

**THE RELATIONSHIP BETWEEN FOREIGN EXCHANGE RISK
MANAGEMENT AND PROFITABILITY OF AIRLINES IN KENYA**

BY

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DECLARATION

This research project report is my original work and has not been presented for any award in any other university.

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This research project report has been submitted for examination with my approval as the University Supervisor

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DEDICATION

I dedicate this research project to my immediate family and also to all my friends for their love, endurance and total support they gave me.

ABSTRACT

The objective of the study was to investigate the relationship between foreign exchange risk management and profitability of airlines in Kenya. The study employed a survey research design. The study sampled 26 out of 46 airlines operating in Kenya. Both primary data and secondary data were used in this study. Cross-sectional analysis was applied to analyze the data. Correlation analysis and regression analysis were used to obtain the results.

The study found out that foreign exchange rate risk management has apposite impact on the profits of airlines in Kenya. Currency risk management accounts for 35% of the variability of the profits of airlines in Kenya. The airlines ranked exchange rate risk and fuel price risk as most important risks compared to inflation risk and interest rate risk. The study also found out that all the airlines sampled had a foreign currency risk management policy and had a risk management department headed by a Risk Manager.

The results indicated that airlines often used forwards, futures, money market contracts, options and swaps for hedging in the order of merit. The study also found out that the airlines fully hedged using forwards, futures and money contracts but they partially hedged options and swaps. It also found out that majority of the respondents indicated that the percentage of exchange rate exposure the company was hedging was over 80%. Finally, the study found out that all airlines sampled measured the success of foreign exchange rate risk management policy monthly.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The airline industry faces substantial financial, operational, and strategic and hazard risks. Financial risks creates uncertainty about future cash flows due to changes in general economic conditions and specific changes in revenues, operating expenditure and financing costs .Managing exposure to key financial risks is an integral part of the corporate finance function.

Foreign exchange risk has become more and more important in light of the globalization and internationalization of world markets and is one of the most difficult and persistent problems with which the financial executives must cope (Fatemi,2002). Every business activity is confronted with some risk or the other and coping with risk has always been an important managerial function. In recent years, however, risk management has received increasing attention in both corporate practice and literature (Jalilvand, Switzer and Tang, 2000)

Foreign exchange risk is the magnitude and likelihood of unanticipated changes in exchange rate (Brucaite and Yan, 2000). According to Shapiro (2007), exchange rate exposure is the degree to which a company is affected by changes in exchange rates. Foreign exchange risk can be further subdivided into three exposures: translation, transaction and economic exposures (Denzil and Antony, 2007). Perception of risk by individuals and at corporate level is both complex and subjective. It involves an understanding of risk, a perception of loss and gain, cognitive biases and personality. Despite advances in finance and risk management, satisfactory method for measuring the total financial risk faced by a business at any time remains elusive (Pickford, 2000).

According to Popov and Stutzmann (2003), foreign exchange risk is the exposure of an institution to the potential impact of movements in foreign exchange rates. Foreign exchange risk arises from two factors: currency mismatches in an institution's assets and liabilities (both on- and -off balance sheet) that are not subject to a fixed exchange rate vis-à-vis the Kenyan shilling, and currency cash flow mismatches. Such risk continues until the foreign exchange position is covered. This risk may arise from a variety of sources such as foreign currency retail accounts

and retail cash transactions and services, foreign exchange trading, investments denominated in foreign currencies and investments in foreign companies. The amount at risk is a function of magnitude of potential exchange rate changes and the size and duration of the foreign currency exposure (Shapiro, 2002).

All businesses trading overseas and increasingly in domestic markets will have some exposure to exchange rate movements either directly or indirectly. Whilst exposure to exchange rate movements may be an inevitable part of everyday activity, the risk arising from such exposure can be controlled (Shapiro, 2003). Exchange rate risk management is an integral part in every firm's decisions about foreign currency exposure (Allayannis, Ihrig, and Weston, 2001). Currency risk hedging strategies entail eliminating or reducing this risk, and require understanding of both the ways that the exchange rate risk could affect the operations of economic agents and techniques to deal with the consequent risk implications (Barton, Shenkir, and Walker, 2002).

Selecting the appropriate hedging strategy is often a daunting task due to the complexities involved in measuring accurately currency risk exposure and deciding on the appropriate degree of risk exposure that ought to be covered. The need for currency risk management started to arise after the break down of the Breton Woods system and the end of the U.S dollar peg to gold in 1973 (Papaioannou,2001).

To manage the exchange rate risk inherent in multinational firms' operations, a firm needs to determine the specific type currency risk exposure, the hedging strategy and the available instruments to deal with these currency risks. Multinational firms are participants in currency markets by virtue of their international operations. To measure the impact of exchange rate movements on a firm that is engaged in foreign-currency denominated transactions, i.e., the implied value-at-risk (VaR) from exchange rate moves. There is need to identify the type of risks that the firm is exposed to and the amount of risk encountered (Hakala and Wystup, 2002).

1.1.1 Kenya's Airline Industry

The airline industry is regulated by the Kenya Civil Aviation Authority. The domestic civil and cargo air transport market is composed of several players as shown in appendix 1.

Kenya Airways is the main aviation industry player and is engaged in international, regional and domestic carriage of passengers and cargo by air, the provision of ground handling services to other airlines and the handling of import and export cargo. The company flies to several destinations in Africa, middle East, Asia and Europe.

Financial Risk Management (CFRM) is concerned with the management of financial price risks in corporate entities, namely interest rates, exchange rates and prices of commodities. Since its first implementation in the 80's, CFRM has evolved in three main steps. In the first step, banks designed new structured products, exploiting their deep knowledge of financial engineering.

Secondly, practitioners have developed best practices concerning the correct use of derivatives in corporate entities, focusing on the organization and their reporting of the process of CFRM, The Third step is now underway, in this step the main change concerns the regulatory and accounting context of CFRM, up to now, the new regulatory context has deeply influenced the operations of corporate entities. A first very evident impact concerns the less frequent use of complicated structured derivatives products. Moreover, new protagonists of the process of the CFRM have developed rapidly. Accounting managers have been obliged to thoroughly understand the economics of derivatives, while the Board, the auditors and external financial analysts have become deeply involved in the process of CFRM (Mauri and Conti, 2007)

International Accounting Standard No.21 (IAS 21), *Effects of changes in foreign exchange rates*, prescribes how to account for foreign currency transactions and foreign operations, and how to translate financial statements into a presentation currency. According to this standard, an entity may have foreign operations. In addition, an entity may present its financial statements in a foreign currency. The objective of this standard is to prescribe how to include foreign currency transactions and foreign operations currency. The principal issues are which exchange rate(s) to use and how to report the effects of changes in exchange rates in the financial statements (IAS 21.2001).

1.1.2 Profitability of the Airline Industry

Profitability is measured with income and expenses. Income is money generated from the activities of the business. Operating profit is a measure of company's earning power from ongoing operations; equal to earnings before the deduction of interest payments and income taxes. Measuring profitability is the most important measure of the success of the business. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment.

Profitability is thus the primary goal of all business ventures. Without profitability the business will not survive in the long run. Gross profit is profit before selling general and administrative costs, like depreciation and interest; it is the sales less direct cost of goods sold (COGS) while net profit is the sales of the firm less costs like wages, rent, fuel, raw materials, interest on loans and depreciation. (Mathur, 2002).

Airlines profitability is closely tied to economic growth and trade. Airlines assign prices to their services in an attempt to maximize profitability. The pricing of airline tickets is complicated and is largely determined by computerized yield management system. (IATA).

According to International Air Transport Association (IATA), the aviation industry began 2011 with new challenges. The 15.1 billion dollar in profit that airlines made in 2010 fell by 40 percent to 9.1 billion dollar in 2011, and margins shrunk to 1.5 percent. From the Kenyan perspective, Kenya Airways recorded a negative income per passenger in 2009 with loss of 4 Billion Shillings in the financial period. Gross profit margin had declined to 0.22 putting pressure on the company which has high overheads especially in a period in which the airline industry had been hit by union staff strikes for higher pay and increasing airport management associated costs, however the margin has climbed substantially in 2010 to 0.37 as KO's performance rebounds.

PROFITABILITY INDICATORS	2006	2007	2008	2009	2010	0.0%
Gross Profit Margin	0.33	0.30	0.24	0.22	0.37	3.4%
Operating Profit Margin	0.15	0.13	0.07	0.06	0.15	1.5%
Net Profit Margin	0.09	0.07	0.24	0.09	0.30	34.7%
Total Asset Turnover	0.76	0.76	0.78	0.95	0.97	6.1%
LEVERAGE	4.02	3.57	2.93	4.42	3.67	-2.2%
INCOME PER PASSENGER		1717	1760	-1478	722	

1.2 Statement of the problem

Empirical studies have revealed that of all financial risk exposures, foreign exchange risk has received more attention than interest and inflation rate risks. Exchange rate risk has also been considered to be the most critical of all the financial risk exposures (Brucaite and Yan, 2000). While Doherty and Smith (2001) argued that, in general, the company's aim when managing foreign exchange exposure should be to avoid reductions in their operating value that is reductions in the present value of expected operating cash flows. Martin and Mauer (2003) argued that foreign exchange risk exposure, also known as economic exposure typically has a long-term time dimension as well, as it encompasses the competitive and indirect effects of exchange rate risk. Local studies have also been done in Kenya on Foreign exchange risk management (Omagwa, 2005, Ubindi, 2006, Kipchirchir, 2008, Chira, 2009, Njunge 2010, Okwoku 2010, and Diffu, 2011).

Kipchirchir (2008) studied foreign exchange risk management practiced by motor vehicle industry, he found a positive relationship between managing foreign exchange risk and firms performance. Similarly Njunge (2010) studied foreign exchange risk management practices by micro-finance institution. The study revealed that most companies use currency swaps and currency options as financial instruments to hedge against foreign exchange risk.

Nonetheless, the above studies have dwelt very much on foreign exchange risks management in general without linking these practices with the organization profitability. Only a study done by Diffu (2011) focused on Kenya Airways. This study provides insight into the response of airline firms in Kenya to foreign exchange risk management. This study will therefore fill the existing gap by answering the question: "What is the relationship between foreign exchange risk management and profitability of airlines in Kenya?"

The study hypothesizes that faced with a volatile macroeconomic environment; these firms tend to adopt risk management techniques to smooth out their earnings and hedge risk to avoid reporting losses. For example, Carter, Rogers and Simkins (2002) make the case that the airline industry is one in which corporate hedging is likely to add value by minimizing the underinvestment problem.

1.3 Objective of the study

The objective of this study was to investigate the relationship between foreign exchange risk management and profitability of airlines in Kenya.

1.4 Significance of the Study

The importance of building such relationship is that firms can rely on risk management techniques to shield themselves against the exposure of reporting losses when the industry macroeconomic environment is not favorable. Managers can use risk management techniques as incentive to meet market earning expectations, when high operating costs associated with the firm's macroeconomic environment cause profit to fall short of targets. Prior literature documents disproportionately large negative stock price reactions when firms fail to meet analyst forecast (Skinner and Sloan, 2002) and declines in price-earnings multiples when firms break pattern of earnings increase (Barth et al 1999).

The study will equally enable shareholders to predict the future cash flows of their investment since the risk management policies adopted by managers convey their expectations of future cash flows.

Financial analysts will through this study get an insight on how best to construct investment portfolio among other industry firms. Competitors will use the study as a tool to analyze weakness and strength of their opponents to enable them make decisions to outperform them.

This study will provide a tool that will help firms not only in comparing future profitability with their opponents but also in making decisions that will enable them outshine their competitors.

Regulators on their part will through this study be able to understand the importance of foreign exchange risk management to firm's performance, hence formulate rules that will make the preparation of financial statements to be more objective.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of related literature on the subject under study presented by various researchers. Section 2.2 presents theoretical literature. Section 2.3 examines the empirical evidence on foreign exchange risk management and profitability of Airlines. Section 2.4 presents risk management and the performance of firms in Kenya. Section 2.5 is the empirical review and section 2.6 is the summary.

2.2 Theoretical Literature

There are a number of academic studies on foreign exchange risk management practices. Especially; they can be broadly categorized into three groups. The first group are theoretical papers addressing the issue of relevance or otherwise of currency management Shapiro and Rutenberg (1976); Logue and Oldfield (1977); and Dufey and Srinivasulu (1983). Arguments in favor of the relevance of currency risk management are based on purchasing power parity theory, the capital asset pricing model, the Modigliani-Miller theorem and the efficient market hypothesis. On the other hand, imperfections in the capital market are used to argue for the relevance of foreign exchange risk management practices.

Most of these empirical studies also found, to a varying extent, the firms do manage their currency risk. Akrom (1974) observed that the control of foreign exchange activities was essential for a rational and consistent approach to controlling the foreign exchange exposure of the firm. Exchange rate movements affect expected future cash flow, and therefore the value, of the large multinationals, small exporters (importers) and import competitors, by changing the home currency value of foreign revenues (costs) and the terms of competition. In light of this, it is surprising that previous research in the area (Jorion, 1996), Amihud (1998) and Bodnar and Gentry (1998) finds that us multinationals exporters and manufacturing industries are of significantly affected by exchange rate movements. Therefore, in trying to explain the fluctuations in exchange rates, several theories have been advanced that link between domestic and foreign inflation, interest rate and exchange rates. These are: the relative version of

purchasing power parity, the law of one price, Arbitrage Pricing Theory, covered interest parity theory and uncovered interest parity theory.

2.2.1 Relative Version of Purchasing Power Parity Theory

The purchasing power parity hypothesis traces its origin to the writings of the Swedish economist Gustav Cassel (1918). The original theory states that equal goods in different countries cost the same in the very same countries when measured in terms of the same currency. Cassel declares that deviations from PPP imply that a country's currency is incorrectly valued.

Even if the contemporarily examined forms of PPP are weaker than the original version of PPP, it is still based on the simple hypothesis of arbitrage. If two homogeneous goods are traded at different prices in different countries, this arbitrage opportunity will be utilized, which leads to convergence of the deviations from PPP towards zero (in the absence of arbitrage costs). "Half-life" is the generally applied PPP convergence measure. Rogoff (1996) describes a consensus view in PPP research of three to five year half-lives, which is definitely too slow to be compatible with arbitrage opportunities. Therefore, an intense hunt for empirical half-life evidence, that supports this idea of arbitrage, has accelerated over the last few years.

Over the years, conclusions regarding the validity of PPP have been under constant debate. In some periods the research community has concluded that PPP holds, and in other periods that PPP is not valid. PPP was put forward as a long-run equilibrium condition in the post-war period, but after the breakdown of the Bretton Woods system in the early 1970s it was even advocated as a short-run equilibrium (Taylor and Taylor, 2004). During the late 1970s and 1980s most research concluded that the theory was not valid (Krugman, 1978).

According to Reid and Joshua (2004), this theory implies that the rate of change of the exchange rate equals the difference between the inflation rates in the two countries. If the percentage change is positive, then the foreign currency is appreciating and home currency is depreciating. If the percentage change is negative, the foreign currency is depreciating and home currency is appreciating.

2.2.2 Law of One Price

According to Reid and Joshua (2004), the law states that in the absence of shipping cost, tariffs and other frictions to international trade –identical goods should trade for the same real price in different countries. That is when converted at spot exchange rate into common currency, the price of a homogenous commodity good will be identical across borders. As the exact price of the homogenous commodity is rarely known in two different countries, price indexes are used in empirical work. One difficulty in measuring PPP constructed from price indexes is that different countries use different goods to determine their price level; i.e. preference for the goods may vary widely across countries. Hence, even if the law of one price holds in each good, it may not hold overall for dissimilar consumption basket.

2.2.3 Arbitrage Pricing Theory

The underlying principle of the pricing theory involves the recognition that the anticipated return on any asset may be charted as a linear calculation of relevant macroeconomic factors in conjunction with market indices (Stephen Ross, 1976). It is expected that there will be some rate of change in most if not all of the relevant factors. Running scenarios using this model helps to arrive at a price that is equitable to the anticipated performance of the asset (Roll and Yan, 2000). The desired result is that the asset price discounted at the rate implied by the Capital Asset Pricing Model. It is understood that if the asset price gets off course, that arbitrage will help to bring the price back into reasonable perimeters (Stephen Ross, 1976)

2.2.4 Covered Interest Parity

This theory states that, if we can remove currency risk, the same currency return of two otherwise risks less assets (short term cash deposited) should be identical. This currency risk can be removed through forward contract. The exchange rate that is quoted for transactions taking place in the future is called the forward exchange rate.

Roll and Yan (2000), states that, the interest rate differential between two countries is equal to the differential between the forward exchange rate and the spot exchange rate. Interest rate parity plays an essential role in foreign exchange markets connecting interest rates, spot exchange rates and foreign exchange rates.

2.2.5 Uncovered Interest Parity Theory

This theory looks into the cross border pricing of financial investments. According to Reid and Joshua (2004), this theory states that lacking frictions in financial markets, the price of otherwise risk less financial investment or the rate of return received on them, should be identical across borders. The frictions present in the international financial markets are slightly different from those in goods market. While there are likely to be few frictions in the form of costs to transferring capital across borders, markets for investment capital still include the frictions, causing the imperfect capital mobility such as multiple currencies. Uncovered interest parity requires that overseas return be expected to equal domestic returns when converted at spot exchange rates. The theory established that in international financial markets, when looking at the domestic currency return on an investment that pays interest in a foreign currency, exchange rate changes must be added to the own currency return.

2.3 Empirical Evidence on Foreign Exchange Risk Management and Profitability of Airlines

According to Stern and Chew (1987), foreign exchange risk is the chance that fluctuations in the exchange rate will change the profitability of a transaction from its expected value. Shapiro (2006) defines foreign exchange risk as the variability in the value of the firm as measured by present value of its expected future cash flow – caused by uncertain exchange rate changes. This definition emphasizes on firms' cash flows. On the other hand, Hekman (1983) defines currency risk in terms of the control of firms as the possibility that operating and financial results might exceed or fall short of budget. A common definition of exchange rate risk relates to the effect of unexpected exchange rate changes on the value of the firm by Madura (1989). It implies that the risk consists of the direct loss (as a result of an unhedged exposure) and indirect loss in the firm's cash flows, assets and liabilities, net profit and its stock market value from an exchange rate change.

Foreign exchange risk management has become increasingly important since the removal of fixed exchange rate systems of Bretton Woods and replaced by the floating system in which the price of currencies is determined by supply and demand of money in the market. The supply and demand is affected by numerous external factors resulting in fluctuation in exchange rates. These

fluctuations' in exchange rates expose companies to foreign exchange risks. When operating in an international market, firms are faced with political and commercial risks and financial risks linked to foreign exchange currency shortage, depreciation, increases in public debt and exchange rate fluctuation. These have power to affect profitability and cash flow of small, medium and high firms. Research has shown that profit in companies is affected by volatility floating exchange rates (Popov and Stuttemann, 2003).

The best way to manage exchange risk is to identify potential risk currencies, analyze of the risks and asses the strategies available to reduce the risk. Exchange risks arise from fluctuations of foreign currency and can affect both import and export. Exchange risks are higher in firms dealing with a weak currency. Exchange rates are influenced by inflation rates, interest rates, income levels, government controls, expectation of economic events or changes and natural disaster or events (Popov and Stuttemann, 2003).

Due to the foreign exchange exposure risks faced by companies, it's apparent that firms require foreign exchange risk management strategies to minimize the negative impact (costs); of uncertainty (risks) regarding possible losses (Schmit and Roth 1990). This section discusses techniques used for hedging against risk. Hedging is defined as "all actions taken to change the exposed positions of a company in one currency or in multiple currencies" (Prindl, 1976).

According to Clark et al. (1993), hedging refers to the technique of making offsetting commitments in order to minimize the impact of unfavorable potential outcomes. The risk manager's choice of the different types of hedging techniques may, however, be influenced by costs, taxes, effects on accounting conventions and regulation. A firm need to have a financial risk management strategy that is effective and the employees should have a good understanding of financial instrument in addition to understanding the risks surrounding the firm.

Despite the critical attitude of the academic literature, exchange rate forecasts have been found out to be the most popular practice among many firms. This means that managers of these firms do not believe that currency markets are information efficient and that they are able to profit systematically from exchange rate forecasts. Cost-free forecasts provided by banks or consultants are most important source of information for the preparation of the exchange rate forecasts (Glaum, 2000). Most firms have to decide on the degree of centralization of the exchange risk

management function. In a totally decentralized system, each corporate unit is responsible for managing its own exposure. In a fully centralized system, risk management is the sole responsibility of the corporate centre.

2.4 Risk Management and the Performance of Firms in Kenya

Radja (1997) defines risk management as a systematic process for the identification and evaluation of pure loss exposure faced by an organization or an individual, and for the selection and implementation of the most appropriate techniques of treating such exposure. Schmit and Roth (1990) describe risk management as the performance of activities designed to minimize the negative impact (cost) of uncertainty (risk) regarding possible losses.

Every entity exists to provide value for its stakeholders. All entities face uncertainty and the challenge for management is to determine how much uncertainty to accept as it strives to grow stakeholder value. Uncertainty presents both risk and opportunity, with the potential to erode or enhance value. Risk management enables management to effectively deal with uncertainty and associated risk and opportunity, while enhancing the capacity to maximize value. Value is maximized when management sets strategy and objectives to strike an optimal balance between growth and return goals and related risks, and efficiently and effectively deploys resources in pursuit of the entity's objective (Flaherty and Maki, 2004)

Risk management is a central part of any organization's strategic management. It is the process whereby organizations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities.

The focus of good risk management is the identification and treatment of this risk. Its objective is to add maximum sustainable value to all the activities of the organization. It marshals the understanding of the potential upside and downside of all those factors which can affect the organization. It increases the probability of success, and reduces both the probability of failures and the uncertainty of a achieving the organization's overall objective. Risk management should be continues and developing process which runs throughout the organization's strategy and the implementation of that strategy. It should address methodically all the risks surrounding the organization's activities past, present and in particular, future (Risk management standard, 2006)

The risk management process involves both internal and external analysis. The first part of the process involves identifying and prioritizing the financial risks facing an organization and understanding their relevance. It may be necessary to examine the organization and its products, management, customers, suppliers, competitors, pricing, industry trends, balance sheet structures, and position in the industry. It is also necessary to consider stakeholders and their objectives and tolerance for risk. Once a clear understanding of risks emerges, appropriate strategies can be implemented in conjunction with risk management policy. For example, it might be possible to change where and how business is done, thereby reducing the organization's exposure and risk. Alternatively, existing exposures may be managed with derivatives. Another strategy for managing risk is to accept all risks and the possibility of losses (Horcher, 2005)

There are three broad alternatives for managing risk. The first alternative is to do nothing which by default means accepting all risks, the second one involves hedging a portion of exposures by determining which exposures can and should be hedged and the last one involves hedging all possible exposures. Measurement and reporting of risks provides decision makers with information to execute decisions and monitor outcomes, both before and after strategies are taken to mitigate them since the risk management process is ongoing, reporting and feedback can be used to refine the system by modifying or improving strategies. An active decision making process is an important component of risk management. Decisions about potential loss and risk reduction provides a forum for discussion of important issues and the varying perspectives of stakeholders (Horcher, 2005)

Although the classical financial models of Modigliani and Miller suggest that there is no need for firms to control risks since investors can accomplish this task themselves in a perfect market, the practical aspects of the real world create situations where the firm should practice financial risk management. A number of high-profile risk management practices organizations lost billions of shillings due to poor risk management decisions (Dowd, 1998)

Omagwa (2005) and Ubindi (2006) found out that each organization had its peculiar hedging instruments and strategies. This variation is due to the fact that there are no formal corporate approved risk management practices that must be adopted in Kenya and hence each organization has a leeway to make its choice on practices it deems as best. Omagwa (2005) finds that most banks practiced conventional foreign exchange risk management practices. He further observes

that forward contracts and foreign currency options as the most frequently used instruments. He also finds that 80% of the banks practiced natural hedging practices. On the other hand, Ubindi (2006) finds that use of conventional foreign exchange risk management practices is quite low among forex bureaus in Kenya. He also finds that forward contracts, money market hedge, currency options and currency swaps are the mostly used instruments. Also Njunge (2010) focused on foreign exchange risk management practices by micro-finance institutions in Kenya and found out that most companies use currency swaps and currency option as financial instruments to hedge against foreign exchange risk.

Due to costs of financial distress and managerial risk aversion, Crabb (2003) strongly suggests that firms should take corporate risk management or hedging. If managers are risk averse and their wealth and compensation is primarily driven by the value of the firm, hedging is appropriate. Hedging of foreign exchange risk is beneficial when managers are risk averse and their compensation depends on changing values of the firm. However, misdirected management incentives can be costly: some of the firms that lost sums of money in the 1990's, like Procter and Gamble Corporation, made such losses because of speculative use of derivatives.

2.5 Empirical Review

Several studies have analyzed the risk management-performance relationship for non-financial firms. For example, Allayannis and Weston (2001) analyze the use of foreign currency derivatives by non financials and find a positive relationship between firm value and the use of financial currency derivatives. Nelson, Moffitt, and Afflect-Graves (2005) find that nonfinancial firms that hedge using derivatives outperform non-hedgers but the effect is primarily due to the use of financial currency derivatives by relatively large firms. Jin and Jorion (2006) find that risk management has no effect on oil industry firms' market value, and Dionne and Triki (2006) verify that risk management in the gold mining industry increases returns on assets.

Batten, Metlor and Wan (1993) focused on foreign exchange risk management practice and product usage of large Australia-based firms. The results indicated that, of the 72 firms covered by the Study, 70% of the firms traded their foreign exchange exposures, acting as foreign exchange risk bearers, in an attempt to optimize company returns. Transaction exposure emerged as the most relevant exposure.

Dufey (1972) suggest another line of reasoning that foreign exchange risk management does not matter because of certain equilibrium conditions in international markets for both financial and real assets. These conditions include the relationship between prices of goods in different markets, better known as purchasing power parity (PPP), and between interest rates and exchange rates, usually referred to as the International Fisher Effect. However, deviations from PPP and International Fisher Effect can persist for considerable periods of time, especially at the level of individual firm. The resulting variability of net cash flows is of significant as it can subject a firm to financial distress or even default.

Issues of risk management in banking sector have greater impact not only on the bank but also on the economic growth. Tai (2004) concludes that some empirical evidence indicates that the past return shocks emanating from banking sector have significant impact not only on the volatilities of foreign exchange and aggregate stock markets, but also on their prices, suggesting that bank can be a major source of contagion during the crisis.

Phillips (1995) in his study focused on derivative securities and derivative contracts found that Organizations of all sizes faced financial risk exposures, indicating a valuable opportunity for using risk management tools. The treasury professionals exhibited selectivity in their use of derivatives for risk management.

Given the importance of risk management in financial institutions functioning, the efficiency of risk management is expected to be significantly influence its performance Harker and Satros, (1998).Santomero and Babbel (1997) argue that risk management matters for financial performance of firms.

2.6 Summary

Companies especially those engaging in international trade are now exposed to risks caused by unexpected movements in exchange rate. The management of foreign exchange risk has become essential for the survival of companies in today's volatile financial markets. it is therefore evident that the airline industry faces significant risk as a result of foreign exchange rate fluctuations and management of this risk is imperative not only for profitability of the companies, but also for their survival.

Earlier studies on management of foreign exchange risk in Kenya mainly focused on different industries. Omagwa (2005) carried out a study on how foreign owned commercial banks in Kenya manage their foreign exchange risk exposure; he finds that all commercial banks he surveyed practice hedging. Ubindi (2006) on the other hand focused on foreign exchange risk management practices by forex bureaus in Kenya. Kipchirchir (2008) studied foreign exchange risk management practiced by motor vehicle industry, he found a positive relationship between managing foreign exchange risk and firms performance. Chira (2009) studied a survey of foreign exchange rate risk management practices by oil companies in Kenya, he found that most companies hedge foreign exchange risk using forward contract, similar result were revealed by Okwoku (2010) who studied a survey of foreign exchange risk management practices in the energy sector in Kenya. Similarly Njunge (2010) studied foreign exchange risk management practices by micro-finance institution; the study revealed that most companies use currency swaps and currency options as financial instruments to hedge against foreign exchange risk. Diffu (2011) carried out a study on the relationship between foreign exchange risk and financial performance of airlines in Kenya: a case of Kenya Airways, she found a positive relationship between foreign exchange risk and financial performance.

Considering the vital role played by airline firms in Kenya's economy and the volume of foreign exchange dominated transactions they carry out, This study add literature by filling a gap on the relationship between foreign exchange risk management and profitability of airlines in Kenya. This study provides insight into the response of airline firms in Kenya to Foreign exchange risk management by answering the following question: "What is the relationship between foreign exchange risk management and profitability of airlines in Kenya?" as posed in the statement of the problem.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methods that will be used by the study to achieve its set objective. Section 3.2 presents research design. Section 3.3 presents a description of the population and sample. Section 3.4 presents data and data collection. Section 3.5 is the data analysis and section 3.6 presents data reliability and validity of research instrument.

3.2 Research Design

This study will use a causal research design. Causal research explores the effect of one thing on another and more specifically, the effect of one variable on another. The research is used to measure what impact a specific change will have on existing norms and allows researchers to predict hypothetical scenarios. It analyzes the cause-effect relationship between variables. Causal research design attempts to specify the nature of functional relationship between two or more variables. Causal research is often used to infer causation or causality, i.e., which variables are the causes (called independent variables) and which variables are the consequence or effect (called dependent variables). In other words, causation means that an independent variable is expected to produce a change in the dependent variable in the direction and of the magnitude specified by the theory (Kelly, 1999).

3.3 Population and Sample

In this study, the target population will include all forty six (46) major airlines firm operating in Kenya based on information obtained from the website of Kenya Airports Authority.

Random sampling method was used to come up with a sample size of twenty six (26) major airline companies. Simple random sampling was used so that all airlines had an equal chance of being selected from the population. According to Cooper and Schindler (2003), random sampling frequently minimizes the sampling error in the population. This in turn increases the precision of any estimation methods used.

3.4 Data and Data Collection

This study used both primary and secondary data for analysis. The primary data will be collected using the questionnaire. Secondary data was collected from the company financial statements.

Secondary data is was the after tax profit of the airlines in 2011. The responses on the foreign exchange risk management (hedging) techniques were measured using a likert type rating scale to establish extend to which the various firm use the foreign exchange risk management technique.

3.5 Data Analysis

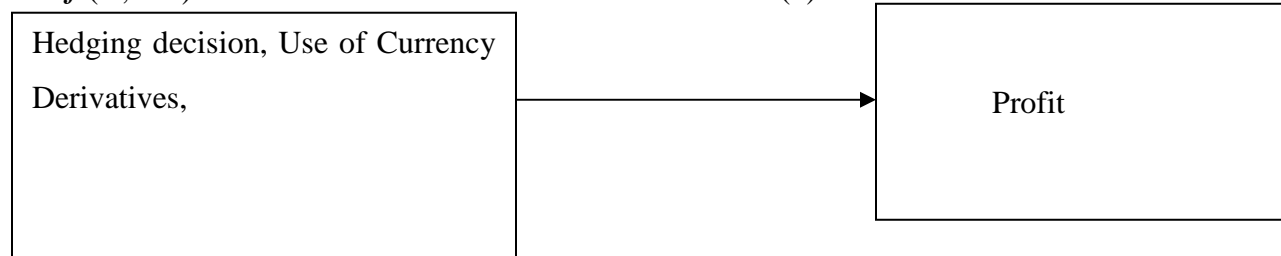
This study used a regression model to determine the relationship between the dependent and the independent variables as shown in equation (2).

The t-test was used to measure the strength and the significance of the relationship between the variables under study. Data analysis will be done using SPSS (Statistical Package for Social Science).

3.5.1 The Conceptual Model

$$P = f(H, CD)$$

(1)



The conceptual model above suggests there is a positive relationship between independent variables and profitability. Pausenberger and Nassauer, (2005) in their conceptual studies shows the important aspects of risk management process that firms need to have in order to practice risk management.

3.5.2 The Empirical Model

The regression model is applied to estimate the relationship between foreign exchange Risk Management and profitability. The independent variables for these regressions include: FX exposure, size, growth opportunities, leverage, and liquidity.

The regression analysis will be performed using the following model.

$$P = \alpha_0 + \alpha_1 H + \alpha_2 CD + \alpha_3 FD + \alpha_4 FW + \alpha_5 FO + \alpha_6 MM + \alpha_7 FS + e_t \quad (2)$$

Where

- P = Profit of the airline as measured by the net profit of the year
- H = Decision to hedge against risk measured by **1** for **Yes** and **0** for **No**.
- CD = Decision to use currency derivatives to hedge measured by **1** for **Yes** and **0** for **No**
- FD = Decision to use Futures contract to hedge measured by **1** for **Yes** and **0** for **No**
- FW = Decision to use Forward contract to hedge measured by **1** for **Yes** and **0** for **No**
- FO = Decision to use Option contract to hedge measured by **1** for **Yes** and **0** for **No**
- MM = Decision to use Money market to hedge measured by **1** for **Yes** and **0** for **No**
- FS = Decision to use Swaps to hedge measured by **1** for **Yes** and **0** for **No**

$\alpha_0, \alpha_1, \alpha_2,$ = the constant and coefficients of the model

e_t = error term for the model

3.6 Data Reliability and Validity of Research Instrument

To establish the validity of the research instrument the researcher will sought opinions of experts in the field of study especially the researcher's supervisor and lecturers. This will be facilitated by the necessary revision and modification of the research instrument to enhance validity.

Reliability refers to the consistency of measurement and is frequently assessed using the test-retest reliability method. Reliability is increased by including many similar items on a measure, by testing a diverse sample of individuals and by using uniform testing procedures.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the results of the data analysis and their discussions. Section 4.2 presents the summary statistics. Section 4.3 analyses the relationship between profitability and foreign exchange risk management. Section 4.4 discusses the implication of the findings of the data analysis. Section 4.5 summarizes the results of the studies.

4.2 Summary Statistics

Table 4.1 Descriptive Statistics

Variable	Mean	Std. Deviation
Profit	35267.00	60611.765
Currency Risk RANK	2.00	.000
Currency Risk Policy	1.00	.000
Risk Management (RM) Department	1.00	.000
Head of Risk DEPT	4.00	.000
Profit Centre	1.00	.000
Reason for hedging	1.17	.408
Futures Contract	1.00	.000
Forward Contract	.83	.408
Options contract	.83	.408
Money Market Instruments	.50	.548
Swaps	1.00	.000
Proportion hedged	4.17	.408

Source: Authors computation

Table 4.1 provides the summary statistics of the data employed in this study. The results show that the mean profit made by the airlines over the sample period are Ksh 35,267 millions. Foreign exchange rates risk is the second in rank after the fuel risk but before the inflation and interest rate risks. All the airlines sampled have established a risk policy and have a risk management department headed by the Risk Manager. The most popular derivative instruments for risk management are the futures contracts and the swaps. The results show that many airlines hedge more than 80 percent of their currency risk exposure.

The study found out that the respondents ranked exchange rate and fuel price risk has high risks as indicated by a mean of 4.6 respectively, the respondents ranked inflation rates as a high risks as indicated by a mean of 4.2, finally, the respondents ranked interest rate as a less risk as indicated by a mean of 3.9. The study also found out that majority of the respondents indicated that their company had documented a foreign currency policy and that the company had a risk management department.

The study further found out that majority of the respondents indicated that the risk manager was responsible for the risk management department and that the company had a treasury department.

Moreover, the study found out that the respondents indicated that the treasury department was not regarded as a profit center and that the respondents strongly agreed that minimizing foreign exchange losses was the main reason for adopting foreign exchange risk management practices in the firm as indicated by a mean of 4.0. The respondents strongly agreed that reducing the volatility of cash flows was the main reason for adopting foreign exchange risk management practices in the firm as indicated by a mean of 3.8, the respondents agreed that protecting earnings fluctuations was the main reason for adopting foreign exchange risk management practices in the firm as indicated by a mean of 3.7, finally, the respondents agreed that reducing financing costs was the main reason for adopting foreign exchange risk management practices in the firm as indicated by a mean of 3.6.

Additionally, the respondents indicated that they often used forwards for hedging as indicated by a mean of 4.2, the respondents indicated that they often used futures for hedging as indicated by a mean of 4.1; the respondents indicated that they sometimes used money market contracts, options and swaps for hedging as indicated by a mean of 3.9 respectively.

The study also found out that the respondents indicated that they fully hedged forwards, futures and money contracts as indicated by mean scores of 4.0, 3.8 and 3.7 respectively, the respondents indicated that they partially hedged options and swaps as indicated by mean scores of 3.6 and 3.5 respectively.

4.3 The Relationship Between Profitability and Currency Risk Management

4.3.2. Results of Correlation Analysis

Table 4.2 Correlations between Profitability and Foreign Exchange Risk Management

	Profit	Reason for hedging	Futures	Options	Swaps	HEDGE%
Profit	1.000					
Reason for hedging	.231	1.000				
Futures	.231	-1.000	1.000			
Options	.009	.200	-.200	1.000		
Swaps	-.368	-.447	.447	-.447	1.000	
HEDGE%	.009	-.200	.200	-1.000	.447	1.000

Source: Authors computation

Table 4.2 displays the results of correlation analysis. The results indicate that there is a negative relationship between use of swaps and the profitability of the airlines operating in Kenya. However, there is a positive relationship between reasons for hedging, percentage of the profits hedged, the use of futures and options and the profitability of airlines operating in Kenya. The results therefore show that proper management of foreign exchange rate risk improves the bottom-line of the airlines.

4.3.2 Results of Analysis of Model Fitness

Table 4.3 Results of Analysis of Model Fitness

R	R Square	Durbin-Watson
.592(a) (a)	.350	1.941

a Predictors: (Constant), HEDGE%, INSTR2, INSTR4 b Dependent Variable: Profit

The results in Table 4.3 show that the estimated model poorly fits the data. Only 35 percent of the variability in airlines operating in Kenya can be explained by the model. Though this may not be statistically significant it is significant in absolute terms. The Durbin – Watson statistic indicates that multicollinearity is not a serious problem in the data analyzed.

4.3.2 Results of Analysis of Variance

Table 4.4 Results of the Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.078	3	1.359	.359	.793(a)
Residual	7.577	2	3.789		
Total	11.655	5			

a Predictors: (Constant), HEDGE%, INSTR2, INSTR4 b Dependent Variable: Profit after Tax

Table 4.4 shows that a large proportion of information useful in predicting profitability is contained in the error term. The independent variables can explain only 35 percent of the changes in the profitability of the airlines. Therefore, risk management only accounts for the 35 % of the profits of the airlines operating in Kenya.

4.3.2 Results of the Estimation of the Model Coefficients

Table 4.5 Results of Estimation of the Model Coefficients

	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
Constant	.919	9.732	.094	.933
INSTR2	1.266	2.384	.531	.648
INSTR4	-1.607	1.946	-.825	.496
HEDGE%	1.972	2.384	.827	.495

Table 4.5 shows that the use of futures contracts, options and the proportion of the currency risk hedged influence the profitability of airlines operating in Kenya. However, these variables are not statistically significant.

4.4 Discussion

The results show that proper management of foreign exchange rate risk improves the profits of the airlines. There is a positive relationship between percentage of the profits hedged, the use of futures and options and the profitability of airlines operating in Kenya. However, the results indicate that there is a negative relationship between use of swaps and the profitability of the airlines operating in Kenya. This relationship is not significant. Therefore, good foreign exchange risk management increases the profitability of airlines in Kenya. Indeed, every airline sampled had a foreign exchange rate risk management policy and a department headed by a Risk Manager.

Managing foreign exchange rate risk accounts for 35% of the variability in the profits of the airlines in Kenya. Therefore, it is very important for airlines to focus on managing currency risk. It is no wonder then that all the airlines sampled cover over 80% of their revenues.

4.5 Summary

In summary, there is a positive relationship between foreign exchange rate risk management and profitability of airlines in Kenya. Currency risk management accounts for 35% of the variability in the profits of airlines.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary and conclusions of the study. Section 5.2 summarizes the whole study. Section 5.3 draws the main conclusions from the data analysis in chapter four. Section 5.4 discusses the main limitations of the study. Lastly section 5.5 presents recommendation for further research.

5.2 Summary of the Findings

The objective of the study was to investigate the relationship between foreign exchange, risk management and profitability of airlines in Kenya. The study employed a survey research design. The study sampled 26 out of 46 airlines operating in Kenya. Both primary data and secondary data were used in this study. Cross-sectional analysis was applied to analyze the data. Correlation analysis and regression analysis were used to obtain the results.

The study found out that foreign exchange rate risk management has appositive impact on the profits of airlines in Kenya. Currency risk management accounts for 35% of the variability of the profits of airlines in Kenya. The airlines ranked exchange rate risk and fuel price risk as most important risks compared to inflation risk and interest rate risk. The study also found out that all the airlines sampled had a foreign currency risk management policy and had a risk management department hade by a Risk Manager.

The results indicated that airlines often used forwards, futures, money market contracts, options and swaps for hedging in the order of merit. The study also found out that the airlines fully hedged using forwards, futures and money contracts but they partially hedged options and swaps. It also found out that majority of the respondents indicated that the percentage of exchange rate exposure the company was hedging was over 80%. Finally, the study found out that all airlines sampled measured the success of foreign exchange rate risk management policy monthly.

5.3 Conclusions

Several conclusions can be drawn from the results of the data analysis. First, good foreign exchange risk management increases the profitability of airlines in Kenya. Secondly, that exchange rate and fuel price risk are the most important risk incurred by airlines in Kenya.

Thirdly, the airlines the airlines fully hedged using forwards, futures and money contracts but they partially hedged options and swaps. Finally, the study concludes that the airlines measured the success of foreign exchange rate risk management policy monthly.

5.4 Limitations of the Study

There are three main limitations of this study. First, the study examined only 26 out of 46 airlines operating in Kenya. Therefore, not all airlines were studied.

Secondly, only the after tax profits of 2011 were employed. The independent variables were measured using a Likert rating scale.

Thirdly, this study focused only on the airline industry in Kenya over the sample period.

5.5 Recommendations for Further Research

There are four main recommendations of this study. First, further studies should examine the entire population of the airlines. This will enable the generalization of the findings in the airline industry.

Secondly, instead of cross-section analysis done in this study further research should employ time series analysis covering a longer sample period. Thirdly, instead of using ordinal values, further studies should employ rational values like the actual costs of the various derivatives used in hedging.

Fourthly, this study has investigated the relationship between foreign exchange risk management and profitability of airlines in Kenya. To this end therefore a further study should be carried out to assess the challenges foreign exchange risk management in other industries.

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APPENDICES

Appendix 1: List of Firms in Airline Industry

748 Service	Ethiopian Airlines
African Express	Kenya Airways
Air Excel	Lufthansa Cargo
Air France Cargo	MK Airlines
Air India	Marsland
Air Madagascar	Martin Air
Air Malawi	Nas Air
Air Mauritius	Precision Air
Air Tanzania	Qatar Air Cargo
Air Zimbabwe	Qatar Airways
Air traffic	Royal Dutch Airlines-KLM
Astral Aviation	Rwanda Air
British Airways	S.N Brussel
Cargolux	Safari Express
Coastal Air	Saudi Arabian Airlines
DHL	Singapore Airline Cargo
Dallo Air	Sky Cargo (Emirates)
Delta Connection Air	South African Airways
East African Safari Air Express	Swizz International Airlines
Egypt Air	Turkish Airlines
Egypt Air Cargo	Uganda Airlines
Emirates	Virgin Atlantic Airways

Source: Kenya Airports Authority.

Appendix II: Questionnaire

Part A: General information

1. Name of the company (optional).....
2. Position of respondent.....
3. Years served in the company.....
4. Number of employees in the firm
 - 1-20 ()
 - 21-40 ()
 - 41-60 ()
 - 61 -80 ()
 - Over 80 ()
- 5 How long has the firm been in existence.....
- 6 What is the ownership of the company?
 - Wholly locally owned ()
 - Foreign – local owned ()
 - Foreign owned ()

Part B: Management of Foreign Exchange Risk

- 1 Rank the following financial risk from the highly risk to less risk in a scale of 1-4
 - Exchange rate ()
 - Fuel price risk ()
 - Interest rate ()
 - Inflation Rate ()
- 2 Does the company have a documented foreign currency policy?
 - Yes ()
 - No ()
- 3 Does the company have a risk management department?
 - Yes ()
 - No ()

4 If the answer in 3 above is yes, who is responsible for the risk management department?

- CEO ()
- Finance Manager ()
- Accountant ()
- Risk Manager ()
- No one ()

5 Do you have a treasury department?

- Yes ()
- No ()

6 Do you regard treasury department or its equivalent as profit centre?

- Yes ()
- No ()

7 Please state the main reason for adopting foreign exchange risk management practices in your firm?

- Minimizing foreign exchange losses ()
- Reduce the volatility of cash flows ()
- Protect earnings fluctuations ()
- Reducing financing costs ()
- Others (specify).....

8 What kind of external hedging instruments is the company using for hedging?

Instruments	Often	Sometimes	Never
Forwards			
Futures			
Money market contracts			
Options			
Swaps			
Others (please specify)			

9 How do you use these instruments?

Instruments / Technique	Partial Hedging (Hedging only those positions for which currency loss is expected)	Full Hedging (Hedging all open positions)
Futures		
Forwards		
Options		
Money market Contracts		
Swaps		
Others (Please specify).....		

10 What percentage of exchange rate exposure is the company hedging?

- 0-20% () 40-60% () 80-100% ()
 20-40% () 60-80% ()

11 Evaluation of risk management policy

How often do you measure the success of foreign exchange rate risk management policy?

- Yearly ()
 Semiannually ()
 Quarterly ()
 Monthly ()
 Others (please specify).....

Thank you for your participation