporation
USD	United States Dollars
UTL	Uganda Telecom Ltd.

ABSTRACT

This study focused on the Interest rate, Foreign exchange rate exposure, application of risk management techniques and firm value – a case study of Uganda Telecom Limited.

The relationship between Interest rate, Foreign exchange rate exposure, application of risk management techniques and firm value is important in highlighting how a non-financial firm can attain value and sustainability while operating with borrowed funds and importing most of its inputs.

A conceptual model adopted from Bordnar, Hayt and Martson (1998) was used as a guide on assessing the relationship between the study variables. Using existing Audited accounts from Uganda Telecom Limited that was analysed using SPSS, from which Zero order correlations were used to summarise the results obtained from the secondary data.

The main findings showed positive relationship between the study variables, implying that firm value would be attained with improved application of risk management techniques as these would result into decreased exposures in terms of Interest rate repayments and Foreign exchange transactions, acting as a big source of savings for the company – Uganda Telecom Limited.

CHAPTER ONE

1.0 BACKGROUND

Uganda Telecom Limited (UTL) was formed in 1998 to take over the Telecommunication Operations of Uganda Posts and Telecommunication Corporation (UPTC).

Uganda Telecom was then put for sale with government relinquishing 51% of it's shares in UTL to a consortium compromising World Tel an investment fund sponsored by International Telecommunication Union (ITU) and Detecon, a subsidiary of Deutsche Telecom in June, 2000 at a cost of USD 33.5million, an amount of money that fell short of the required capital to revamp the firms' telecom activities. The new company at this point needed considerable financing in order to carry out a comprehensive financial restructuring programme to enhance shareholder/firm value. It was evident that in order to improve the value of the firm, there was need to eject substantial financial resources into the firm, and this called for finance restructuring which involved looking for possible sources of raising the needed funds to redeem the dilapidated telecommunication infrastructure in form of base stations, digitalise the net work, improve on the equipment, procure vehicles for operations and also enhance the firm in its innovation towards introduction and sustainability of the mobile and ISP services.

In its endeavour to finance operations, Uganda Telecom decided to raise the additional capital through debt to finance company assets (Marshall, 2002).

The firm thus started by borrowing USD13 million and another additional top up of USD 7 million from Standard Chartered Bank, then proceeded to issue a 5year corporate bond of UGX 54 billion in 2002 where it managed to raise UGX 24 billion at an interest rate of 21.462%.

Secondly Uganda Telecom borrowed over USD 38.5million in 2004 to be repaid in six years with a grace period of 1year, this is under an arrangement of the co-ordinated Facility Agreement comprising six major commercial and Investment banks. These lenders determine their own interest rates, which stand now between15%-21% per annum for facilities extended in local currency.

Thirdly Uganda Telecom from a bigger business perspective is mainly an import-oriented firm. Its annual import volumes in terms of foreign currency amount to over USD 3 to USD 5 million, Euro 4, 463,961 and annual foreign standing orders for management fees total to USD 4, 116,000= The outstanding debt to foreign and local suppliers stand at a staggering figure of over USD7million.

These entire obligations require cash out flows in foreign and local currency. In a typical Ugandan case the exchange rates of major trading currencies have fluctuated by about 30% over the years under study.

All these factors mentioned here have a bearing to the economic firm value as it struggles to pay back colossal sum of money to the lenders.

The continued borrowing by Uganda Telecom to finance its growth activities thus sets the firm into a vicious cycle of debt servicing and interest rate payments and if not checked, these factors present clear symptoms of declining firm value.

1.1 Statement of the Problem

Restructuring and modernising activities in a growth-oriented firm attracts substantial financing, yet funds are not readily available. Although debt financing is an alternative source of capital, such borrowed funds are costly and exposes the company's cash flows to constant high interest rates payments both in local and foreign currency.

The debt burden standing at a tune of UGX 32 billion and $38.5million, incurred by Uganda Telecom Limited posed a serious challenge to the company's growth activities and subsequent transformation of its Value.

1.2 Purpose of the Study

The study seeks to investigate the relationship between Interest rate, Foreign exchange rate exposure and firm value.

1.3 Objectives of the Study

(i) To investigate foreign exchange and interest rate exposure of Uganda Telecom

(ii) To establish the firm value of Uganda Telecom over a period of time 2000-2006

(iii) To investigate Application of Risk Management Techniques employed by Uganda Telecom.

(iv) To explain the relationship between foreign exchange rate, Interest rates Exposure and Firm Value.

1.4 Research Questions

(i) Why would a firm/company want to manage its foreign exchange exposure

(ii) Why would Uganda Telecom want to monitor the movements of interest and Foreign exchange rates?

(iii) Does the economic value of the firm rise positively if foreign exchange exposure and interest rates are managed?

(iv) Does hedging reduce the probability of financial distress?

1.5 Scope of the Study

1.5.1 Subject scope

The main subject under study will be focused on Interest rates, foreign exchange rate exposure and firm value.

1.5.1 Geographical scope

The study will be confined at Uganda Telecom Limited - based in Kampala.

1.5.2 Time scope

The study is restricted to the post privatisation period; covering 2000 – 2006.

1.6 Significance of the Study

The study will contribute in the following areas

(i) The research may contribute knowledge in the area of sound financial management in non-financial firms by identifying precursors of financial distress.

(ii) It may provide a platform for the formulation of financial risk policy for Uganda Telecom.

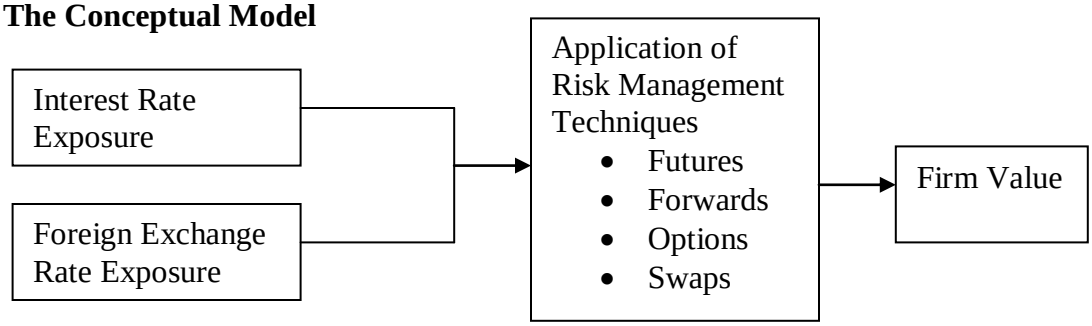
(iii) There has been a very large information gap for investors and analysts on interest rate and foreign exchange exposures; the study may reduce the information gap by adding knowledge to the existing.

(iv) The study will be of benefit to Institutions of higher Learning (Universities), policy makers in organisations and government.

(v) The study may attract more researchers in the area of Interest rate, foreign exchange exposures and firm value in Uganda.

1.7 Conceptual Frame Work

The Conceptual Model



Source:- As adopted from Bordnar, Hayt and. Marston (1998). Wharton survey of Interest rate and Foreign exchange mgt.by U.S. Non-Financial Firms – Financial Management 24,104-114&Schrand, Catherine, and Haluk Unal, 1998,Hedging and

coordinated Risk Management: Evidence from Thrift Conversions, Journal of Finance, 53:979-1013

The figure above represents a logical framework of activities; such as Interest rates and Foreign exchange exposures as independent variables that are moderated by Risk Management tools to enhance the firm value.

One set of motivations for risk management that are viewed as contributing to the maximisation of firm value include various market imperfections, incentive conflicts and information asymmetries that are hypothesised to create motivations for value- maximising corporate managers to engage in hedging activities, Smith and Stulz (1985),Froot, Scharfstein, and Stein (1993),Stulz (1996), and Tufano (1996). However, it is also recognised that corporations may engage in risk management activities based upon objective functions other than those that are purely value maximising. Such activities typically arise due to managerial risk aversion and imperfectly controlled incentive conflicts between managers and owners (Smith and Stulz 1985, Stulz 1996).

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews the existing literature on financial risk, Management techniques and Firm value. The discussion is built on Interest rate and Foreign exchange rate exposure management process. A number of views from the local perspective and foreign financial scenes have been revisited, though on the larger part, the literature is derived from the developed economies of the World and this has helped the study to synthesise the information therein to fit into the local aspect of firms in Uganda, where little attention is focused on exploring pertinent issues like Interest rate and Foreign exchange rate exposure management which form a nucleus of this study.

Changes in International business environment and the increased volatility of Interest rates and Foreign exchange rate movements have profound implications on the way in which international firms deal with their financial risks. These risks can not only affect quarterly profits, but can determine a firm's survival. The management of financial risks by corporate treasurers is becoming an important area of concern world-wide.

In a broader manner Hargreaves and Mikes (2001) defined risk as "Uncertain future events that could expose the firms to the chance of loss. Here, loss is a relative concept. It needs a reference level to be defined. The reference level is the

list of objectives stated in the business plan of the firm. Consequently, risk can be defined as uncertain events that could influence the achievement of the firm's strategic, operational and financial objectives." Jorion (2001) further used risk as the volatility of unexpected outcomes, generally the value of assets or liabilities of interest. Lumby and Jones(2003) also note that the risk of a firm often depend upon volatility of its future cash flows and the more variable the possible future outcomes for the firm, the higher its level of risk.

The definition of risk includes both the down-side effect of uncertain outcomes as well as their upside potential, but managers and investors are more often concerned with just the down-side effects of risk, and where possible seek to protect any upside benefit (Meulbroek, (2002). Practice of risk management is also evolving from being fragmented in different departments, monitoring restricted to audit and compliance to a more centralised firm-wide or Enterprise Risk Management (ERM) approach, overseen by a senior risk manager, and used to enhance share holder value. This approach is useful in integrating the management of different market risks of interest rates, foreign exchange, commodity price, equity price in a portfolio, with operational risk and most recently credit risk, instead of transaction by transaction.

This study seeks to establish how companies in the telecommunications industry manage their financial risks in this era of increased financial environment volatility

2.1.1 Interest Rate Exposure

Interest rate exposure has gained importance in recent years as a result of a trend towards increasingly variable interest rates and the growing popularity of short-term or variable rate debt. Interest rates have become as volatile as exchange rates over the past two decades. In the 1970's and 1980's, interest rates whether short or long term have fluctuated by several percentage points on a month-to month or even week-to-week basis. Interest rate exposure is the risk that unanticipated changes in the level of interest rates will adversely affect a firm's profit or cash flow, theoretically affects the value of non-financial corporations as well due to changes in the cash flows and the value of their financial assets and liabilities. Interest rate exposure can also indirectly affect the competitive position of firms (Bantram, 2002).

The single largest interest rate risk of non-financial firm is debt service, with the second being the holding of interest sensitive securities, Eiteman, Stonehill and Moffett (2000). As multinational corporations operate in different countries, they are likely to possess debt and securities in different currency denominations, with different interest structures (floating versus fixed) and different maturities of debt.

An Interest rate is a price a borrower pays for the use of money he does not own, and the return a lender receives for deferring his consumption, by lending to the borrower. Interest rates are normally expressed as a percentage over the period of one year. The interest rate exposure of firm value is also partially related to the

corporate debt/equity ratio (Hakkarainen et al. (1997), Haugen et al. (1978). Sustained increases in interest rates mean a higher cost of new debt, which negatively affects the earnings of a company and its ability to service debt. Highly levered firms have higher expected cost of financial distress and are thus more vulnerable to interest rate risk. In corporate organisations the effects of changes in interest rates can be identified most easily in their financial assets and liabilities, which manifest as changes in market value and interest payments, respectively or as opportunity cost. The specific characteristics of the asset (maturity, tenor, duration) determine the type and size of the impact.

Most existing studies on interest rate exposures investigate exclusively linear relationship between changes in firm value and interest rate risk (Madura/Zaruk (1995), Prasad/Rajan (1995). Further more, most firms use predominantly linear risk management instruments (instruments with linear payoff profiles such as forward rate agreements, Interest rate swaps) (Bodnar/Gebhardt, 1999).

Therefore, it can even be argued, that the little linear (transaction exposure is likely to be found empirically, while the remaining nonlinear part of economic exposure may exhibit higher significance since it is often not considered corporate in risk management. In addition, many exposure studies are based on (industry) portfolios or indices (Prasad/Rajan, 1995 and Bae, 1990).

Empirical studies document strong correlation between term structure variables and the business cycle as measured by GDP growth (Ragnitz (1994), Filc (1992), Harvey (1991), Deutsche Bundesbank (1991). The impact of business cycles on sales, costs and competitive position of firms explains the empirical importance of changes in interest rates for non-financial corporations.

Interest rate risk represents one of the three key forms of financial risk that companies/firms encounter. Theoretically interest rate risk affects the value of the non-financial corporation as well due to changes in cash flows and value of their financial assets and liabilities. Moreover, interest rate movements are closely related to changes in business cycle of the economy, and they influence – through the cost of capital – the investment behaviour of firms. In addition, there may be indirect effects of interest rate risk on the competitive position of firms, impacting the size of their future cash flows and thus firm value.

Variability in interest rates can have devastating consequences for companies. This is a fundamental factor most especially in developing countries like Uganda where short term funding is often relied upon to finance capital investment.

There is also pressing demand from financial institutions that often use interest rate based covenants in their funding arrangements with companies, making the effects of fluctuations in interest rates a pressing issue for firms (Ross, 2002; Douch, 2003). Fortunately, the risk management revolution has made tremendous inroads in the area of interest rate management.

Interest rate risk management is becoming more and more common in today's corporate world. This is primarily in response to increased competition and the availability of tools to manage the risk. Since 1977, a series of financial innovations have been introduced which enable corporations to control the risk of interest rate volatility, these instruments and techniques give treasurers the flexibility in managing their cash flows by allowing them to transfer interest risk to those better able or more willing to bear it, (Farhi and Thurston, 988).

2.1.2 Derivative Instruments

Derivatives are financial instruments that derive their value from an underlying variable such as exchange rates, interest rates or commodity prices. Derivative contracts include futures, forwards, options and swaps.

Today financial price risk can not only affect quarterly profits, but it can determine a firm's very survival and for that reason unpredictable movements in exchange rates and interest rates present risks that cannot be ignored. The financial markets have responded to this increased price volatility with the evolution of a range of financial instruments and strategies can be used to manage the growing exposure of companies to financial price risks. There are a wide range of internal and external techniques which can be used to manage financial price risks. External hedging techniques involve the use of derivatives.

For short – term exposures, a number of instruments have been developed, including interest rate futures, forward rate agreements and various option type derivatives. For longer-term exposure, interest rate swaps have achieved great popularity.

Derivative usage has become increasingly widespread since mid -1980's, particularly among companies in economies with well-developed financial markets, Mallin and Ow-Yong (2000). Empirical work on the use of derivatives by companies is not limited, with the majority of the pats studies being based on US multinational companies Bodnar et al (1996,1198) Philips (1995) and Jesswein et al (1995). Bodnar et al carried out three different surveys in 1994, 1995 and 1998. The 1995 survey found out that derivative usage among large firms was greater than among smaller firms. This assertion was also reinforced in the 1998 survey, which found that derivative use is still not as widespread with half of US population survey using financial derivatives of any kind. Bodnar et al (1995) also found that derivatives are used most commonly to reduce the volatility of firm's cash flows. Phillip (1995) found that as well as using derivatives for financial risk management,67% of firms surveyed use them in conjunction with obtaining funding and 21% for investment purposes. Bartram et al (2003), compare the derivative usage of 7,292 companies in 48 countries primarily in US firms and find that 59.8% use derivatives with 43.6% using foreign exchange derivatives and 32.5% using interest rate derivatives. In the United Kingdom, Grant and Marshall (1997) carried out a study on derivatives

usage in large UK companies and found that most large companies use derivatives and that derivatives are most often used to manage foreign exchange and interest rate risks. Mallin et al (2000) found this to be conclusive as well, with over 60% of companies reported using at least one derivative.

The motives for the usage of derivatives have been widely studied by researchers, with the focus being on whether firms use derivatives for hedging purposes to maximising shareholder wealth or for speculation. Bartram ae al (2003), Millan et al (2000), Henttsche and Kothari (1995) and Bodnar et al (1995) find strong evidence that that the use of derivatives is, in fact, risk management rather than simply speculation. For example, firms that use foreign exchange derivatives have higher proportions of foreign assets, sales, and income and firms that use interest rate derivatives have higher leverage, Bartram et al (2003). Finance theory indicates that hedging with derivatives can increase firm value by reducing expected taxes, expected costs of financial distress, under-investment costs associated with investments opportunities in the presence of financial constraints and agency costs. Mian (1996) studies a sample of 2,799 U.S. non-financial firms after the FASB introduced new reporting requirements for derivatives, found weak evidence with respect to taxes and inconsistent with regard to hedging based on financial distress costs, while Bartram et al (2003) find in line with the financial distress hypothesis.

When firms select the interest rate exposure of their liabilities and use derivatives to alter that exposure, are they hedging or timing the market? The empirical literature has attempted to estimate the sources of value creation stemming from hedging by examining the cross-sectional variation in the use of derivatives by firms (Nance, Smith, and Smithson (1993), Mian (1996) and Graham and Rogers (2002). Implicit in most of these examinations is the assumption that firms use derivatives solely for the purpose of hedging, However, before we can estimate the value created by hedging through the selection of firms' interest rate exposure, we must document that, the choices of those exposures are for the purpose of hedging, and not attempts to reduce their cost of capital.

If firms are hedging, then the choice of interest rate exposure of the firm's liabilities should be driven by the sensitivity of a firm's cash flow to movement in interest rates. By matching the interest rate exposure of the liabilities to that of their assets, firms can reduce the variability of their cash flows. As a result firms may lower their expected costs of financial distress (Smith and Stulz (1995). As well as minimise how often they have to raise expensive external capital (Froot, Scharfstein, and Stein (1993).

Alternatively, if firms believe they can time the market, thereby reducing their cost capital, then the interest rate exposure selection should be driven by movements in interest rates. Firms may believe, as suggested in the Harvard Business School case study "Liability management at General Motors" (Tufano

(1995), that they can reduce their interest costs by "actively managing" their interest rate exposure as interest rate change. When the yield curve is steep, firms that select a floating interest rate exposure will have significantly lower interest costs, at least in the short term, than firms with a fixed exposure.

The theoretical hedging literature is replete with accounts of potential benefits that arise from hedging firm cash flow. First, financial distress costs provide a reason to hedge by reducing the probability of entering distress and therefore of enduring such costs (Smith and Stulz (1985). Hedging can also increase debt capacity; allowing firms to capture a greater tax shield benefit while maintaining the same or even reducing expected costs of financial distress (Leland (1998). Costly external finance, like that explored in Myers and Majluf (1984), creates a preference for internal cash over external borrowings. The hedging creates value if firms forgo positive NPV projects less often when their cash flows are more stable and require fewer outside capital infusions (Froot, Scharfstein, and Stein (1993)). In the presence of a convex or graduated tax schedule, firms can reduce their expected tax payments by making their earnings less volatile (Smith and Stulz). A final hedging justification (Stulz (1984) is that if managers bear idiosyncratic risk through their compensation, hedging reduces the volatility of their compensation, which is beneficial to share holders if expected compensation to managers is a lower amount.

2.1.3 Relevance of Interest Rate Risk

The economic interest rate exposure originates from the impact of unexpected interest rate changes on firm value. The resulting effects are traditionally of foremost interest to banks and other financial institutions, since they generate significant contributions to their earnings by successfully managing interest rate risk. At the same time, companies in the financial sector can manage their interest rate risk effectively because they own primarily financial assets for which sophisticated techniques for the identification and quantification of interest rate exposure exists. Changes in interest rates are, however, also important for non-financial institutions. Direct effects can be identified most easily for their financial assets and liabilities, which manifest as changes in market value and interest payments, respectively, or as opportunity cost. The specific characteristics of assets in terms of their maturity, tenor and duration determine the type and size of the impact.

Apart from the effects on financial assets, an impact of interest rates movements on the value of real assets and projects may occur. These must also be taken into account when analysing and managing the total effect of interest rate changes on the value of non-financial firms. Therefore, matching the characteristics of financial assets and liabilities does not lead to complete immunisation of firm value for companies outside the financial sector. The analysis of interest rate exposure of a corporation in its entirety is, however, obstructed by the problem of identifying and quantifying the influence of interest rate risk on real assets, since

their market values are not available at regular intervals and since their future cash flows are not contractually fixed. Never the less, interest rate changes affect the cash flows and thus the value of these assets as well as interest rates are determinants of investment decisions and are linked to business cycles.

Because of its impact on the cost of long-term debt, long-term interest rates are especially relevant for the investment activity of industrial corporations, and also of the public and private sector – for the latter especially with regard to the purchase of real estate and the construction of private homes. Consequently, there is a tendency of a negative relationship between the development of interest rates and stock prices (Solnik (1984). Changes in long-term rates are also considered to reflect unexpected interest rate changes particularly well (Oertmann,et al. (2000), Sweeney, Warga (1986). In addition, the difference between long-term rates and short-term rates is important, since this spread is a good representative of the term structure and thus acts as an indicator of business cycle development. This is because a steep term structure is often followed by high economic growth rates, while an economic slowdown is frequently preceded by a flat or inverse yield curve (Fama, 1990; Fama/French, 1989 and Campbell, 1987).

The relationship between GDP growth and the term structure results when interest rate expectations are determined largely by expectations about the business cycle. Expectations about business cycles and interest rates are linked in so far as recessionary developments often lead to a reduction in income and thus to lower

money demand or to interest rate cuts by the central bank, inducing lower short-term interest rates. Similar considerations can be made for economic expansion periods. While economic upturns or downturns usually have a lag in their effect on many industries, they should be anticipated by professional market participants and thus be reflected in stock prices ahead of time.

Empirical studies document a strong correlation between term structure variables and the business cycle as measured by GDP growth (Ragnitz, 1994; Filc, 1992; Harvey, 1991 and Deutsche Bundesbank; 1991). The impact of business cycles on sales, costs and competitive position of firms explains the empirical importance of changes in interest rates for non-financial corporations.

2.1.4 Foreign Exchange Rate Exposure

Exchange rate risk exposure is a potential gain or loss that occurs as a result of exchange rate change. In other words exchange risk is the effect that unanticipated exchange rate changes have on the value of the firm. The determination of the effect of such exposures requires accurate measurement of foreign exchange risks. Exchange rate exposure is divided into three different exposures: translation exposure, transaction exposure and operating exposure (e.g. Eitemen, Stonehill, and Moffet 2001).

It is clear that the transition from Bretton woods system to a floating exchange rate system in 1973 increases the volatility and unpredictability of exchange rate

movement. FERE can be further classified into three major categories such as accounting exposure, transaction exposure, and economic exposure as discussed by Pringle (1990), Shapiro (1992) and Sercu and Uppal (1995). Exposure arising from transactions denominated in currencies other than the functional currency of each legal entity (transactional exposure), exposure arising from translation of foreign currency financial statements into Us dollars (translation exposure), and exposure to anticipated foreign currency flows that are currently not reflected in financial statements or other records (economic or operating exposures). Economic exposure, which is called foreign exchange rate exposure (FERE) in this paper, refers to the impact of exchange rate movements on the present value of its expected future cash flows.

Glaum (1990), Khn (1990) and Belk and Glaum (1992) emphasized that economic exposure management is the most relevant concept to be applied in foreign exchange management. Economic exposure is less precise concept than transaction and translation exposure, and it is more difficult to measure and manage the risks. Economic exposure includes both transaction and translation effects but also incorporates the competitive situation of the firm (Shapiro, 1992).

Economic exposure is defined as the sensitivity of the firm's future cash flows to unexpected exchange rate changes and changes in the competitive environment caused by these currency movements. The measurement of a firm's economic exposure requires detailed knowledge about the firms operations and the impact

of currency movements on expected future cash inflows and outflows over time. A firm's economic currency exposure can be attributed to, the nature of the firm's international operations, the nature of its foreign competition, and the nature of the product or service it produces Booth and Rotenberg (1990).

The extent, to which a firm sources, sells, finances or produces in foreign markets are the most obvious determinants of its sensitivity to currency effects. The greater the activities of firms in foreign markets, the larger its economic currency exposure is expected to be. Moles and Bradley(2002). Economic exposure affects the operating profits of companies in globally competitive industries as well as companies not engaged in international business but face foreign competitors in their domestic market. Belk and Glaum (1990) found companies were less concerned about the real impact of exchange rate changes on the competitive position of the companies. Bradley and Moles (2002) find that there is a significant relationship between a firm's exchange rate sensitivity and the degree to which it sells, sources and funds itself internationally.

An increase in exchange rate variability leads to a significant increase in stock price volatility and market risk for the firm. This evidence suggest that increased exchange rate variability increases the required rate of return, and thus cost of capital for firms (Bartov, Bodnar, and Kaul (1996).

A firm's Foreign exchange rate exposure is significantly related to the level of its foreign involvement (Jorion, (1990), Bodnar and Gentry, (1993),, Bartov and Bordar (1994), Chow, Lee, and Solt (1997). As the degree of foreign involvement is increased, exposure should increase and a positive relationship suggests that firms with high foreign involvement are more sensitive to exchange rate changes.

Industry Characteristics – Exchange rate movements affect some industries differently than others because some are more export or import dependent than others (Bodnar and Gentry, (1993). Firms in export industries and import competing sector would benefit from dollar depreciation since fewer foreign currency units are required to purchase the exported goods. Any depreciation will have the opposite effect on import- intensive industries since more units of the domestic currency are needed to purchase one unit of foreign currency. On the other hand cross-sectional differences in FERE also depend on firms' hedging policies to use currency derivatives. Firms with higher incentives for derivatives use are more likely to use currency derivatives and thus are less likely to be exposed to foreign exchange rate movements (He and Ng, 1998) and Lee and Walker, 2001).

The possible explanation for the limited success of prior studies in documenting significant relations between exchange rate changes and firm value is due to the risk management programs of multinational firms. Most of the survey studies

indicate that derivatives are most commonly used to reduce the volatility of the firm's cash flow and firms use derivatives for hedging purpose.

Guay (1999) examines the impact of derivatives on firm risk and measures firm risk as several ways such as changes in interest–rate and exchange rate exposures, total risk, firm-specific risk, and market risk. Guay finds that new users of derivatives show significant reduction in stock-return volatility, interest rate exposure, and exchange-rate exposure when compared to control firms that do not use derivatives. Allayannis and Ofek (2001) and Lee and Walker (2001) using the sample of 500 non-financial firms find that firms who use foreign currency derivatives significantly reduce FERE, which suggests that a currency derivative user is less likely to be exposed to changes in foreign exchange rate.

It is important to note here that if risk management is costless and used for hedging purpose, then hedging increases firm value by reducing the cost of capital. Allayinnis and Weston (2001) found out that for firms that are exposed to foreign exchange risk there is positive and significant relation between firm value and use of derivatives. Using estimates of ex post (average realised) and ex ante (expected) cost of equity measures, Lin (2003) affirm that, hedgers have a lower cost of equity than non-hedgers.

However, if derivatives use is very costly, hedging may not increase firm value because hedging reduces firms' expected cash flows as well as the cost of equity

and therefore leaves the value of the firm constant or lower. On the other hand, if firms use derivative instruments for speculative purpose, risk management activities result in higher risk and greater required rate of return (RRR).

2.2 The Foreign Exchange Rate Management Dilemma and its implications

According to Kotler (1995), price is the only element in the marketing mix that produces revenue; and that price is flexible, can be changed quickly, but pricing and price competition are number one problems facing marketing executives. Kasekende(1995) and Sajjabi (1994) contextualise the view. The argument, on a broader perspective reveals that exchange rate like any price influences both the demand and supply of foreign exchange. Dordunoo & Njinkeu (1995) advance the view that for a country, like Uganda, that is heavily indebted and import dependent, the exchange rate is a pivotal variable. It acts as a nominal anchor to domestic prices and a relative price of tradable and non-tradable goods. It affects resource allocation and influences the decision to invest and save.

Changes in the exchange rate have direct influence on demand, supply, price stability, capital flows, government revenue and expenditure, investment, employment as well as distribution of income and wealth.

2.2.1. Exchange Rate Volatility and Income Inflows

Nurkse (1973) comments that excess volatility caused by speculative runs; irrational behaviour and fads can damage an economy by imposing large costs on producers and consumers who, as a result, make less allocative decisions. Krugman (1989) draws from the above comment and further predicts a possibility of investors adopting a wait and see attitude in the face of uncertain future exchange rates which attitude can affect business negatively. So, uncertainty in exchange rates creates ripples, which threaten both the viability and stability of import dominant companies like Uganda Telecom. In support, Phillipe (1995), Froot et.al (1995), Smith et.al (1993) and Lessard and Sharpe (1984) observe that the exchange rate is responsible for the revenue inflows to the business and so its fluctuations influence cash flow variability and profitability.

Besides affecting the revenue, the exchange rate fluctuations affect the cost structure. In a market determined exchange rate regime, the nominal exchange rate ceases to be a nominal anchor for domestic prices. In turn, the costs of inputs are subject to market conditions and can lead to unstable cost conditions.

Glen (1996) and Claessens (1993) assert to the same view and they observe that, fluctuations in commodity prices can destroy a firm's competitiveness through affecting adversely both cost of its inputs and price of its output. Exchange rate movements can thus affect the value of the firm, as it directly affects its cash flow, and indirectly affects its cost of capital. This is what is known as foreign

exchange economic exposure, and results from changes of home the home currency value of the firm to unexpected changes in exchange rates. The extent of this risk depends not only on the amount of international transactions the company executes, but also on the extent to which the economies in which it carries out it's transactions are exposed to foreign influences. This exposure to risk, in turn, has two different facets, as Cornell and Shapiro (1983) point out: the transaction exposure, which is the possibility of incurring exchange gains or losses, upon settlement at a future date, on transactions already entered into and denominated in a foreign currency, the effects of which normally are in the short term, and the operating exposure, which results from the fluctuations in currency value, which, together with price adjustments, can affect the forecasted amount of the company's operational cash flow, thereby giving rise to long-term effects.

Considering the increasing globalisation and interdependency of national economies that is taking place, it is logical to assume that there could be a link between the fluctuations in foreign currency exchange rates and the value of the firm, even in the case of companies that are geared exclusively to their domestic markets. In this regard, many theoretical models, such as Heckerman's (1972), Shapiro's (1975), Choi's (1986) and Levi's (1990) and (1994) among others, emphasize the effect that exchange rate can have on a company's cash flow. However, the empirical studies aimed at analyzing such a relationship [Jorion (1990) on the USA market, Loudon (1993) and Khoo (1994) on the Australian market by Martinez Solano and Gomez Sala (1996) on the Spanish market, show

that only a small number of firms have been significantly affected by these fluctuations in exchange rates. On the other hand, the studies published by Booth and Rotenberg (1990) and Choi and Prasad (1995) on the Canadian and American markets respectively, show a greater number of companies being significantly affected.

Other studies have grouped the firms into portfolios, according to their specific type of operations. In this regard, Jorion (1991), Bodnar and Gentry (1993), Fang and Loo (1994) and Martinez Solano (1997) present groupings according to industries, while others categorise companies according to the sort of risk that they are exposed to, grouping them for example as exporters, Amihud (1994), or as exporters after their import levels have been compensated for, as in the case of Allayannis (1995). Once, again their results show relatively low significant effects although, with the inclusion of lagged effects in the analyses of Amihud (1994) and Allayannis (1995), the final results proved to be more significant.

To justify this slight influence exerted by the contemporary fluctuations in the exchange rates, Bartov and Bordnar (1994) site the complexity of the evaluation, confirming the existence of lagged effects on the USA. Moreover, Allayannis and Ofek (1996) demonstrate that, on the USA market, the application of derived instruments reduces the extent of economic exposure to change risk as confirmed by Wong (1997). However, while the short-term impact exposure on individual transactions) can be hedged by the use of financial instruments, the long-term

effects (operational exposure) are much more difficult to control. On this point, Chow, Lee and Solt (1997) point out that the real effects of exchange rates are seen in the long term, rather than on the short term, which is consistent with the difficulty found in trying to evaluate these effects on a month-to-month basis. Likewise, Rees and Unni (1996) suggest the need to consider longer horizons for estimating exposure of firms.

2.2.2 Risk Management Techniques

According to the theory of Modigliani and Miller (1958), derivatives use does not increase firm value or affect a firm's cost of capital since investors can mimic the firm's decisions costlessly. However, capital market imperfections create incentives for firms to engage in risk management Two groups of risk management literature explain rationale for use of off balance sheet instruments. First group suggests that firms employ derivatives instruments as a means to maximise shareholder wealth, while the second suggests that firms employ risk management as a means to maximise managerial wealth.

Maximisation of shareholders wealth literature argues that risk management can increase firm value by reducing cost of expected taxes, expected cost of financial distress, variability of earnings, or other agency costs.

On the other hand, finance theory has advocated a number of different ways under which corporate risk management may serve to enhance shareholder value. First,

companies are likely to be better placed than shareholders to manage their risks, for reasons of information asymmetry and superior accessibility to risk management instruments (Joseph and Hewins, 1997). It also improves the informativeness of corporate earnings as a signal of management ability and project profitability since hedging reduces the risk of the firm's risks (DeMarzo and Duffie (1995)). On the other hand, corporate risk management enables firms to stabilise their cash flows and income levels which can, in turn, be reflected in superior future capital investment decisions and the development of operating activities (Froot et al, (1994). Further, corporate risk management reduces: - the cost for investors of monitoring corporate activity; any costs of financial distress and the tax charge where a progressive tax system is in place (Meulbroek, 2002).

On the same note under investment problems, hedging addresses these scenarios by reducing not only the cost of obtaining external funds, but also a firm's dependence on external financing (Foot, Scharfstein, and Stein, 1993). Firms with greater growth opportunities and less liquidity, which is a typical case of Uganda Telecom, are more likely to use currency derivatives; unfortunately this is not the in practice and could be a clue to its financial difficulties. These results are consistent with theories of optimal hedging which suggest that primary goal of hedging is to reduce the volatility of the firm's cash flow (Geczy, Minton and Schrand, 1997).

Expected costs of financial distress is a major area of concern for firms and the researcher shares this assertion and for that matter hedging comes in handy as it decreases the probability that a firm will go bankrupt and thus mitigates the expected costs of financial distress by reducing the variability of the future value of the firm (Smith and Stulz (1985) and Froot, Scharfstein, and Stein (1993). In the existing literature, it is argued that off-balance sheet instruments exhibit significant scale economies in the structure of transaction costs and thus, large firms are more likely to hedge with these instruments (Froot, Schartein, and Stein (1993) and Geczy, Minton, and Schrand (1997). Firms attach great emphasis in the taxes they pay and if a firm faces a convex tax schedule, hedging can decrease the variability of pre-tax firm value (Smith and Stulz, 1985).

Tax shields associated with debt financing provide another incentive for risk management (Stulz, 1996; Ross, 1996 and Leland, 1998). Another literature group argues that risk management can be employed to maximise managers' private utility; through risk aversion. In this regard a positive association between managerial wealth invested in the firm and the use of derivatives since it is less costly for the firm to hedge than it is for a manager to hedge the risk on his own account because stocks provide linear payoffs as a function of stock price (Smith and Stulz, 1984; Smith and Stulz, 1985).

Firms whose managers won more stock options are less inclined to manage risk because options provide convex payoffs (Tufano, 1996)), and when investors can

not separate firm's profits attributable to risk management from those attributable to management quality, managers use hedging to signal their ability in the labour market and build reputation (DeMarzo and Duffie (1995). Higher ability managers will signal their types via hedging to reduce uncertainty that is out of their control as ascertained by (Breeden and Viswanathan, 1998).

Financial considerations, competitor activity and industry characteristics may also jointly guide a company's strategic risk management decisions (Ross, 2002 and Douch, 2003). In the same context, companies that experience high fixed-income outflows as a result of long term contracts with customers (Management fees and contractual obligations in the case of Uganda Telecom) may choose to use a large proportion of fixed- rate debt to match their cash out flows with their cash in flows. Similarly, companies with high leverage and loan covenants may use a high level of fixed-rate debt to contain the risk within specified, allowable limits. Indeed, a high interest expense ratio that is often associated with highly geared companies may be important negative factor for credit rating agencies and higher level of certainty using fixed-rate finance may be an appropriate strategy (Douch, 2003). Organisations operating in highly competitive industries such as retail organisations may prefer a more flexible policy, with a high proportion of floating-rate debt to avoid the rigid payments on fixed-rate loans, which may render them uncompetitive (Douch, 2003).

Simulation models, where companies assess the outcome of various different strategies with a series of different interest rates may be a method with which to select their ultimate portfolio of debt and equity and their fixed to floating rate ratio. At operational level, companies can use various analyses to assess their net exposures and then use financial instruments from external markets to manage these exposures. Analytical techniques include duration analysis, gap analysis and Cash flow-at risk. These models seek to aggregate exposures associated with assets and liabilities over time, and although they were originally developed for financial companies, non-financial companies may employ them.

Maturity, uncertainty about hedge accounting treatment, liquidity, exposure volatility, and recent hedging outcomes can determine hedging strategies of a firm. Bodnar, Hayt, and Marston (1998) report that, a majority of foreign currency derivatives users prefer using short-term derivatives with maturity of 90 days or less to long – horizon instruments. Geczy, Minton, and Schrand (1997) argue that the source of FERE is an important factor in determining types of currency derivatives. Firms choose to use currency swaps to manage foreign denominated debt payments that extend over multiple periods but are predetermined because this long-term customised strategy results in a lower basis risk than using a series of short-term forward contracts. In contrast, firms with frequent short-term transactions in foreign operations or import competitions, choose to use forwards only or forwards in combinations with futures or options because of uncertain timing and quantities of their payoffs.

DeMarzo and Duffie (1995) and Gregory W. Brown (2001) suggest that accounting standards for hedging activity set by Financial Accounting Standards Board (FASB) have a significant impact on hedging positions and revenues because accounting treatment differs by type of derivatives. There are two approaches to the accounting treatment of derivatives, "mark to market", and "hedge" accounting. Futures contracts are marked-to-market, and thereby the adjustment in margin account can result in significant cash flows and hence earnings volatility. Forward and exotic contracts used to hedge for future period must also be marked-to-market, and therefore increase volatility in reported earnings. Options qualify for "hedge" accounting since gains and losses on hedging instrument are not brought into the balance sheet and income statement until the time at which the gains or losses associated with the hedged exposures are also recorded. These concerns may help explain why Bodnar, Hayt and Marston (1998) found out that 80% of the wharton Survey respondents expressed moderate or high concern regarding accounting treatment of derivatives. This is re-enforced by the fact that many firms over time have used swaps, forwards, options, and other derivative instruments as important financial management tools (Phillips, (1995). The broad array of derivatives instruments and derivative strategies that exist today enhance the ability of firms to manage their financial risk exposure in an era characterised by volatile commodity prices, interest rates and currency exchange rates (Bodnar et al, 1995).

In seeking to manage economic currency exposure risk, firms can adopt either operational or financial hedging approaches, or a combination of both Srinivasulu(1981), Aggarwal and Soenen (1989) and Soenen and Madura (1991). However, financing requires a strategic reorientation of operating policies regarding pricing, sourcing, location of production and financing. Moffet and Karlsen (1994) describe the use of production, financial and marketing policies to manage economic currency exposures as 'natural hedging'. Diversification of international operations is an important aspect in managing economic exposure, as it allows companies to react competitively in light of currency movements.

The diversification of financing across currencies is another operational strategy that can be used to hedge economic currency exposure. This will involve structuring the firm's liabilities in such a way that changes in foreign assets values due to economic exposure is offset by relative changes in the debt service expense in the same currency, i.e. acquiring debt in a currency in which the company has continual cash inflow which is exposed to economic exposure. Current literature perceives economic exposure management as a dynamic concept that should be incorporated into the long-range, strategic planning system of corporation and integrated with all area of corporate decision making (Glaum, 1990). Companies should diversify the markets for both output and sources of supplies internationally, this will allow management to be propositioned to both recognize disequilibrium when it occurs and react to it competitively.

2.3 Exchange Rate Exposure Management Process

Foreign exchange rate exposure management aims at minimising variations in expected future net cash-in-flows due to exchange rate volatility. It centres on creating the capacity to align the supply of internally generated funds with demands for investment and growth. This ultimately ensures that the firm has adequate net cash-in-flows to make value-enhancing investments and be able to grow. (Foot et.al, 1994 and Claessens, 1993) collaborate the above view. Foreign exchange rate exposure management is viewed as the ability to manage the firm's assets and liabilities so as to minimise the effect of exchange rate risk on cash-in-flows, operating margins and overall performance. That in itself a basic tool for better asset management, planning and budgeting which can finally enhance the firm's overall performance? Shapiro (1989) emphasises that it requires an organised approach towards foreign exchange rate exposure management.

Numerous studies have been carried out in the area of foreign exchange rate exposure management, Lessard and Sharp (1984), and Shapiro (1989) attempt to identify the sources of exposure by itemising foreign exchange rate exposure into components as discussed in the following sub-section.

2.3.1 General Characteristics of Foreign Exchange Rate Exposure (FERE)

FERE can be classified into three major categories such as accounting exposure, transaction exposure, and economic exposure.

2.3.2 Transaction Exposure

As pointed out by Kester and Luehrman (1993), this exposure, which is also referred to as contractual exposure, arises out of contracts denominated in foreign currency. Shapiro (1989) further gives transaction exposure a practical outlook. He refers to transaction exposure as the cash flow risk that arises out of possibility of exchange gains/losses on transactions to occur at a future date already booked and denominated in foreign currency. This scenario is applicable to Uganda Telecom, which has long-term debts with suppliers, loan repayment commitments of foreign currency and forward contracts in terms of future purchases. As an illustration Uganda Telecom has debt obligations with Huawei that involve a specific amount in foreign currency denomination to which the firm is committed to paying.

2.3.3 Economic Exposure

This is exposure pegged to the anticipated foreign currency flows that are currently not reflected in financial statements or other records. Economic exposure thus refers to the impact of exchange rate movement on the present value of its expected future cash flows. Kester and Luehrman (1993) defined economic exposure as the response of future operating cash flows to unexpected exchange rate changes. For multinational companies (MNC's) economic exposure draws from the International Finance perspective. Therein, a change in exchange rates affects the expected value of the firm's future cash flow streams. The Economist survey Article, published in February(1996), Smith et.al, (1993),

Kester and Luehrman, (1993); MCNaughton, (1996) Shapiro (1989) hypothesizes that the focus on economic exposure is on the value of the firm as measured by the net present value of the firm's expected future after tax cash in-flows when exchange rate changes. The effect of exchange rate on the revenue streams is measured through discounting the cash in-flows by an appropriate discount rate. This measures the effect of exchange rates on accounts namely the income statement and the balance sheet. However, such consideration requires itemising total exposure.

2.3.4 Accounting/Translation Exposure

This relates to foreign currency assets or liabilities, or overseas operations or subsidiaries. In the same context Shapiro (1989) looks at the extent to which exchange rate changes would affect foreign currency denominated assets and liabilities (revenues and costs) when translated into home currency values. This leads to a view advanced by Lessard and Sharp (1984) that translation exposure arises from the changes in the firm's reported financial results and conditions due to changing exchange rates. For accounting purposes, it is the procedure to express the firm's statements in our local currency, the Uganda shilling. This approach is likely to yield an exposure if income earned in various foreign currencies has to be converted into Uganda shillings (Ugx).

2.3.5 Management of Foreign Exchange Rate Exposure

There are many new derivative instruments, which are being used by companies to manage their exposures to foreign exchange risks such as forward contract, futures contracts, swaps and options. Each of these techniques differs in the way they are applied in each company's situation. There has been much study concerned with the effectiveness of using these techniques, particularly forward contracts and currency futures; Herbst et al.(1989); Castelino, (1992) and Herbst et al. (1992).

A forward contract is an agreement to buy or sell a specific quantity at a predetermined price on a specific date in the future. The pre determined price is called the forward exchange rate. The forward exchange rate is set to a value such that no money is required up front to enter the contract. A currency forward contract is particularly useful for exposures that are short to medium term and whose timing is known for certainty. Forward contracts can normally be traded with maturities of up to 1.3 or 6 months, however forward contracts can also be taken out for up to five years.

There are a number of risks attached to forward dealings, which makes it essential for treasurers to exercise caution. The forward rate is not purely a reflection of the strength or weakness of a currency, it also allows for interest rate differentials, and thus forward rates may move even more dramatically than spot rates. Forward contracts also expose companies to more risks such as settlement risk and counter

party risk. Because of the obligation to fulfil, forward contracts contain considerable risks. The pay off structure of forward contracts is symmetric, that is the gain when the value of the underlying asset moves in one direction is equal to the loss when the value of the asset moves by the same amount in the opposite direction (Nance, Smith and Smithson, 1993). The forward market of great importance to treasurers because they fix the cost of imports and exports in advance of the time that payments have to be made or receivable converted. Forward contracts have been said to increase firm value, (Bessembinder, 1991). Almost all empirical studies found that the most frequently used method is forward exchange contract (Cezairli 1988, Teor and Er 1988, Belk et al. 1992, Jesswein 1992, Bodnar et al. 1995, Phillip, 1995, Mallin et al. 200). Ease of use, effective in hedging short term foreign exchange exposure, flexibility and transaction costs are some of the reasons cited for the frequent use of forward exchange contracts.

Another instrument, which a company might use to reduce the risk of foreign exchange volatility, is to enter a futures contract. This contract is similar to forward contracts in that both involve the promise to buy or sell currency at a specific time in the future. The difference is that profits or losses from holding futures contracts are realised and paid out each day; in contrast, profits or loses from holding a forward contract are realised and transferred only when the contract expires. Futures markets are one of the most important ways to hedge risky assets. If a company takes out a long hedge futures contract, the company

will be protected against a rise in a foreign currency value and vice versa if the company takes out a short hedge futures contract. Khoury and Chan (1998) found that currency futures were the least used method by most companies. The administrative costs incurred inflexibility in contract sizes and margin requirements acted as deterrents for not using futures contracts. Glaum and Belk (1992) also found out that none of the companies which were interviewed used currency futures, with the main reason being that the standardized features of exchange traded futures most often do not enable the companies to hedge their positions perfectly. Mallin et al. (2000) also found that only 9 companies out of 231 respondents to their survey used currency futures.

Options differ from forward contracts in that holding an option gives the holder the right to buy or sell a certain amount of a certain asset at a specified price until or on a specified date, but is not obliged to do so. Currency options have become increasingly popular as a hedging devise, as it protects the companies' ability to gain from favourable movements exchange rates. Call options protect hedgers against increases in the price of currency, put options protect hedgers against price decreases. The fact that one is not obliged to exercise an option means that its payouts are not symmetric. The holder of a call option can profit if prices rise. If prices fall, however, he simply does not exercise the option. Options are available both standardised on exchanges and privately arranged over-the counter. The over- the- counter market offers greater opportunities for customisation. Caps and floors are option-based of put options. Whenever there is uncertainty in the

size of cash flows and the timing of cash flows, then option contracts would prove to be a better hedging technique than traditional hedging instruments such as; forward contracts and futures contracts.

Currency swaps are becoming increasingly popular as a new variation of instruments used to manage foreign exchange risks. After its introduction on a global scale in the early 1980's, currency swaps have become one of the largest financial derivative markets in the world. It is a contract in which two parties agree to exchange cash flows that is the principals and interest payments over a period of time at an agreed exchange rate. Companies that operate in one currency but need to borrow in another currency commonly use currency swaps. It is usually cost effective to borrow in a company's own currency as funds will be received up front and interest and principal payments are made in the same currency. If the company partakes in a currency swap, interest and principal will be received in its own currency. Currency swaps enable each contracting party to borrow in the market in which it possesses competitive advantage, and both parties would benefit from the swaps through reduction in borrowing costs. Currency swaps allows corporations to adjust their liabilities according to the mix of their foreign operations and enables corporate treasurers to basically transform the currency profile of a companies' liabilities relatively quickly. Currency swaps can be negotiated for a wide range of maturities up to at least 10 years, and can be viewed as a series of forward contracts between the two parties.

Maturity, uncertainty about hedge accounting treatment, liquidity, exposure volatility, and recent hedging outcomes can determine hedging strategies of a firm. Bordnar, Hayt, and Martson (1998) report that a majority of foreign currency derivative users prefer using short-term derivatives with maturity of 90 days or less to log-horizon instruments. Geczy, Minton and Schrand (1997) argue that the source of foreign exchange rate exposure is an important factor in determining types of currency derivatives. A firm chooses to use currency swaps to manage foreign-denominated debt payments that extend over multiple periods but are predetermined because this long-term customised strategy results in lower basis risk than using a series of short-term forward contracts. In contrast, a firm with short-term transaction for instance foreign operations or import competitions chooses to use forwards only or forwards in combinations with futures or options because of uncertain timing and quantities of their payoffs.

DeMarzo and Duffie (1995) and Brown (2001) suggest that accounting standards for hedging activity as set by Financial Accounting Standards Board (FASB) have a significant impact on hedging positions and revenues because accounting treatment differs by type of derivatives. There are two approaches to the accounting treatment of derivatives, “mark to market”, and “hedge” accounting. Futures contracts are marked-to-market and thereby the adjustment in margin account can result in significant cash flows and hence earnings volatility. Forward and exotic contracts used to hedge for future period must also be marked-to-market, and therefore increase volatility in reported earnings. Options qualify for

"hedge" accounting since gains and losses on the hedging instrument are not brought into the balance sheet and income statement until the time at which the gains or losses associated with the hedged exposures are also recorded. These concerns may help explain why Bordnar, Hayt, and Marston (1998) found out that 80% of the respondents in Wharton survey they carried expressed moderate or high concern regarding accounting treatment of derivatives.

It is also important to note that when corporations have a preference for liquidity and have the ability to customise specifications such as the maturity date in their choice of derivatives, vanilla forward and option contracts are preferable choice to futures.

2.3.6 Management of Interest rate exposure

Interest rate derivatives provide pay-offs determined by how an interest rate changes. The same derivative products used to manage foreign exchange risks can be used to manage interest rate risks i.e. forwards, options and swaps with the most popular being interest rate swaps. The use of these derivatives has grown in popularity for several reasons. Nearly all businesses face some form of interest rate risk. Since the middle 1980's, over-the counter interest rate derivatives have proven to be more a popular way to manage interest rate risks as they are customised to the needs of the risk manager.

A forward rate agreement is a forward contract on an interest rate. It is an inter-bank traded contract to buy or sell interest payments on a notional principal. It gives the buyer of the FRA the right to lock in an interest rate for a desired term that begins at a future date. If interest rate rise above the agreed limit, the seller will pay the buyer the increased interest expense on a notional principal, but the buyer will pay the seller the differential interest expense if interest rates fall below the agreed limit. Just like the currency forward contracts, maturities are for 1, 3, 6, 9 and 12months.

Generally, FRAs (Financial Risk Agreements) are used to manage and cover short-term interest rate risks. Companies can protect themselves against the risk of unfavourable interest rate movements by buying or selling an FRA. If their financial liabilities carry a floating, short-term interest rate, they are at risk if interest rates rise. If it seems likely that rates will rise beyond the FRA rate of the transaction date in question, then buying an FRA allows them to lock in their short-term financing cost at the FRA rate for the period up to the settlement date. In situations where a company has fixed-rate, long-term financial liabilities and anticipates a significant drop in interest rates, selling FRAs has the effect of converting the fixed-rate obligation into a floating-rate one, and creates the possibility of a gain if rates fall further than the market expects. In contrast to currency forward contracts, forward rate agreements are the least used derivatives to manage interest rate exposures, (Phillips.1995, Mallin et al. 2000). This might be due to the limited maturities and currencies available.

Interest rate futures, unlike foreign currency futures are widely used by financial managers and treasurers of non- financial companies. (Bodnar et al, 1995, Eiteman, Stonehil and Moffett. 2000). The reasons for increased use stems from the relatively high liquidity of the Interest rate futures market, their simplicity of use and the standardised nature of interest rate exposure faced by companies. However, Mallin et al (2000) and Phillips (1995) find that futures are least used to manage interest rate risks. An Interest rate futures contract fixes the effective interest rate for borrowing or lending funds at a specific date in the future. A company anticipating losses from a decrease in interest rates could take up a futures position and would provide gains from decreasing interest rates.

Interest rate swaps are the most widely used interest rate derivative (Phillips, 1995; Bodnar et al 1995 and Mallin 2000). An interest rate swap is an agreement between two parties in which each party makes a series of payments to other at predetermined dates at different rates. The main type of interest rate swap is a plain vanilla swap, which is where one set of payment is fixed, and the other is floating. This type of swap forms the largest single financial derivative market in the world, with over $25 Trillion on existing agreements at the end of 1998. The two parties may have various motivations for entering into the agreement. A corporate borrower of good credit standing may believe that interest rates are about to rise, by entering into a swap agreement to pay fixed and receive floating interest rates, the treasurer will be able to protect the firm against rising debt-

service payments. Most firms use interest rate swaps in this manner, which is to manage the payment structure of their liabilities. Other firms holding interest sensitive assets use swaps to adjust the structure of their cash flows. Swap agreements involve less paperwork, and administrative procedures and costs are considerably lower than other forms of derivative instruments.

Interest rate options are like forward rate agreements, but instead of being a firm commitment to receive one interest rate and pay another, they provide the right to receive one interest rate and pay another. Interest rate options are popular to use as interest rate swaps, compared to all other interest rate derivatives. (Bodnar et al, 1995; Phillips, 1995 and Mallin et al 2000).

2.3.7 Effects of Derivatives Use on FERE and Firm Value

The possible explanation for the limited success of prior studies in documenting significant relations between exchange rate changes and firm values is due to the risk management programs of the multinational firms. Most of survey studies indicate that derivatives are commonly used to reduce the volatility of the firm's cash flow and firms use of derivatives for hedging purpose.

Guay (1995) examined the impact of derivatives on firm risk and also looked at firm risk from several angles such as; changes in interest-rate and exchange –rate exposure, total risk, firm specific risk, and market risk - found out that new users of derivatives show significant reduction in stock-return volatility, interest-rate

exposure, and exchange-rate exposure when compared to control firms that do not use derivatives. Allayannis and Ofek (2001) and Lee and Walker (2001) using samples of 500 non-financial firms find that firms who use foreign currency derivatives significantly reduce the foreign exchange rate exposure, which suggests that a currency derivative user is less likely to be exposed to changes in foreign exchange rates. Both of the studies as done in United States assume that United States multinational firms use foreign currency derivatives as protection against adverse exchange-rate movements. However, the application of currency derivatives is not a direct measure of hedging.

The firm can use foreign currency derivatives for hedging or speculation. If risk management is costless and used for hedging purpose, then hedging increases firm value by reducing the cost of capital confirming Allayannis and Weston (2001) who found out that firms that are exposed to foreign exchange risk showed a positive and significant relation between firm value and use of currency derivatives. Using estimates of ex post (average realized) and ex ante (expected) cost of equity measures, Lin (2003) suggest that hedgers have a lower cost of equity than non-hedgers.

However, if derivative use is very costly, hedging may not increase firm value because hedging reduces firms' expected cash flows as well as the cost of equity and therefore leaves the value of the firm constant or lower. On the other hand, if a firm(s) uses derivative instruments for speculative purpose, risk management

activities result in higher risk and greater required rate of return. Bordnar, Hayt, and Marston (1998) report that the majority of United States firms responding to the Wharton survey indicated that their market views impact the size or timing of their hedges. Stulz (1996) provides economic arguments for this behaviour. Even when the use of derivatives is costless, speculation lowers firm value by betting on the direction of future prices of underlying assets or liabilities and thus increasing the variability of future value of a firm. If the motives for hedging and speculation were correlated as in information asymmetries, it would not be easy to distinguish between the two activities. In the study carried out by Ljungqvist (1994) it found that firms normally choose to use currency derivatives for speculation if managers of low-output firms want to create noise to mimic high-output firms, or if speculation is a profit-making activity.

2.4 Firm Value

Value maximisation theory states that managers should make all decisions that are geared towards increase of the total long run market value of the firm. Total value is the sum of the value of all financial claims on the firm - including equity, debt, preferred stock and warrants.

Finance theory has advocated a number of different ways in which corporate management may serve to enhance shareholder/firm value. First, companies are likely to be better placed than shareholders to manage their risks, for reasons of

information asymmetry and superior accessibility to risk management instruments as mentioned earlier (Joseph and Hewins, (1997).

It is widely recognised that the value of the firm is closely related to the performance of its future cash flows. The future cash flows (FCF) approach is used to assess and compare the value creation and performance of companies. Gentry et al. (1997) comment that the performance of a firm's net cash flow over time provides powerful signals connecting its financial health; thus, the long-run patterns of a few key cash flow components can be used to assess a company's strategic performance. In their overall assessment, Gentry et al. maintains that the most important relationship among the cash flow components is the link between net investments and net operating cash out flows, and those cash flow components are closely associated with financial health and strategic performance of a firm. The question of whether changes in cash flow components trigger action (or inaction) remains, at this point, an empirical question. There does exist, however, substantial empirical evidence documenting the strong influence of cash flow on some firms' investment decisions (Donaldson (1961; Myers and Majluf (1984; Jesen (1986; Hackel & Livnat (1992); Fazzari and Petersen (1993); and Vogt (1994). The general conclusion drawn is that this influence is a function of debt policy, asset size, dividend behaviour and the type of investment spending.

There exists a large body of theoretical and empirical literature documenting the relationship between the value of a firm and its financing decisions. Many of

these studies find that the relationship between the value of a firm and financing decisions is affected by factors such as tax effects, agency effects, bankruptcy costs and asymmetric information.

Based on an agency-cost model, Jensen and Meckling (1976) argue that leverage creates the possibility of bankruptcy and this gives the borrower inefficient risk - shifting incentives. On the other hand, by summarising more than a dozen previous studies, Jensen and Smith (1985) and Smith (1986) show that most leverage-increasing transactions, including stock repurchases and exchanges of debt or preferred stocks for common stocks, result in a significant rise in common stock prices and firm value. Jensen (1986) argues that FCF theory and the positive tax effects can explain some of these results. Myers (1984) and Myers and Majluf (1984) hypothesise that firms with over-valued stocks issue equity, thereby lowering stock prices. Eckbo (1986) further argues that higher leverage without any changes in equity has little effect on stock prices. This suggests the existence of asymmetric information effects of changes in debt. Fama and French (1998) question the validity of the tax effects hypothesis and consider variables in their cross-sectional regressions, which capture all the information on pre-tax expected net cash flows in financing decisions. They find a firm's value is negatively related to debt and positively related to dividends and conclude that information effects on profitability obscure any tax effects. In a more practical approach, business is all about creating value, as supported by the "value-based Management, which is essentially a management approach whereby companies'

driving philosophy is to maximise shareholder value by producing returns in excess of the cost of capital (Simms, (2001). This value creation process is only possible with the support of different stakeholder groups. It is worthwhile to note; despite the fact that the objectives of the different stakeholder groups do not always converge, they realise the importance of working together to realise the multiple goals of the firm as the only way to attain some of their own objectives.

At first sight, literature suggests a great distinction between the stakeholder and the shareholder approach. However, when we look at the interpretation and observations of Grant (1998) according to the shareholder theory, we detect a great similarity between his viewpoint and that of (Mills and Weinstein, 2000) point out that the shareholder and the stake holder principle do not conflict if the issue of the measurement of value and the distribution of value are looked at separately. They state the belief that the quest to create value is important for all organisations. The efficient use of resources should involve ensuring that an economic return in excess of the cost of capital is achieved.

2.4.1 Relationship between Interest Rate Exposure, Application of Risk Management Techniques and Firm Value

Many firms engage in international financing strategies. As a result, working capital management is often affected by changes in both interest rates and exchange rates. These interest rates also play a fundamental role in the pricing of various assets. Consequently, the issue of interest rate risk exposure and exchange

risk exposure has increasingly been of concern to investors, portfolio managers banking authorities, academicians and policy makers.

These concerns, in turn, have prompted a substantial amount of research. Several studies examine the impact of interest rate movements on market performance (Chen at al, (1986): Gilberto, (1985): Sweeney and Warga, (1986): Bin et al; (2003) and the effect of real interest rate differentials and risk premium (Frenton and Paquet, (1998). Other research examines the effect of exchange rate on firm value (Bordnar and Gentry, (1993), Bartov and Bordnar,(1994); Choi and Prasad, (1995).

Recent literature also addresses the importance of the relationship between hedging and disclosure practice where it is argued that information asymmetry between shareholders and managers provides s further explanation for the use of derivatives in corporate hedging (DeMarzo and Duffie, 1995). Hedging can also reduce the cost of financial distress (Titman, (1995). If hedging is applied to reduce the volatility of earnings, the probability of not being able to meet obligations is checked and so the expected cost of financial distress is reduced and firm value is enhanced.

Allayannis and Weston (2001) find that for firms that are exposed to foreign exchange risk there is a positive and significant relation between firm value and use of currency derivatives. Using estimates of ex post (average realised) and ex

ante (expected) cost of equity measures, in (2003) suggests that hedgers have a lower cost of equity than non-hedgers. However, if derivatives use is very costly, hedging may not increase firm value because hedging reduces firms' expected cash flows as well as the cost of equity and therefore leaves the value of the firm constant or lower. On the other hand, if firms use derivative instruments for speculative purpose, risk management activities result in higher risk and greater required rate of return. As reported by Bodnar, Hayt, and Marston (1998), the majority of United States firms responding to the Wharton survey indicate that their market views impact the size or timing of their hedges. Stulz (1996) provides economic arguments for this behaviour. Even when derivatives use is costless, speculation lowers firm value by betting on the direction of future prices of underlying assets or liabilities and thus increasing the variability of future value of a firm. If the motives for hedging and speculation were correlated, for example, information asymmetries, it would not be easy to distinguish between these two activities. Ljungqvis (1994) suggest that firms choose to use currency derivatives for speculation if managers of low-output firms want to create noise to mimic high-output firms, or if speculation is a profit-making activity.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This section presents the research methods that were used in executing the study. It covers the research design, population, data sources and methods of data collection, measurement of variables, data analysis, limitations that were encountered and strategies employed for overcoming them.

3.2 Research Design

The study was conducted as a longitudinal research design over the period of years seven years.

Longitudinal approach was considered an appropriate phenomenon since the changes in variables under study occurred over a period of time and these changes were necessary to provide a trend and information about net changes at the aggregate level.

3.3 Case study

The Telecom industry in Uganda at this period of study is comprised of three major players i.e. Uganda Telecom, Mobile Telephone Network (MTN) and Cellular Telephone (celtel).

Uganda Telecom limited was chosen as a case study.

3.4 Data collection and Sources

Secondary data was collected from files in achieves of Uganda Telecom covering the years under study. The sources were mainly from records of financial nature in form of non-published company externally audited accounts, monthly positions of company bank account statement balances in both local and foreign currency and copies of contracts and agreements entered into by the company and the financiers both foreign and local.

Primary data was also obtained by carrying out in-depth face to face interviews with finance staff followed by review of financial records under the study period.

3.5 Measurement of Variables

The measurement of the study variables was conducted through the secondary data, more specifically the independent variables (Foreign exchange rate exposure and Interest rate exposure), were subjected to annual trend analysis and the fluctuations were justified by the results obtained in the graphs.

The dependent variable – Firm value was measured through subjecting secondary data to calculation of return on equity (ROE) percentage calculations over the period of 2001 - 2006 as captured in the analysis – chapter 4.(Table 4.21)

3.6 Ethical Considerations

An introductory letter was obtained from the Graduate Research Centre stating that the study is for academic purposes only.

3.7 Data Analysis

Data cleaning was carried out to ensure consistence of the figures after which the data was further captured in SPSS computer program for analysis.

The resultant data out put from the SPSS computer program, was there after specifically subjected to zero order correlation (r) and regression of the variables hence, determining the relationship between the independent (Interest rate exposure and Foreign exchange rate exposure) and dependent variable - firm value.

This was necessary to justify the research objectives as reflected in the research report.

3.8 Limitations and Strategies of overcoming limitations

It may not be possible for the researcher to access all the required information due to the sensitivity and confidentiality of financial statements. There is also likely to be a problem of tracing Company financial statements from archives and definitely the researcher will not be able to obtain data on a daily basis.

These pressing bottlenecks identified above, are part of the research process. It is therefore prudent to recognise them in time so as to put in place mitigation techniques/approaches.

A lot of effort was marshalled to ensure that the right people in archives were identified and convinced to search and provide the necessary documents in the store. Secondly Makerere University Business School (MUBS) was approached for an official introductory letter for the researcher to present to the Management of Uganda Telecom Limited (UTL) requesting them to provide the researcher with any documentary financial information necessary in this purely academic research paper.

Finally personal drive, cordial relationship with fellow staff and the advantage of being an employee of the firm contributed immensely in the search for data in-order to successfully accomplish the task.

CHAPTER FOUR

4.0 RESULTS AND FINDINGS OF THE STUDY

4.1 Introduction

This chapter presents findings in reference to the trend analysis on annual financial reports, monthly bank account statements and the statistics on Loans obtained by Uganda Telecom from financiers in relation to the period of the study (2000 – 2006).

The findings were obtained using the following tools, cross tabulation, factor analysis, ratio level tests and establishing the relationship between independent variables and the dependent variable by correlation and regression analysis in order to satisfy the research objectives and questions.

The study was guided by the following re-stated objectives;

4.2 Objective One - To investigate the Interest Rate Exposure and Foreign Exchange Rate Exposure of Uganda Telecom.

The study analyzed the sources of borrowed funds in Uganda Telecom – local and foreign for the period under study.

4.2.1 Sources of Loans the company has accessed

In order to answer this objective secondary data was extracted from the records. The section presents the various financers from whom Uganda Telecom obtained the loans and the respective amounts as tabulated in Table 4.1 below:

Table 4.1 Sources of the Loans for Uganda Telecom in Ugx and US$ (2001-2003)

Financier	Amount $	Access Date	Grace Period	Repayment Start Date
EADB	15,000,000	Apr.2002	2 Years	Apr.2004
PTA	13,500,000	Feb.2003	2 Years	Feb.2005
DFCU	3,000,000	June.2003	2 Years	June.2005
SCB	7,000,000	Sep.2002	2 Years	Sep.2004
Sub - Total	**38,500,000**			
	Amount $			
SCB - OLD LOAN	13,000,000	Nov.2002	Nil	Nov.2002
	Amount Ugx.			
Bond Finance	24,000,000,000	June.2003	Nil	July.2004
Begian - NURP 1	7,975,974	Feb.2001	5 Years	2007
Begian - NURP 11	12,204,185	Jan.2003	5 Years	2009
Sub Total	**24,020,180,159**			

Source; ***Secondary Data from Uganda Telecom Records***

According to the table 4.1 above Uganda Telecom had various sources of funding which included among others East African Development Bank (EADB), Preferential Trade Area Bank (PTA), Development Finance Company of Uganda (DFCU) Standard Chartered Bank (SCB), Bond Finance and the Belgian Loan. The Total magnitude of indebtedness amounts to US$ 51,500,000 and Ugx 24,020,180,159=.

The findings further reveal that the company was acquiring loans in both Local currency and in United States Dollars. There is also a marked difference in the repayment start dates for each loan.

Overall the results in the Table 4.1 above indicate that the company did not only stop at the syndicated financing arrangement by the Banks, but went a head to issue a five year Bond at a floating rate which also required repayment of instalment on principal amounts and accrued interest to the Bond holders.

4.2.2 The Exposures in Foreign and Local Currency.

The exposure in terms of foreign and local interest payments is supported by the data extracted from the company records and presented in the Table 4.2 below:

Table 4.2 First and Second Quarter of the year 2005 and stretching up to May, 2006

US$	**Ugx Eqvt @ 1,852 t\0 1 US$**
207,019.13	383,399,427
340,124.31	629,910,222
168,947.85	312,891,418
716.091.29	**1,326,201,069**

Table 4.3 Third and Fourth Quarter June'06 – Jan.'07

US$	**Ugx Eqvt @ 1,852 t\0 1 US$**
303,855.89	563,859,808
148,292.52	275,186,429
25,547.29	47,408,106
396,833.55	736,404,019
648,175.72	1,202,819,684
203,227.75	377,129,736
1,725,929.72	**3,202,807,781**

Source: Secondary Data

Results in table 4.3 above show that the company has major outlays of its cash on a quarterly basis for purposes of servicing the payment of interest rates. In this regard the data above indicates an increasing trend of amounts paid out in form of interest rate repayments. The corresponding local shilling amounts indicated above show the actual exposure the company under goes in its struggle to secure the foreign component of the dollars. As indicated above the first and second quarter of interest repayment attracted a total cost of Ugx1,326,201,069 that was required to purchase the equivalent of $716,091.29 at a rate of Ugx1,852 to 1US$. The trend shows a sharp rise in the following third and fourth quarter, a period which covered June'06 up to Jan'07. The total exposure within this period stood at Ugx3, 202,807,069 against USD 1,725,929.72 at a rate of Ugx1,855.70 to 1USD.

Table 4.4 Interest on locally sourced loans from Standard Chartered Bank

Loan A

Quarter	Amount in Ugx
Oct. 05 – Dec. 05	614, 411, 111
Jan. 06 – Mar 06	601,250,000
Apr. 06 – Jun 06	553,150,000
Jul. 06 – Sept 06	553,150,000
Oct. 06 – Dec 06	547,137,000
	2,869,298,611

Loan B

Year	2003	2004
Jan – Dec	4,427,735,050	6,640,077,259

Table 4.5 Loan C on Monthly Interest Payments

Year	**2005**	**2006**
Jan	217,772,887	227,196,480
Feb	204,130,972	198,796,920
Mar	229,208,090	220,096,590
April	215,332,030	180,724,472
May	217,772,877	212,996,700
June	154,112,603	193,633,363
July	197,671,233	180,079,028
Aug.	210,849,315	180,079,028
Sep.	251,723,372	168,461,026
Oct.	240,105,371	165,233,803
Nov.	232,360,036	154,906,691
Dec.	232,360,036	149,743,134
Total	**2,600,388,812**	**2,231,947,235**

Source: Primary Data.

Table 4.6 Interest Payment for the Bond Financing – Half Yearly

Aug. 03 – Jan 04	2,155,313,097
Feb. 04 – July 04	2,435,907,945
Aug. 04 – Jan 05	1,367,145,208
Feb. 05 – July 05	1,397,429,177
Aug. 05 – Jan 06	1,054,486,356
Feb. 06 – July 06	755,067,534
Aug. 06 – Jan 07	653,870,466
Total	**9,819,219,783**

Source: Primary Data

The local borrowing attracted a total cost of Ugx 25,719,368,139 in terms of interest payments. The figure is arrived at by adding up all the sub totals paid for in each category of the borrowing/financing as indicated above. This therefore

heightens the interest rate exposure and as it will be seen in the following table the company bank operation account also attracted charges for being overdrawn upon payment the interest obligations.

Table 4.7 Bank charges for the overdrawn position

Year	**2005**	**2006**
Jan	26,641,896	21,219,801
Feb	22,131,723	4,961,017
Mar	32,517,781	20,920,863
April	34,313,516	69,490,076
May	21,344,630	81,564,890
June	24,413,307	72,327,289
July	-	80,227,847
Aug.	-	51,450,235
Sep.	-	55,461,095
Oct.	-	66,697,352
Nov.	-	56,982,686
Dec.	-	59,917,252
Total	**179,923,004**	**641,220,403**

Source: Primary Data

Evidence

It is evident from the table above that Uganda Telecom is in paying heavily on its exposure. The Bank charges are a result of having insufficient funds in the account at the time of paying interest obligations. In effect the account gets overdrawn and this means a soft loan extended to the company, and the company further attracts a cost. As seen above, the figure increased more than three times, representing a percentage change of 356% upwards.

4.2.3 Interest Rate Trends

This section presents the Interest rate trends that the company has been subjected to. These are charges from the financiers over the study period 2000 – 2006.

PTA Bank

The table 4.8 below indicates the Average Interest rates that have been charged by the PTA Bank for the various quarters of the years 2005 and 2006.

Table 4.8 PTA Bank Interest Rates

	2005				2006
Quarter	***First***	***Second***	***Third***	***Fourth***	***First***
Average Interest Rates	8.271	9.270	10.857	9.563	10.030

Source: Primary Data

The findings above indicate that the first quarter of the year 2005 saw the most favourable PTA interest rates charged to Uganda Telecom (8.271%), with the rest of the years, the company continued to experience fluctuating rates from PTA. During the second quarter, the interest rate rose to 9.270% then increased again to an all time high rate of 10.857% though by the end of the year, the rates had declined to an Average Interest rate of 9.563% in the Fourth quarter. The interest rates again rose to 10.030% in the first quarter of 2006.

The table 4.9 below presents the changes in interest rates that pertain to the above results.

Table 4.9 PTA – Changes in Interest Rate Trends

Quarter	1st	2nd	3rd	4th
% Change Interest Rate	0.999	1.587	-1.294	0.467

Source: Primary Data

The results were further presented below in Figure 4.1 below

Figure 4.1 PTA Interest Rate Trends (2005-2006).

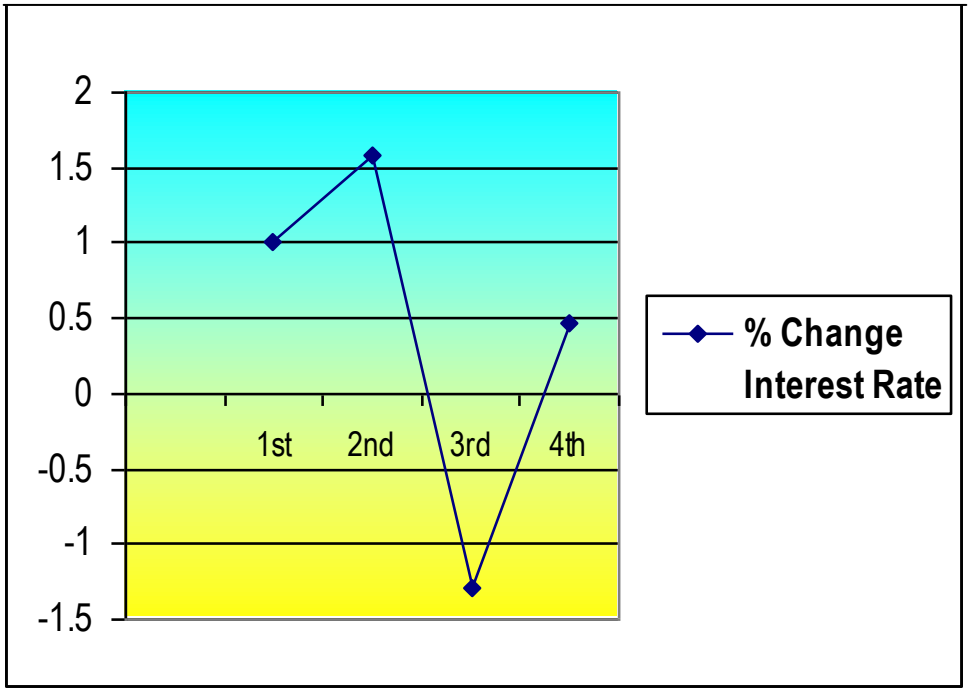


Figure 4.1 above shows a trend rise in the first quarter, a decline in the third quarter followed by an upward rise in the fourth quarter.

DFCU Bank

The Table 4.10 below indicates the interest rates fluctuations over the range 9.450-10.500 percent.

Table 4.10 DFCU Interest Rates Trends

Year	**2005**		**2006**
Quarter	***Third***	***Fourth***	***First***
Average Interest Rates	10.267	9.500	10.500

Source: Primary Data

East African Development Bank (EADB)

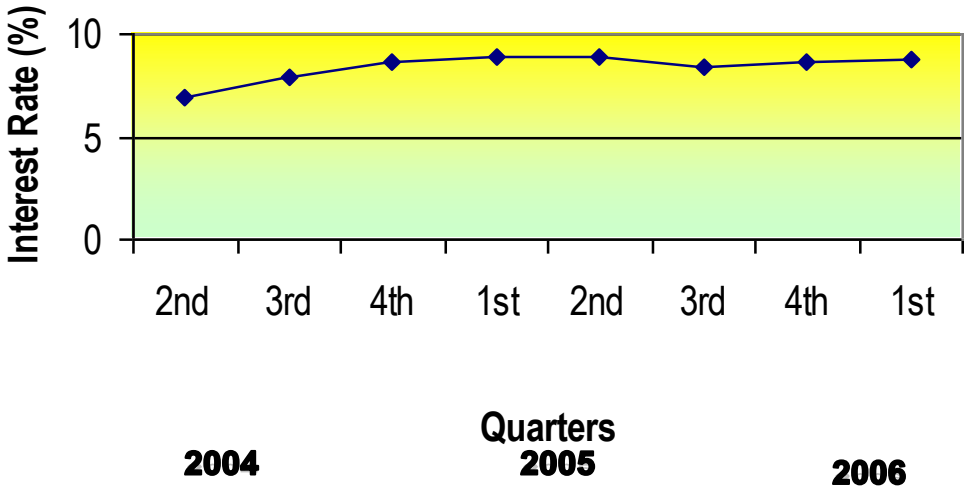
The table 4.11 below indicates the trends of the EADB bank interest rates expressed graphically. The findings indicate that fluctuating rates make it hard for the company to plan on its financial resources.

Table 4.11 EADB Interest Rate Trends

EADB	**2004**			
Quarter	***First***	***Second***	***Third***	***Fourth***
Average Interest Rates		6.95	7.95	8.60
	2005			
Quarter	***First***	***Second***	***Third***	***Fourth***
Average Interest Rates	8.93	8.93	8.40	8.61
	2006			
Quarter	***First***	***Second***	***Third***	***Fourth***
Average Interest Rates	8.72			

Source: Primary Data

From the graph below, it is also observed that the interest rates have been fluctuating in all the quarters.



The result above further indicates an ever increasing rate for exchange currency.

4.2.4 Foreign Exchange - Rate Exposure Profile of Uganda Telecom Limited

Foreign exchange exposure refers to the possibility that a firm will gain or lose because of changes in exchange rates. Every company faces exposure to foreign exchange risk as soon as it chooses to maintain a physical presence in a foreign country. Likewise, a firm faces exposure to exchange risk when it chooses to finance its operations in foreign currencies. Both exchange risks are analyzed in the context of investing and financing decisions. In addition, foreign trade and loans may involve foreign exchange risk. The table below (Table 4.12) presents data in relation to the foreign exchange rate exposure of Uganda Telecom in terms of the Foreign exchange rate fluctuations in terms of United States Dollars against the Uganda Shilling that has been endured by Uganda Telecom over a period of time (2000-2006)The analysis of the data further revealed that, Uganda Telecom

by the nature of its business derives its major inputs for the day to day operations and capital investments from foreign countries and therefore the Company is heavily engaged in the importation of machinery, acquisition of phones and scratch cards requiring heavy outlays in shillings for the purchase of foreign exchange and payment of taxes. Table 4.12 below represents the various market exchange rates in the respective years under study.

Table 4.12 Detailed fluctuations of the Foreign Exchange rates (2000-2006)

Year	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Jan	1,530.00	1,827.34	1,736.20	1,863.20	1,932.03	1,723.50	1,817.00
Feb	1,510.00	1,741.60	1,739.30	1,883.01	1,851.63	1,707.50	1,814.03
Mar	1,510.00	1,747.25	1,765.74	1,933.63	1,921.67	1,707.00	1,820.48
April	1,525.00	1,765.89	1,787.03	1,985.00	1,915.07	1,770.00	1,827.00
May	1,577.00	1,778.10	1,795.00	1,979.89	1,846.25	1,769.00	1,834.78
Jun	1,570.00	1,760.00	1,795.00	1,984.38	1,812.50	1,731.75	1,855.70
Jul	1,601.75	1,723.30	1,800.30	1,981.52	1,743.86	1,775.00	1,858.00
Aug	1,690.00	1,747.20	1,800.34	1,985.11	1,731.47	1,809.36	1,845.00
Sept	1,774.00	1,752.00	1,800.34	1,985.25	1,715.22	1,850.00	1,854.00
Oct	1,827.00	1,736.59	1,825.30	1,982.72	1,835.00	1,852.00	1,842.44
Nov	1,846.84	1,734.45	1,830.71	1,970.29	1,830.47	1,841.36	1,818.44
Dec.	1,769.50	1,712.61	1,841.93	1,941.00	1,830.47	1,812.14	1,735.00
Total	19,731.09	21,026.33	21,517.19	23,475.00	21,965.64	21,348.61	21,921.87
Yearly Average	**1,644.26**	**1,752.19**	**1,793.10**	**1,956.25**	**1,830.47**	**1,779.05**	**1,826.82**

Source: Standard Chartered Bank -Uganda.

The yearly Average results from the Table 4.12 in the previous page indicate that for all the years (2000-2006) the dollar exchange rate against Uganda Shillings has been well above 1,600=

4.2.5 Average Foreign Exchange Rates (US Dollars) Over the Years (2000-2006) by Quarter

This section presents a further break down of the data presented on Table 4.12 above and the results attained from (Table 4.13 below, indicate the Average Quarterly figures for the years and the corresponding Quarterly Percentage change for each of the years under study. This was done to gain a meaningful insight of the foreign exchange rate exposures in more detailed fashion.

Table 4.13 Average Foreign Exchange Rates (US Dollars) Over the Years (2000-2006) by Quarter

	2000	***% change***	**2001**	***% change***	**2002**	***% change***	**2003**	***% change***	**2004**	***% change***	**2005**	***% change***	**2006**	***% change***
1st Quarter	1,516.67		1,772.06		1,747.08		1,893.28		1,901.78		1,712.67		1,817.17	
2nd Quarter	1,557.33	2.68	1,768.00	-0.23	1,792.34	2.59	1,983.09	4.74	1,857.94	-2.31	1,756.92	2.58	1,839.16	1.21
3rd Quarter	1,688.58	8.43	1,740.83	-1.54	1,800.33	0.45	1,983.96	0.04	1,730.18	-6.88	1,811.45	3.10	1,852.33	0.72
4th Quarter	1,814.45	7.45	1,727.88	-0.74	1,832.65	1.80	1,964.67	-0.97	1,831.98	5.88	1,835.17	1.31	1,798.63	-2.90

Source: Primary Data

In the Table 4.13 above a further breakdown on the attendant foreign exchange changes were broken down into percentage changes in the Foreign Exchange Values from quarter to quarter of each year. The results are presented in the Table 4.14 below:

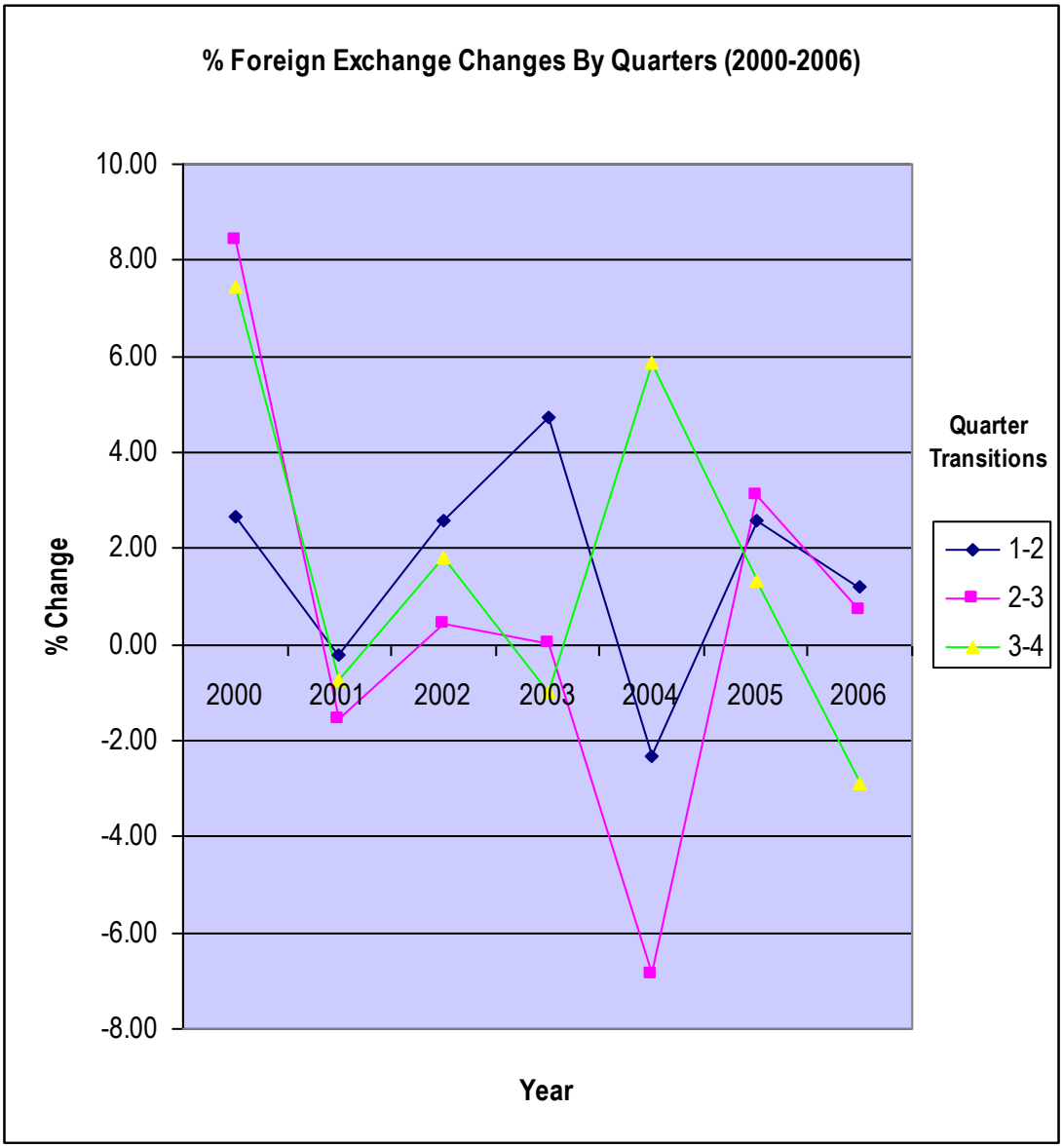
Table 4.14 Quarterly Transition values for the Foreign Exchange Rates (% Change) For The Period (2000-2006)

	Quarter		
Year	**1-2**	**2-3**	**3-4**
2000	2.68	8.43	7.45
2001	-0.23	-1.54	-0.74
2002	2.59	0.45	1.80
2003	4.74	0.04	-0.97
2004	-2.31	-6.88	5.88
2005	2.58	3.10	1.31
2006	1.21	0.72	-2.90

Source: Primary Data

The results in Table 4.14 in the previous page further confirm the various foreign exchange fluctuations that the company has been exposed to.

Figure 4.2 Percentage Foreign changes by Quarters (2000-2006)



In figure 4..2 above it is evident for instance in the year 2000, the company experienced an all time high percentage increase in the foreign exchange rates during its transition from the second to third quarter. It should also be noted that during this year, the percentage

increment in the foreign exchange rates was constantly increasing upwards until it finally maximized in the final quarter of the year 2000.

Other significant fluctuations were noted in the year 2003 where the percentage increase in the foreign exchange rate was at its highest in the transition from its first to the second quarter and kept on decreasing for the other quarters until it struck an all time low the transition from the third to the fourth quarter of the year.

For the company, this unstable fluctuation of Foreign exchange rates means a lot for instance; Time and again the company has to buy dollars so as to service its loans and given the unpredictable fluctuations of the foreign currency, this makes it very hard for the company to plan for its future transactions. Furthermore, the condition is worsened in light of the fact that there are always management fees which have to be paid on a monthly basis (To the tune of USD 354,000) to major shareholders such as Telecel International and Detecon.

4.2.6 Interest Rate Exposure over the last few months in the Year 2003

This section presents the Interest rate exposure resulting from the Bond financing. The table 4.15 below indicates that over the last few months of 2003, Uganda Telecom Limited experienced a flat interest rate of 21.424% chargeable on the bond financing.

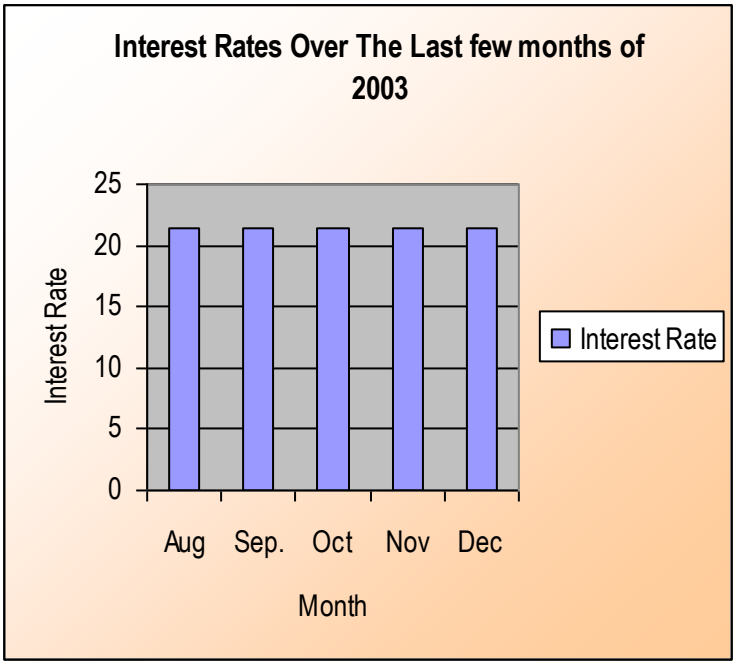
Table 4.15 Interest rate exposure over the few months in the Year 2003

Monthly Repayment	Interest Rate
Aug	21.424%
Sep.	21.424%
Oct	21.424%
Nov	21.424%
Dec	21.424%

Source: Primary Data

This prevalent flat rate in the earlier years of the company should have been used to plan well if it had been anticipated. However, often these rates are fluctuating. The results were further presented using a Bar Graph in figure 4.3 below:

Figure 4.3 Interest Rates over the last few months of 2003



4.2.7 Average Interest Rates over the year 2004

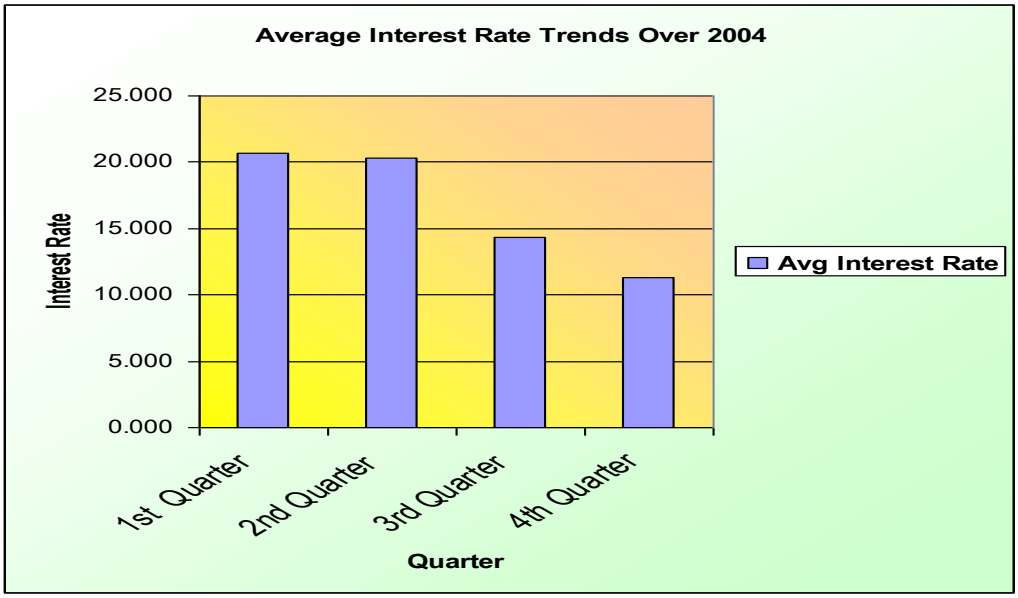
The results from Table 4.16 below indicate that the company in 2004 was exposed to such varying interest rates such that, at the beginning of the year it was 20.711% while by the last quarter of the same year, it had dropped to a value of 11.300%. The results were further presented using a bar graph (Figure 4.4 below). Such varying interest rates are unfavourable for the company and hinder quick and effective strategic planning.

Table 4.16 Average interest rates over the Year 2004

Quarter	*Average Interest Rate*
1st Quarter	20.711
2nd Quarter	20.355
3rd Quarter	14.318
4th Quarter	11.300

Source: Primary Data

Figure 4.4 Average interest rates trends over the year 2004



4.2.8 Average Interest Rates over the year 2005

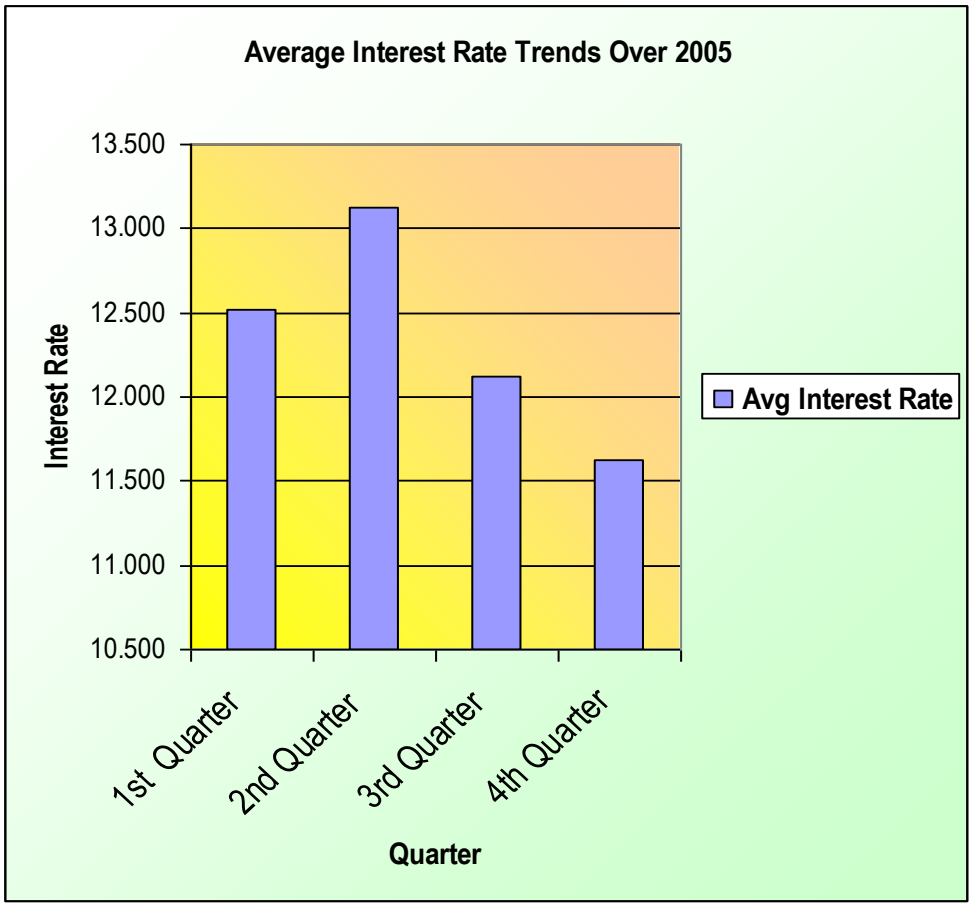
The table 4.17 below indicates that the average interest rate over the year 2005 slightly increased in the second quarter by about 0.61% and in the third quarter. However, we notice a drop this time to an average interest rate of 12.120%. Finally in the last quarter, the rate dropped to 11.621% and the results were presented also using a bar graph. The bar graph (Figure 4.5) in the next page summarises these fluctuations.

Table 4.17 Average Interest Rates over the year 2005

Quarter	***Average Interest Rate***
1st Quarter	12.519
2nd Quarter	13.129
3rd Quarter	12.120
4th Quarter	11.621

Source: Primary Data.

Figure 4.5 Average Interest Rates Trends over 2005



4.2.9 Effects of the varying and fluctuating Interest Rates on Uganda Telecom's Financial Status

Current Liabilities

As a result of the unpredictable interest rates in the previous analysis that the company has been exposed to, this section presents the resultant effects that have also weighed unfavourably on the Company's financial performance in regard to the huge volume of attendant liabilities incurred by the Telecom body. Table 4.18 below presents the position on Current Liabilities.

Table 4.18 Current Liabilities

Item	Value Ugx.	% of Total Liability Value
Trade Creditors	30,795,095,827	57.3262
Other Creditors and Accruals	14,396,600,688	26.7998
Loans Payable within 1yr	8,151,000,000	15.1734
Taxation	376,327,859	0.70055
Totals	**53,719,024,374**	**100.0000**

Source: Secondary Data

The results from table 4.18 above indicate that the company has a huge obligation to its Trade Creditors forming a not so worthy proportion (57.3262%) of the total liability value of Uganda Telecom limited. The other categories of debtors that the company is highly indebted to are:- Other Creditors and Accruals which forms 26.7998%, Loans Payable within one year (15.1734) and least is the Taxation category with 0.70055%.

It is further noted from the Table 4.22 that Loans - payable within one year form a significant proportion of the company's liabilities. For instance the company would have to fore go certain growth and outreach opportunities over the fixed period of time as all efforts are channelled towards meeting the specific target i.e. clearing the loan whose deadlines are approaching. In light of the ever changing and unpredictable interest rates, the company runs a risk of paying back more than actually planned for, thus further destabilizing the company's financial position.

Current Assets

The Table 4.19 below Presents data on Uganda Telecom's unfavourable financial stand in light of the liability portfolio. This is further worsened by the fact that the current asset status as presented below, is in such a sorry state as indicated here under.

Table 4.19 Current Assets

Item	**Value- Ugx**	**(%) of Total Assets Value**
Stocks	4,381,583,595	7.56767
Debtors -Trade	34,627,838,764	59.8076
Debtors -Others	9,186,979,620	15.8673
Cash and Bank Balances	9,702,310,073	16.7574
Totals	**57,898,712,052**	**100.0000**

Source: Secondary Data

The table 4.19 above reveals that the majority of the company's Current assets are a result of Trade with Debtors (59.8076%). On the other hand, assets which are a result of cash and bank balances comprise only 16.7574% while those due to stocks

form 7.56767% of the company's asset value. Furthermore, a simple and casual look at the Total of the Current Asset Values (57,898,712,052) in light of the total Liability value 53,719,024,374 (Table 4.22) indicates that the company realizes a margin of 4,179,687,678 which is insufficient to manage the various operations that the company would like to undertake such as expanding its network and purchase of more telecommunications gadgets such as the CDMAs.

Transactions Status

This section presents records reflecting the Nature of the Transactions of Uganda Telecom with **HUAWEI Technologies** (a major supplier). The results obtained in the table below clearly indicated that due to unstable financial base of the company, a number of items that the company requires to meet its strategic goals have not been fully paid for. Out of the Ten (10) items, only 2 (Two) have been paid for in full i.e. Fixed Intelligent Network technology and the GSM devices. Apart from one set of the Telecom Terminals of which 62.0% had been cleared, not even a part payment for the other two types of terminals had been made. Similarly, for many other products such as the UTL CDMA WLL EXPANSION and the CDMA WLL ANTENNA, no payment had been made at all.

Results indicate that a number of company projects among others have stalled for instance the company recently desired and planned to buy some Thuraya Pay phones and install a Fraud Detection Telecommunications system in the country. The contract targeted 3,000 phones at USD 1,350 making to a total contract price of

USD 4,050,000. However management finally decided to purchase only 500 phones (UTL Company Records, 2007).

Table 4.20 Transaction Details

Contract No	Project Details	Invoiced Amount	Paid (USD)	Owing	%age Paid
01	Fixed Intelligent Network	1,158,863	1,158,863	-	100.00
02	CDMA	647,980	-	647,980	0.00
03	Terminals	465,000	-	465,000	0.00
04	CDMA	215,903	-	215,903	0.00
05	Terminals	482,500	300,000	182,500	62.00
06	Terminals	1,522,300	-	1,522,300	0.00
07	Terminals	10,500	-	10,500	0.00
08	GSM	514,585	514,585	-	100.00
09	UTL CDMA WLL Expansion	1,582,666	-	1,582,666	0.00
10	CDMA WLL Antenna		15,750	(15,750)	0.00

Source: Secondary Data

4.3 Objective Two - To Establish the Firm Value of Uganda Telecom

This section presents general findings on key performance financial value indicators for Uganda Telecom. A brief introduction on each ratio is outlined. In order to satisfy the firm value objective of the study, the researcher considered factors as Current ratio, Return on Assets, Net Profit Margin and Debt to Equity, Total Revenues, Level of assets; shareholder funds as indicated in Table 4.21 below

Table 4.21 Firm value indicators

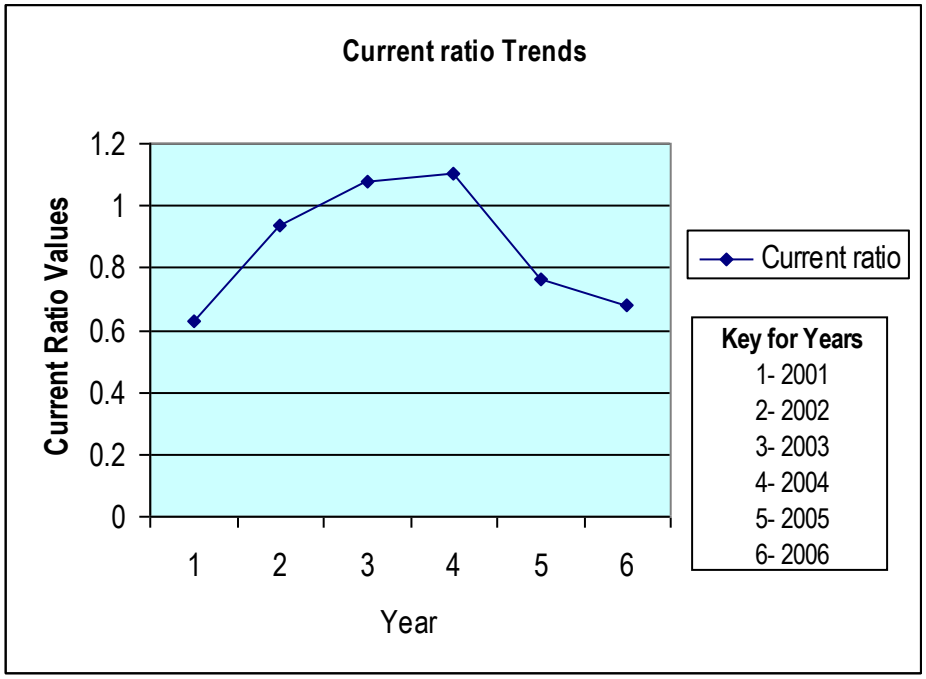
Five Year Financial Review	**Ugx Millions**					
	2001	**2002**	**2003**	**2004**	**2005**	**2006**
Total Revenues	91,273	96,691	116,427	145,384	154,691	156,728
Net Profit	**(7,148)**	**1,531**	**1,101**	**896**	**(3,191)**	**(7,726)**
Current Assets	34,369	42,076	57,899	71,229	51,318	52,324
Current Liabilities	54,472	44,934	53,719	64,406	67,457	77,139
Long Term Loans	19,992	28,686	62,186	71,445	82,334	80,042
Total Net Assets	87,929	98,941	129,123	137,803	150,302	131,912
Share holders Funds	**61,727**	**63,409**	**64,743**	**65,341**	**62,141**	**54,853**
Key Financial Ratios	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Current ratio	0.631	0.936	1.078	1.106	0.761	0.68
Return on Assets	-0.081	0.015	0.009	0.007	-0.021	-0.01
Net Profit Margin	-0.078	0.016	0.009	0.006	-0.021	-4.94
Debt to Equity	0.324	0.452	0.961	1.093	1.325	1.95
Return on Equity (ROE) [Net Profit/ Shareholders Funds * 100%]	-11.580%	2.414%	1.701%	1.371%	-5.135%	-14.085

Source: Primary Data

4.3.1 The Current Ratio: Current Assets/Current Liabilities

The current ration is a rough indication of a firm's ability to service its current obligations. It is the ratio of the Total current Assets of the firm to its Total Current Liabilities. The higher the ratio, the stronger the liquidity of the firm though composition and quality of the current assets is also critical. The results from the Table above show that Uganda Telecom's current ratio has been constantly below 1(one), save for the years 2003 and 2004 when it was 1.078 and 1.106 respectively. The results are further confirmed by the graph below (Figure 4.6). This alone is a strong indicator of a persistent cash flow problem, though having a very high value may not be desirable either. It may indicate that too high levels of assets are tied up in conservative investments that have lower rates of return.

Figure 4.6 Current Ratio Trends of Uganda Telecom Limited



In the figure 4.6 above the current ratio results indicate that contrary to what an average client of the company may reckon, the company is actually not doing as good as could be deemed as ratio slightly improved in the two years but continued to worsen over the other remaining years. This further indicates that the firm value is low in light of such a key financial indicator.

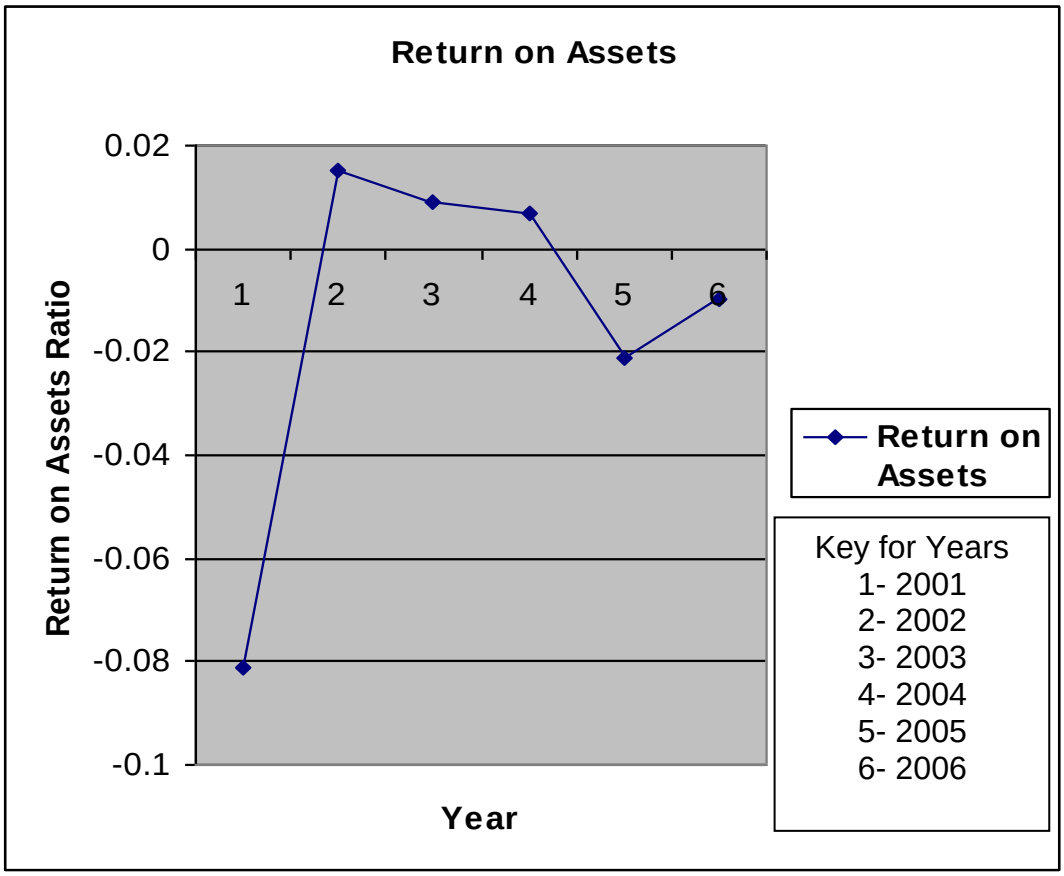
4.3.2 Return On Assets (ROA)

The return on assets reflects the earnings capacity and effective use of all the resources of the company on an equity basis. Mathematically, its expressed as;

$$\textit{Return On Assets} = \frac{\textbf{NI}}{\textbf{Total Assets}}$$

The results in the Table 4.21 show that Uganda Telecom's highest point for the 5 years under study is 0.015 which figure the company attained in the year 2002 for its Return On Assets (ROA). The results were further presented using a line graph **(Figure 4.7)** in the following page.

Figure 4.7 Return On Asset Trends of Uganda Telecom Limited

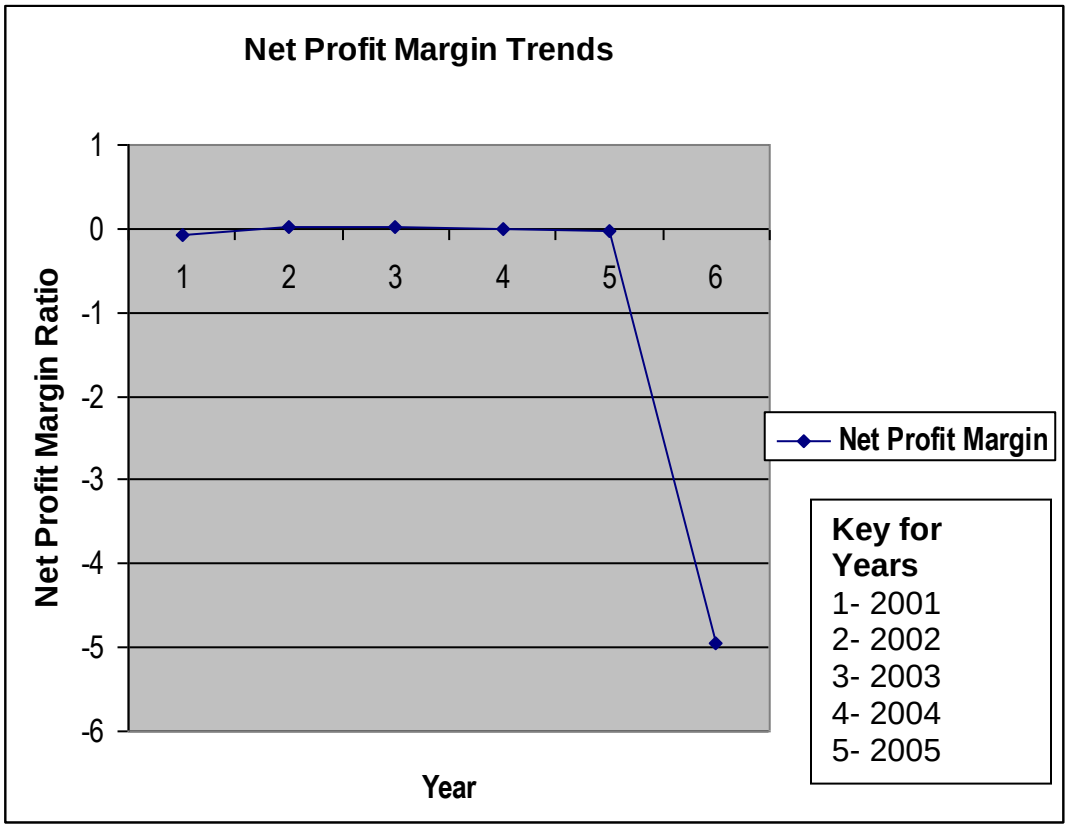


As can be observed from the graph above, the **Return On Assets** is not appealing for the Company. Though it struck on all time high in 2002, since then it has been on the decline and the trends show that in 2005 it was even observed on the negative side.

4.3.3 Net Profit Margin

The Net Profit margin reflects the tax impact on profitability and represents the actual profit per unit of sales. The results in the Table 4.21 show that this ratio is low for Uganda Telecom Company. The figure below **(Figure 4.8)** below gives a graphical presentation of the Net Profit Margin Trends.

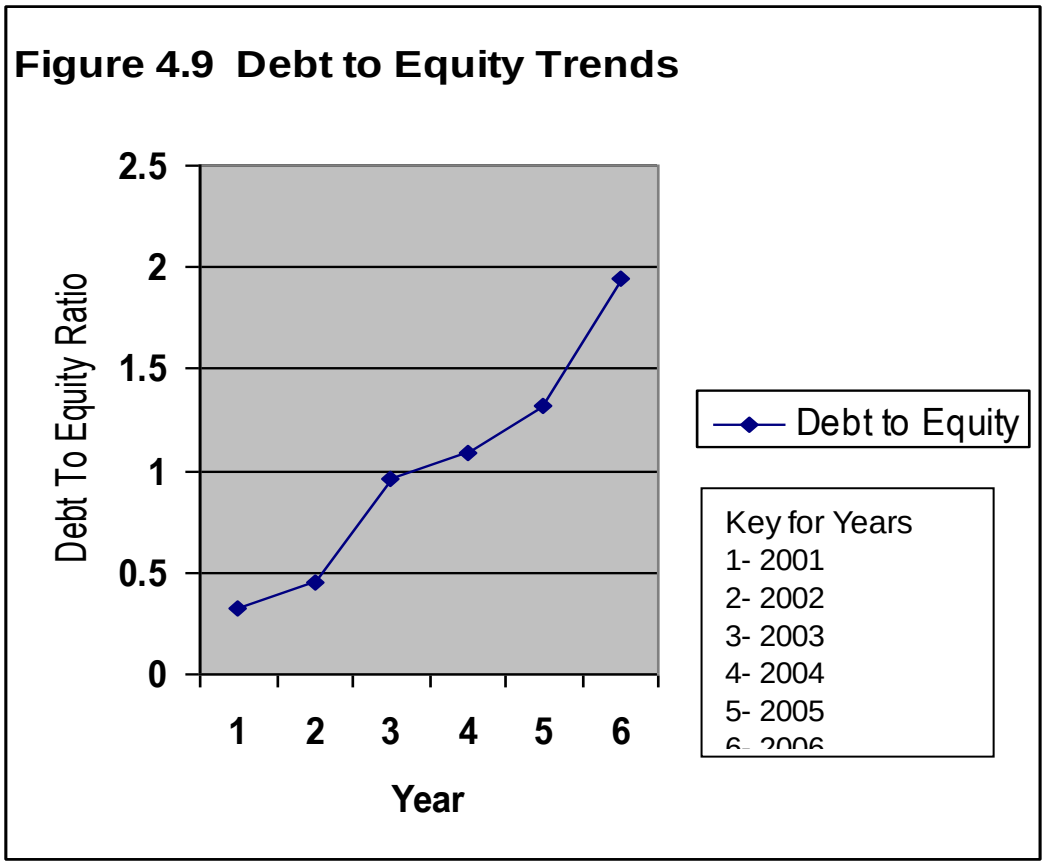
Figure 4.8 Net Profit Margin Trends of Uganda Telecom



As in the case of the **Return On Assets Ratio**, the **Net Profit Margin ratio** only hit an all time high in 2002 otherwise it has always been on the decline. As a result, one can confirm that the value of the firm is negatively affected.

4.3.4 The Debt to Equity Ratio

The debt to equity ratio is a measure that indicates the proportion of debt to total equity that is current in maturity. A high ratio may indicate the need to restructure debt. The results in Table 4.21 above indicate that **Debt to Equity ratio** has been on the increase over the years from 2001-2005. Not for one moment has the ratio shown any slight decrease but rather a constant increase. The **Figure 4.9** below further reveals that the firm value of the company is not that attractive to business folks seeking shares in the company. As a result, the company has a lot of work to do before it can attract shareholders who could make great changes in the company for the better.



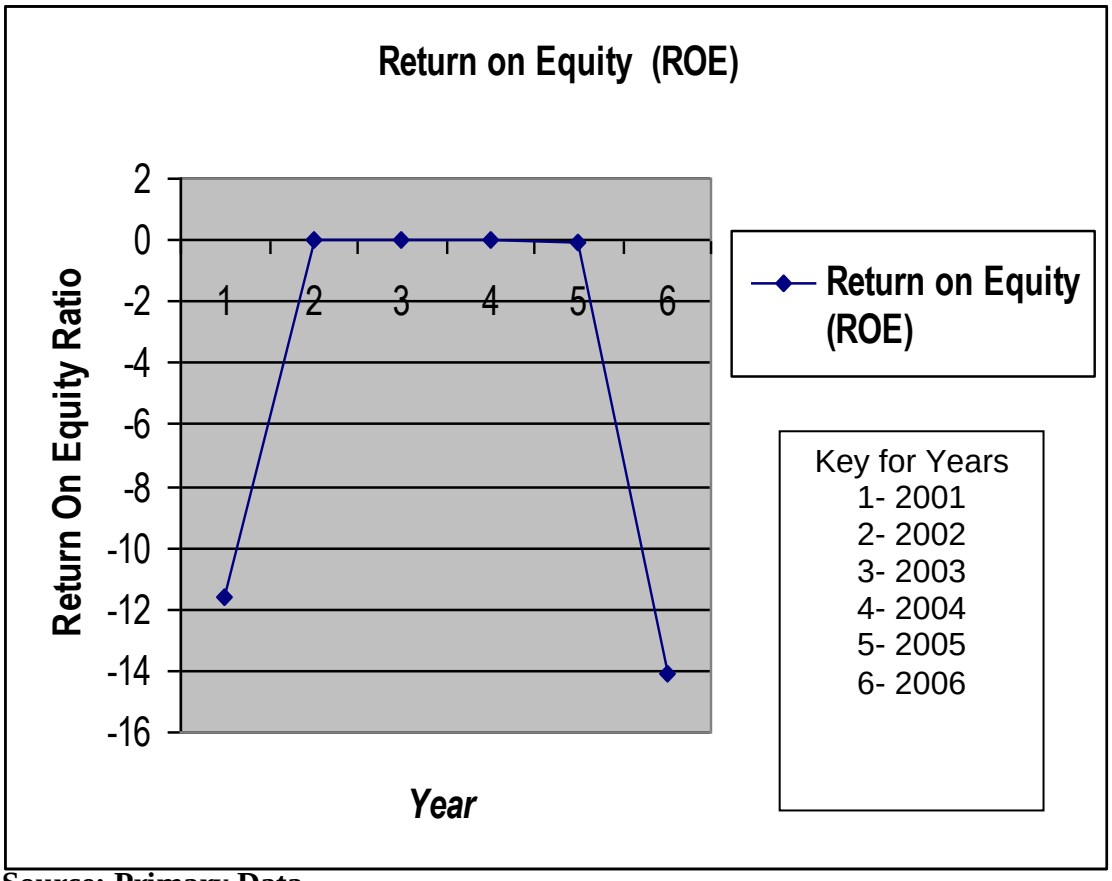
4.3.5 The Return on Equity Ratio

The return on equity ratio covers three main elements by which management personnel can control the company's financial affairs. These elements are; Profitability, Financial leverage and Asset management. Its consequently calculated by dividing one year's earnings and dividing them by the average shareholder's equity for that year i.e.

$$\text{Return on Equity (ROE)} = \frac{\text{Net Profit}}{\text{Shareholders' Funds}} * 100$$

The results in Table 4.10 for the ROE ratios computed over the years 2001-2005 indicate that the company's financial status was very unfavourable especially in 2001 when the ROE was at its lowest (-11.580%). In 2002 however, the ROE was observed to have increased (2.414%). This was to be its highest ROE in half a decade and since that time, there has been a steady decline in the company's profits until finally in 2005 when it struck its lowest again (-5.135 %)

Figure 9 Return On Equity



Source: Primary Data

4.4 Objective Three – Application of Risk Management Techniques employed by Uganda Telecom Limited

An effective risk management objective can only be implemented when there are well placed, clearly defined policies regarding interest rates and foreign exchange, which are compatible with the overall company objectives.

In the management of financial risks, it is important to have clearly defined risk management objectives, which can provide a framework for the assessment of how well the company is managing the risks.

In the management of Interest rate risks, companies are generally concerned with achieving competitive advantage in a market, which they can borrow at a cheaper rate. Companies are generally concerned with either swapping a fixed rate/floating rate debt to a floating/fixed rate debt, fixing a spread or a new debt or locking in a future financing date.

The objectives of the interest rate risk management function among others include protecting earnings/cash flows, protecting key financial ratios and also reducing borrowing costs.

The main objectives of foreign exchange exposure involves the elimination of translation risk arising from consolidation of foreign subsidiaries into parent currency, the elimination or reduction of risks relating to known payments and receipts denominated in foreign currency arising from previous contractual transactions, and finally the reduction of any economic exposure which may affect the company's competitive position and expected future flows.

The table (4.22) below indicates attempts of the company to guard against unfavourable movements of the dollar against the shilling by entering into forward

contracts. Forward contracts enable a firm to save money that would otherwise be spent on transactions after the foreign currency has fluctuated in favour of the financial institutions. These forward contracts help the firm to further plan, project and control expenditures. This is the reason that a firm that adopt risk management techniques (as is highlighted in the correlations) will have a better firm value than one which does not apply risk management techniques. This explains the positive and significant relationship between Risk management techniques and firm value which was later observed. The absolute dollar amounts acquired through Forward contracts entered with Standard Chartered Bank in the year 2003 are as indicated in the Table 4.22 below.

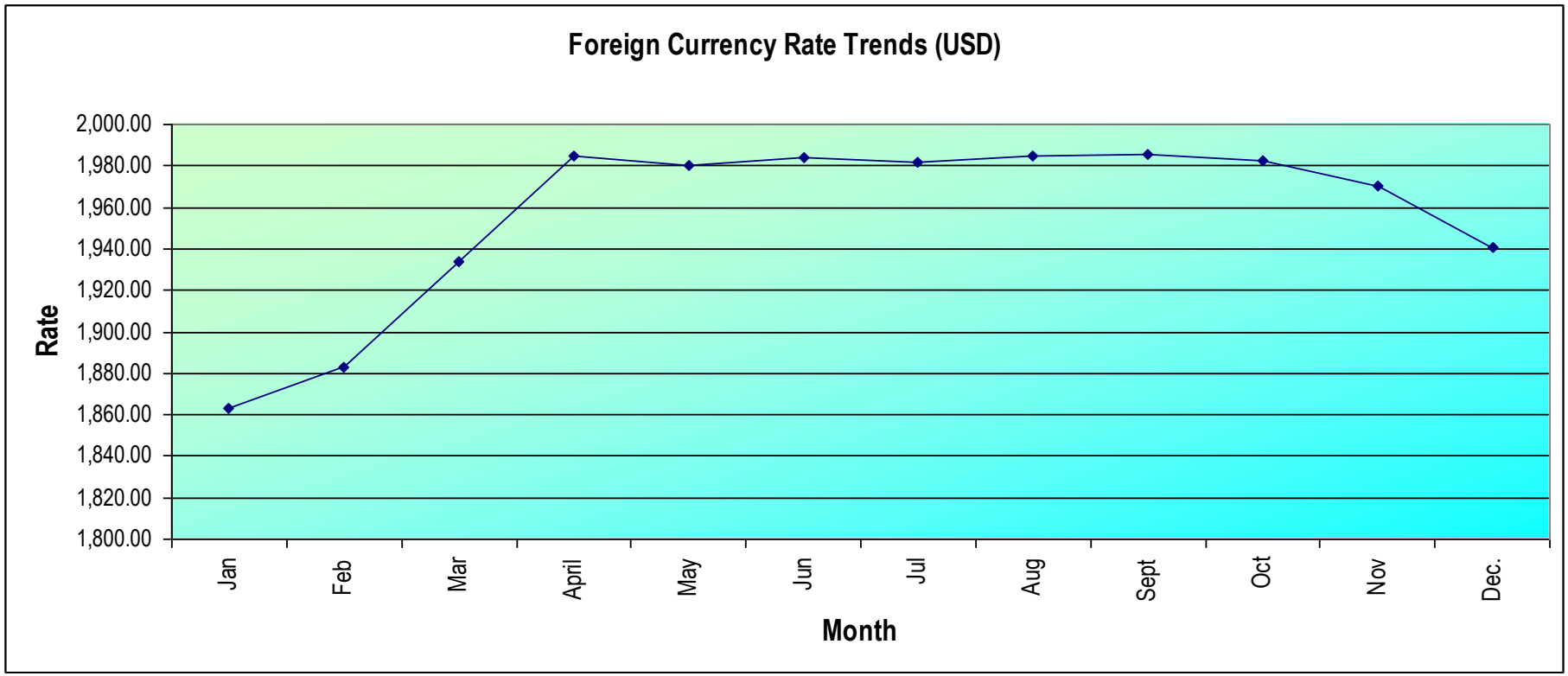
4.22 UTL Forward Transactions in USD currency

Placement Date	Value Date	Dollar Equivalent
19-03-03	Spot	2,806,700
19-03-03	22-04-03	2,159,000
19-03-03	19-05-03	2,156,600
19-03-03	17-06-03	2,148,000
07-04-03	25-07-03	12,619,200
07-04-03	15-08-03	2,293,200
07-04-03	15-09-03	1,718,850
07-04-03	17-11-03	1,144,700

Source: Secondary Data

Further to the above findings the data obtained for the year 2003, indicated fluctuating currency rates (Figure 4.5.2 below), the trends indicated that the firm ultimately gained value for its money by actively engaging in Forward contracts.

Figure 4.10 Foreign Currency Rate Trends (US$)



Source:PrimaryData

The Figure 4.10 above indicates that in the first quarter of the year, the foreign exchange rates were rising sharply until the second quarter when the rates remained relatively stable. However, in the final quarter of the year, there was a slight decrease in the rates though even after this decrease, the year ended with currency rates that were slightly higher than at the beginning of 2003. This explains the merit of adopting such a management technique as Forward Contracts hence leading to a favourable firm value.

Furthermore Table 4.23 below indicates that in the year where there was Hedging (2003) the company attained a saving of 4,496,250 Million dollars as opposed to the years (2002, 2004 and 2005) when there was no hedging.

Table 4.23 Hedging Advantage: A risk Management Technique review (2002-2005).

Year	USD Currency	Average Rate	U Shs.	Forward Contracts	Total Exposure (USD)
2002	3,950,000	1,828	7,220,575,000	0.00	-3,950,000
2003	22,550,000	2,005	45,180,600,000	27,046,250	4,496,250
2004	6,420,020	1,778	11,427,625,440	0.00	-6,420,020
2005	12,510,040	1,771	22,228,550,880	0.00	-12,510,040
	45,430,060		**86,057,351,320**		**-18,383,810**

Source: Company Records

Table 4.23 above clearly indicates the commitments the company undertakes involving dollar transactions. The four years as indicated above involved a whooping 45m USD which the company purchased at the prevailing currency

rates. The results reveal little activity in risk management so as to minimize the foreign exchange rate fluctuations

Overall, the exposure indicated that -18million US Dollars was lost as indicated above (Table 4.23).

4.4.1 The Exposure of Uganda Telecom Limited

The data below in Table 4.5.5 indicates the loan amounts in USD that company has acquired over the years (2001 - 2005) Results from the calculations indicated that the upward movement of foreign currency rates dictated upon the company's needs on the acquisition of the foreign currency component. In simple terms, in order to acquire the same amount of dollars, the company would pay a higher price in terms of the local currency at the end of the year. For instance in 2002, the company had acquired USD$ 38,500,000 at a rate of 1,747.08. However by the end of the year, the foreign currency rate had appreciated to 1,832.65 to one dollar so that the company had to part with 70,557,025,000 translating into an exposure of 3,294,445,000 that year for Uganda Telecom. Had the company adopted a risk management technique such as Hedging, this kind of loss could have been avoided. The total exposure of the company was Ugx 4,153,328,977 over a period of only six years (2001-2006). On average this implies that each year, the company experiences an exposure of Ugx 692,221,496.167.

Table 4.24 The Exposure for the company (2001-2006)

Access Date	Amount $	Rate1 Beginning	Initial Cost (UGX)	Rate2 End of Year	Final Cost (UGX)	Firm Exposure
2001	1,500,000	1,772.06	2,658,090,000	1,727.88	2,591,820,000	-66,270,000
2002	38,500,000	1,747.08	67,262,580,000	1,832.65	70,557,025,000	3,294,445,000
2003	13,500,000	1,893.28	25,559,280,000	1,964.67	26,523,045,000	963,765,000
2004	911,523	1,901.78	1,733,516,211	1,831.98	1,669,891,906	-63,624,305
2005	211,500	1,712.67	362,229,705	1,835.17	388,138,455	25,908,750
2006	48,299	1,817.17	87,767,930	1,798.63	86,872,462	-895,468
						4,153,328,977

Source: **Primary data**

4.5 Objective Four - Relationship between Foreign exchange rates exposure, Interest rates exposure and Firm Value.

The degree of relationship was determined by the Zero order correlations(r) and the predictability of the firm value was determined through regression analysis.

The Table 4.25 below represents data that was used for computation and finally to help in generating the zero order correlations.

The relationship between Interest rate exposure and Foreign exchange rate exposure was established by running independent variable against dependent variable(that is the Firm Value) represented by the Return on Equity as represented in the Table 4.25 below.

Table 4.25 Particulars For the study years (2003-2006) in Percentages (%)

	2003	2004	2005	2006
Interest Rate Exposure	3,216,263,423	4,009,416,331	2,504,591,751	
Interest Rate Planned Payments	2,817,718,800	3,369,454,000	2,344,811,000	4,948,455,139
Actual Interest Rate Exposure	-398,544,683	-639,962,331	-159,780,751	-392,586,540
Actual Foreign Exchange Exposure	9,014,981,250	-11,427,625,440	-22,228,550,880	-7,133,880,072
Overall Actual Exposure	8,616,436,567	-12,067,587,771	-22,388,331,631	-7,526,466,612
Return On Equity	1.70000	1.370000	-5.130000	-14.085000
Source: Company records				

Zero order Correlations (r) of Interest rate risk, Foreign exchange exposure, application of risk management techniques and the firm value – denoted by Return on Equity (ROE)

Table 4.26

Correlations	Interest Rate Exposure	Foreign Exchange Rate Exposure	Application of Risk Management Techniques	Return On Equity [ROE]
Interest Rate Exposure	1.000			
Foreign Exchange Rate Exposure	-.815**	1.000		
Application of Risk Management Techniques	.368*	-.566**	1.000	
Return On Equity [ROE]	-.633**	.244	.106	1.000
** Correlation is significant at the 0.01 level (2-tailed).				
* Correlation is significant at the 0.05 level (2-tailed).				

Source: Secondary data.

The researcher observed a significant and negative relationship between Interest Rate Exposure and Firm Value (r= -.633**, p<.01). Foreign Exchange Rate was also observed to have no significant statistical relationship with Return On Equity (r= .244, p>.05). Application of Risk Management Techniques were on the other hand significantly and negatively related to Foreign Exchange Rate Exposure (r= -.566**, p<.01).

The results in Table 4.26 (pg.96) indicate that the greater the Interest rates the company is exposed to, the more its Firm value is likely to depreciate.

This can be attributed to the fact that high interest rates attract higher interest payments – acting as cash outflows that the company has to meet as an obligation rather than choice thus affecting the liquidity position of the firm and likewise diminishing its firm value. Further more this impact in form of decreased return on equity for the share holders, non-availability of funds for re-investment in the areas of the net work expansion and financing other innovations.

Foreign Exchange Rate which was observed to have no significant statistical relationship with Return On Equity ($r = .244$, $p > .05$) while on the other hand, Application of Risk Management Techniques were significantly and negatively related to Foreign Exchange rate Exposure ($r = -.566^{**}$, $p < .01$). These results indicate that the Foreign Exchange Rate Exposure will positively be mitigated by the application of Risk Management Techniques. Whereas a positive relationship between two variables indicates that one variable will positively influence another, however, a negative relationship between two variables indicates that an increment in one variable will lead to a positive trend in the other variable.

4.5.1 Regression Analysis

Regression analysis in the Table below revealed the extent to which the predictors (i.e. Risk Management Techniques, Interest Rate Exposure and Foreign Exchange Rate Exposure) can be used to predict Firm Value. In other words regression analysis was used to find the influence of independent variables on the dependent variable.

The independent variables included Interest rate exposure, Foreign exchange rate exposure; the intervening variable was application of risk management techniques. The dependent variable considered was firm value - (Return on Equity).

Table 4.27 Variables

Coefficients(a)	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**Dependent Variable Return On Equity**	
Model	**B**	**Std. Error**	**Beta**				
(Constant)	790.905	191.627		4.127	.000	**R Square**	.403
Interest Rate Exposure	-66.271	10.621	-1.238	-6.239	.000	**Adjusted R Square**	.362
Foreign Exchange Rate Exposure	-22.862	7.779	-.658	-2.939	.007	**F Change**	9.886
Application of Risk Management Techniques	8.852	6.518	.190	1.358	.185	**Sig. F Change**	.000

Results in Table 4.27(pg. 99) revealed that the predictors have the potential of explaining 36.2% of the variance in Firm Value (Adjusted R Square= .362). The regression model was also significant (Sig. F Change = .000), meaning changes in Interest rates, Foreign exchange rates and application of risk management techniques have a positive relationship with the firm value – in terms of return on equity for the share holders.

CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study focused on the relationship between foreign exchange and Interest rates exposure so as to explore in depth the underlying factors that contribute to firm value. This chapter discusses the findings presented and interpreted in preceding chapter which laid a premise on which the researcher can now wind up the report with discussions, conclusions, recommendations and highlighting areas identified as necessary for further study. Most of the findings were in line with previous researchers and writers although others are contradictory.

5.1.1 Objective-One: To Investigate Foreign Exchange Rate Exposure of Uganda Telecom

The first study objective sought to identify and examine foreign exchange rate exposure of Uganda Telecom.

The findings revealed that there is considerable foreign exchange exposure, more so on in interest payments for all the foreign currency loans accessed by the company during the study period. It is also evident to note that more of the company's foreign imports take a lot of local currency leaving the company exposed in form of high exchange rates associated with the fluctuating selling and buying rates for foreign currencies.

Foreign exchange rate exposure is divided into three different exposures; translation exposure, transaction exposure and operating exposure (Eiteman, Stonehill and Moffet 2001).

Transaction exposure refers to the possibility that a company will incur gains/losses as a result of settling at a future date a transaction denominated in foreign currency that was previously entered into.

A firm's transaction exposure consists of its foreign currency accounts receivable/payables, its longer term foreign currency investments and debt as well as those its foreign currency cash positions which are to be exchanged into other currencies. Until these positions are settled, their home currency value may be impaired by unfavourable parity changes.(Martin Glaum).

Previous empirical studies by Belk and Glaum (1990), Belk and Edelshain (1997), Duangploy, Bakay and Belk (1997), Cezairli (1988) and Aobo (1999), have shown that the management of transaction exposure is the focus of foreign exchange rate exposure to which Uganda Telecom should direct attention to, since it is evident from the findings that the company's borrowed large volumes in foreign currency (Dollars and Euros). The company is to date faced with direct currency risk exposure as it struggles to raise local cover for the purchase of foreign currency needed for servicing interest repayments.

5.1.2 To investigate the Interest Rate Exposure of Uganda Telecom.

The findings indicated that Uganda Telecom obtained most of the funding under fluctuating interest rate arrangement, therefore making the company to pay different amounts of shillings and United States dollars whenever interest repayments fall due.

This shows that Interest rates have become as volatile as foreign exchange rates, thus fluctuating by several percentage points on a month to month or even week to week basis.

Interest rate exposure is the risk that unanticipated changes in the level interest rates will adversely affect a firm's profit or cash flows. Theoretically this affects the value of a non- financial corporation due to changes in the cash flows and the value of the financial assets and liabilities.

Further analysis involving the investigation on the firm's performance ratios over the years under study reveal problems in the key performance indicators such as liquidity ratios, profitability ratios leverage ratios which all have a bearing on the competitive position of the firm – Bantram (2002).

The most pressing risk identified in the study is debt service; this is supported and consistent with the findings of other scholars i.e. Eiteman, Stonehill and Moffet (2000). The scholars go on to state that Multinational corporations are likely to

posses debt and securities in different currency denominations, with different interest rate structures (floating versus fixed) and different maturities of debt.

Changes in interest rates imply a larger impact on the interest expense burden on the company as portrayed by colossal amounts paid out. This in turn implies a larger negative impact on the company's future earnings and cash flows. Table 4.27 shows that profit ratio declined progressively following increase in Interest repayments to lenders.

It is also easily noticed that when Interest rates increase the company's profits fall downwards more quickly than costs, which tend to be quasi-fixed in nature.

All these factors can lead to a significant corporate cash squeeze during periods of monetary tightening.

5.1.3 To Establish Firm Value of Uganda Telecom for the period 2000 - 2006

Thorough analysis of firm value indicators is relevant in attracting attention of investors and other stakeholders like financiers. These financial indicators were very handy in helping the researcher ascertain the value of Uganda Telecom in terms of posted revenues and net profits over the years under study for purposes of understanding the implications of performance indicators in absolute value terms.

The results showed a declining trend and posting minimal positive results with finally reporting negative returns on equity (ROE) as indicated in table 4.24 (pg.31)

All other ratios as exemplified in the financial analysis indicated a downward declining trend, which in itself denotes that the company is faced with varying degrees of financial exposures and calls upon management to institute appropriate hedging techniques in order mitigate the risks and help post back positive financial returns for purposes of improving the overall company value.

In the real world, financial obligations that can not be fully or timely settled due to illiquidity cause financial distress. The researcher shares this view as asserted by (Shapiro and Titman, 1985).

By reducing the variance of firm value and with the possibility that Uganda Telecom will encounter financial distress, hedging can be able to reduce the expected costs of financial distress (Smith Stulz,1985).

As a consequence Uganda Telecom with high leverage should have strong incentive to hedge its risky positions.

5.1.4 Risk Management Techniques employed by Uganda Telecom.

The business world today has little doubt about the existence of currency risks and Interest risks. With the persistent volatility of the factors, business, whether Multinational Corporation or domestic firms which are exposed to the impact of the exchange rate changes through International competition can be largely affected by these unanticipated movements and actually cause very large losses or gains if the risks remain unmanaged.

Exchange rates movements generate business risks of many types, often complex and sometimes hidden, which alter the value of the existing foreign asset and liabilities, while movements in Interest rates alter the value of the firm as it can indirectly affect the competitive position of the company, which also impacts on the size of the future cash flows, also it alters the firm's portfolio as Interest influence the investment behaviour of the firm through its effect on the cost of capital.

Corporations, like Uganda Telecom, which face these risks, must ensure that it manages these risks fully as potential results of not managing currency risks and Interest rate risks properly can lead to total failure of the business.

With the sustained changes in the financial and competitive environment of most corporations, increased Internationalisation of economic activity and the unprecedented era of world wide currency and Interest rate volatility, new innovative hedging techniques have grown at a rapid speed and are designed to

assist management in controlling risk and minimising the effect of uncertain cash flows.

Firms now have access to a range of products to assist in risk management. The forward contract is the oldest instrument introduced to manage risk. Uganda Telecom has evidence of utilising forward contracts with results portraying considerable savings on its local currency exposure.

Uganda Telecom will need to bring on board other risk management instruments such as futures contracts, swap contracts which are considered the latest financing innovations. A currency swap for instance involves the exchange of Interest rate payments in one currency for payments in one currency. Interest rate swaps should be adopted as a form of swap contract which involves the exchange between two parties of interest obligations or receipts in the same currency on an agreed period of time. Currency swaps would thus give Uganda Telecom extra flexibility to exploit its comparative advantage in its respective borrowing markets.

Interest rate swaps allows a company to focus on its comparative advantage in borrowing in a single currency in the short end of the maturity spectrum against the long end of the maturity spectrum. Currency swaps allow companies to exploit advantages across a matrix of currencies and maturities (Chand Sooran).

This research is consistent with the findings of Grant and Marshall (1997), Bodnar et al (1999) Mallin et al.(2000) indicate that in hedging contractual obligations, forward contracts are the most popular derivative instruments used to hedge currency risk.

The research also found out that swaps which are the most popular derivative instrument to hedge Interest rate risk, though this was not utilised by Uganda Telecom. Further findings of the research indicate that Uganda Telecom does not use derivatives for speculative purposes, but the few forward contracts utilised were purely for the management of financial risks.

5.1.5 Relationship between Foreign Exchange, Interest rate Exposure and Firm Value.

The zero order correlation(r) indicated that there was a significant positive and negative relationship between Interest rate exposure and firm value. This means that increased Interest rate payments would result into a drop of the market value of the firm – Uganda Telecom.

The negative relationship can be attributed to the fact that without swaps Uganda Telecom is not able to take advantage of the benefits of utilising derivatives that would provide a cushion as a fall back situation for the volatility of Interest rates

and Foreign exchange rates in the market, thus cutting down on the borrowing costs.

Foreign exchange rate which was found not to have a significant statistical relationship with return on equity (ROE)

Regression analysis indicated that there was a significant relationship between Interest rates, Foreign exchange rates and application of risk management techniques leading to the improvement of firm value.

This means that increased monitoring of Interest rates and foreign exchange rates with hedging as follow up actions will enhance positively the value of the firm for the benefit of the share holders and the rest of the stake holders.

This positive significant relationship can be attributed to the fact that improved firm value leads to high return of equity for the share holders of Uganda Telecom and the firm will also be able to cover both operating and financing expenses, thus increasing its capital base.

Also by being profitable, Uganda Telecom can be able to attract further commercial and equitable funding as well as mobilising its own savings as a cheap source of funds, hence transforming into a viable and profitable Institution.

The results are in agreement with the previous scholars' findings like, (Bodnar and Wong, 2003, Griffin and Stulz, 2001); He and Ng, (1998); Bartov, Bodnar and Kaul, (1996); Prasad and Rajan, (1995) Bartov and Bodnar, (1994). This is further supported by the financial theory that predicts that firm value should be affected by foreign exchange and Interest rate risk (Levi, 1996; Shapiro, 1974 and Dufey, 1972).

Adler and Dumas (1984) define the exposure elasticity as the change in the market value of a firm resulting from a unit change in the exchange rate and who thus recommend a simple regression approach for its measurement.

5.2 Conclusion

It was established from the study that there was a significant and negative relationship between Interest rates, Foreign exchange rate exposure and firm value.

Foreign exchange rate was also observed to have no significant statistical relationship with return on equity, the application of risk management techniques were also found to have a significant and positive and negative relationship with foreign exchange exposure. Therefore if Uganda Telecom implements application of risk management techniques through instituting strong Treasury structures, the company would fully benefit by these value creation and addition mechanisms and this would facilitate Uganda Telecom's operations and encourage financial stability.

Changes in Interest rates and exchange rates imply a larger impact on the interest expense and foreign exchange acquisition respectively, thus throwing more burden of low liquidity to the company, which in turn implies a larger negative impact on its future earnings and cash flows.

Findings presented in table **4.24** shows that Uganda Telecom's financial ratios qualify it as a low quality company, meaning that the decline of profits and cash flows can be attributed to the net increase of interest rate expenses as well as local cash out flows for the purchase of foreign exchange currencies needed for servicing foreign loans. These facts are a true reflection on the part of independent variables – Interest rate exposure, foreign exchange rate exposure impacting on the dependent variable – firm value.

This therefore means that corporate profits do fall more quickly than costs, which tend to be quasi fixed in nature. Both of these factors can lead to a significant corporate cash squeeze during a period of monetary tightening.

The fundamental purpose of instituting financial risk management techniques (application of risk management techniques) is to promote effective and efficient operations of the Treasury section of the company in order to remain competitive.

The motives for a company to adapt the use of derivatives, which has been widely studied by researchers, aims at hedging volatile positions for purposes of maximizing share holder wealth. This is supported by Bartram et al. (2003), Mallin et al.(2000), Henttsche and Kothari (1995) and Bodnar et al.(1995) find strong evidence that , the use of derivatives is, in-fact risk management rather than simply speculation.

For that matter, if Uganda Telecom was utilising derivatives, it would have high proportions of foreign assets. Sales, and Income, similarly the use of Interest rate derivatives and the benefits of high leverage would be enhanced (Bartram et al; 2003).

Finance theory indicates that hedging with derivatives can increase firm value by reducing expected taxes, expected costs of financial distress, under-investment costs associated with investment opportunities in the presence of financial constraints and agency costs.

5.3 Recommendations

The study focused on Uganda Telecom as a case study. The area of study majored on Interest rates exposure, foreign exchange rates exposure, application of risk management techniques and firm value.

Since the relationships obtained in the analysis was both positive and negative in-terms of Interest rates, Foreign exchange rates, risk management techniques and firm value, the following recommendations are presented.

In respect of the positive relationship between Interest rates and firm value, its recommended that managing Interest rates exposure risk is a fundamental component in safe and sound management of an institution – Uganda Telecom.

It involves prudently managing mismatch positions in order to control, within set parameters the impact of changes in Interest rates on the Institution's operations. Significant factors in managing the risk include the frequency, volatility and direction of rate changes, the scope of the Interest yield curve, the size of the Interest-sensitive position and the basis for re-pricing at rollover dates.

Although the particulars and methods of Interest rate risk exposure management will differ among Institutions depending upon the nature and complexity of their assets and liability structure(both on – and – off balance sheet), Interest rate risk positions and risk profile, a comprehensive Interest rate risk management program requires; establishing and implementing sound prudent Interest rate risk measurement techniques, Developing and implementing effective Interest rate risk management and control procedures.

Sound and prudent Interest rate risk exposure management thus requires clear policies, which must include an Interest rate risk philosophy governing the extent to which Uganda Telecom is willing to assume Interest rate risk exposure and establishing explicit and prudent limits on Uganda Telecom's Interest rate risk exposure.

The researcher also notes that, adverse fluctuations in exchange rates may result in a loss. Foreign exchange risk which arises from mismatch of the Institution's assets and liabilities that are not subject to a fixed exchange rate vis- a-vis the Uganda shilling and currency cash flow mismatches.

It is therefore fundamental to manage foreign exchange risk exposure to promote safe and sound management of the Institution. It involves prudently managing foreign currency positions in order to control, within set parameters so as to minimise the negative

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impact of changes in exchange rates on the financial position of the Institution.

The frequency and direction of rate changes should be constantly monitored, the extent of the foreign currency exposure and the ability of counterparts to honour their obligations to the Institution are also significant factors in foreign exchange risk management.

Though the particulars of foreign exchange risk management will differ among Institutions depending upon the nature and complexity of their foreign exchange activities, Uganda Telecom needs to put in place a comprehensive foreign exchange risk management program that will require establishing and implementing sound and prudent foreign exchange risk management policies and also develop and implement appropriate - effective foreign exchange risk management and control procedures properly documented which are centralised under Treasury section.

Well articulated policies, setting forth the objectives of Uganda Telecom's foreign exchange risk management strategy and the parameters within which this strategy is to be controlled are the focal points of effective and prudent foreign exchange risk management. These policies need to include a statement of risk principles and objectives governing the extent to which Uganda Telecom is willing to assume foreign exchange risk, explicit and prudent limits on the Institutions' exposure to foreign exchange risk and clearly defined levels of delegation of trading authorities.

5.4 Areas of further research

The researcher recommends further research in the following areas.

1) Research on a cross section of non- financial firms in Uganda on the use of Derivatives to mange their Interest rate and foreign exchange rate exposures

2) Further research to investigate the sensitivity of share holder returns to other macro economic variables such as economic growth, political risk Interest rate and Inflation.

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Appendices