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MANAGEMENT OF FOREIGN EXCHANGE RISK – THE CASE OF ECOBANK GHANA LIMITED.

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DEDICATION

This thesis is dedicated first to God, the Almighty, whose protection and care made it possible for me to carry out this project, and to Grace, Ruth and Gideon for their prayers, patience and support.

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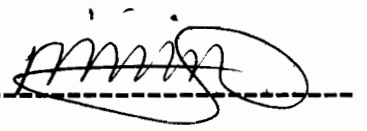
DECLARATION

I declare that this research work, supervised by Mr. James Kingsley Addai, is my original work. I am therefore ready to defend it when called upon to do so.



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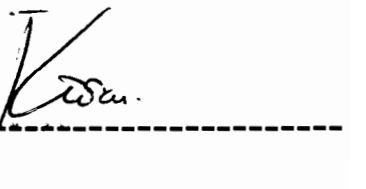

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EXECUTIVE SUMMARY

This thesis describes the operations of the foreign exchange market with particular reference to exchange rate volatility and its effects on ECOBANK Ghana Ltd, an affiliate of ECOBANK TRANSNATIONAL INCORPORATED.

Being part of a banking group which is particularly focused on regional trade among member states of ECOWAS, Ecobank Ghana Ltd has had to operate in the different currencies of the various countries. The underlying exchange risk of this activity is all the more important because of the lack of appropriate hedging instruments among the different local currencies. Secondly, Ecobank Ghana holds a substantial number of foreign currency accounts for its customers. The Central Bank demands that the reserves related to these accounts should be in cedis. This constraint is a substantial source of exposure. Thirdly, in the last few years the cedi has undergone a specially high level of depreciation which has worsened Ecobank Ghana's exposure and which requires a high level of profitability and the most modern hedging techniques to be able to pay the level of dividend in dollar to its mother bank.

Our study showed that there have been several exchange rate regimes starting from the Gold Standard to the Fixed Exchange Rate regime and its modified forms, to the flexible or floating exchange rate system. Under the flexible system, the exchange rate of a particular currency is determined by the forces of demand and supply for that currency. As a consequence, the exchange rate fluctuates depending on the availability, or otherwise, of the currency .These exchange rate fluctuations can affect the fortunes of any operator in the industry.

The study highlighted the exchange regimes and policies that the Cedi went through from independence till date. Before independence in 1957 the Ghanaian currency (then the West African Pound) was at par with the British Pound while its value was higher than the US dollar ($1 = GHC 0.60). The Cedi went through different exchange rate regimes starting from the Fixed Exchange rate system, then to the Managed Exchange rate regime and ended with the free floating or Flexible Exchange rate system. The values of the Pound Sterling and the US dollar to the Cedi are now about ¢16,500.00 and ¢9,200.00 respectively.

The major factors that influence exchange rates are:

(a) Rate of inflation
(b) Interest rates
(c) Balance of payments
(d) Central Bank intervention
(e) Speculation
(f) Political conditions, and
(g) Governmental controls and regulations

The study also revealed that the foreign exchange market is loosely organised into two tiers: the retail tier and the wholesale tier. The major players in the market are Central Banks, Commercial Banks, Private and Governmental institutions, Non-bank financial institutions, Forex Bureau and individuals.

We identified three main types of foreign exchange exposure and how the are managed. These are Transaction Exposure, Economic Exposure and Translation Exposure. These exposures can be measured by the following methods:

(a) The Accounting Measure
(b) Monte Carlo Simulation
(c) Analytical Measures
(d) Regression using historical data

This study reveals that ECOBANK Ghana Ltd operates in an environment characterized by exchange rate volatilities. The bank has on a number of occasions suffered exchange losses due to unfavourable exchange rate movements.

We also discovered that ECOBANK Ghana Ltd is aware of the consequences of the " do nothing" approach to exchange rate risk management . Consequently, the Bank has put in place internal control measures geared towards minimizing the effects of its foreign exchange rate exposure. Notable among these strategies are:

(i) Limits on foreign exchange position,
(ii) Limits on foreign currency position as a percentage of shareholders' funds,
(iii) Hedging with forward contracts,
(iv) Shortening of tenor of foreign currency loans when currency of repayment is different from currency of initial loan,

(v) Matching revenues against payments,

(vi) The use of other control measures such as the BLOTTER, surprise cash counts, reconciliation of accounts, periodic audits, etc.

It was , however, discovered that the Bank does not employ the use of some of the well-known hedging strategies such as currency options, currency futures and swaps.

The concluding part of this research made suggestions in respect of alternative hedging strategies that the Bank could use to manage its foreign exchange risk. These include:

(i) Currency options,

(ii) Currency futures,

(iii) Currency swaps,

(iv) 'Stop-loss' clauses,

(v) Borrowing in the currency to which the Bank is exposed or investing in interest bearing assets to offset a foreign currency payment

RÉSUMÉ

Ce mémoire traite des opérations relatives au marché des changes, en particulier la volatilité des taux de change et leurs effets sur Ecobank Ghana, une filiale de ETI, Ecobank Transnational Incorporated.

Faisant partie d' un groupe bancaire qui se focalise particulièrement sur le commerce régional entre les états membres de la CEDEAO, Ecobank Ghana Ltd est amené à opérer dans les différentes monnaires des pays de présence. Le risque de change sous-jacent à cette activité est d 'autant plus important qu 'il n'y a pas de moyens de couverture appropriés entre les différentes monnaires locales. Secundo, Ecobank Ghana détient une masse importante de comptes en devises pour ses clients. La Bank Centrale exige que des reserves affectées à ces comptes soient constituées en Cedi. Cette constrainte est une source d'exposition importante. Tercio le Cedi a subi au cours des dernières années une dévaluation particulièrement importante qui aggrave les expositions subies par Ecobank Ghana et qui lui exige une rentabilité particulièrement élevée et des techniques de couverture très au point pour pouvoire payer le niveau de dividende en dollar exigépar la maison-mère.

Notre étude montre qu'il y a eu plusieurs régimes des taux de change, allant du système de l'étalon-or au système des taux fixes et ses formes variées jusqu'à celui des taux de change flottants. Dans ce dernier cas, le cours d'une devise donnée est déterminé par la loi de l'offre et de la demande en cette devise. Ainsi, le taux fluctue en fonction de la disponibilité de la devise. Cette fluctuation peut affecter les revenus de tout opérateur sur le marché.

L'étude met l'accent sur les politiques et regimes de taux de change que le cedi a traverse depuis l' Idépendance. Avant l'Independence en 1957, la monnaie ghanéen (alors la livre Ouest Africaine) était au pair avec la livre sterling alors que sa valeur était supérieure au dollar amériacain ($1 = GHC 0.60). Le cedi a traversé des régimes de taux de change varies cmmencant par le taux fix, ouis la monnaie dirigée et terminant par le taux flottant. À present la valeur de la livre sterling est ¢16,500.00 alors que cel du dollar américain est ¢9,200.00.

Les facteurs determinants de taux de change ont été traits de manière exhaustive y compris:

(a} Le taux d'inflation
(b) Les taux d'intérêt
(c) Balance des paiements
(d) Le role de la Banque Central
(e) La speculation
(f) Les condition politiques
(g) Les réglementations gouverments.

Notre étude montre aussi que le marché de change est peu structure à deux niveaux: en détail te en gros. Les acteurs majeurs sur le marché sont : les Banques Centrales, les banques commeciales, les institutions privés et gouvernementaires, les institutions non – financier, les bureax de change et les particuliers.

Nous avons identifié trois types de risqué de change : le risque de transaction, le risque de conversion et le risque lié aux conditions économiques.

On peu mesurer ces risques en uttilisant les methods suinantes :

(a) Méthode de comptabilité

(b) Methode de Monte Carlo

(c) Méthode analytique

(d) Analyse de Regression

Cette étude révèle qu'Ecobank Ghana opère dans un marché caractérisé par une volatilité des taux de change. La Banque a maintes fois souffert des pertes de change dû aux mouvements défavorables des cours des devises.

Par ailleurs, nous avons remarqué qu'Ecobank Ghana a conscience des effets négatifs de l'approche « ne rien faire » dans le cadre de la gestion des risques de change et que, pour cette raison et sur la base de normes prudentielles internes, elle a mis en place quelques stratégies de minimisation des effets de son exposition aux risques de change. Il s'agit de :

- Limites absolues à ne pas dépasser au niveau des positions de change,
- Limites de devises par rapport aux fonds propres à ne pas dépasser,
- Protection par les contrats forward,
- Raccourcissement des échéances des prêts dès lors que la devise de remboursement est différente de celle du prêt,
- Appariement autant que possible des recettes et des dépenses dans la même devise,
- l'utilisation du BLOTTER, un document interne retraçant les achats – ventes de toutes les devises,
- Contrôles inopinés des cash en devises,
- Rapprochements de comptes,
- Audits périodiques.

Ainsi, il est remarquable qu'Ecobank n'utilise pas les stratégies de protection généralement connues telles que les options, les futures et les swaps de devises.

Les conclusions de notre étude débouchent sur des propositions alternatives qu'Ecobank Ghana pourrait utiliser pour gérer ses risques de change. Celles-ci sont :

- Les options,
- Les futures,
- Les swaps,
- Les clauses « stop-loss »
- Les achats et ventes à termes de devises.

1.0 CHAPTER ONE

1.1 GENERAL INTRODUCTION

When firms and governments deal in international trade, it involves buying, selling, borrowing and lending. In this trade, the currency of one local trader is a foreign currency to the other. To determine the value of one currency in terms of another so that international trade can be facilitated, one has to calculate the exchange rate between these currencies.

Foreign exchange rate is the rate at which one buys or sells one currency in exchange for another. In other words, the foreign exchange rate is the price one pays to get a unit of another currency.

In an attempt to evolve an exchange rate system that will meet the needs of international trade , the world has gone through different exchange rate regimes. From the classical Gold Standard of the 19th Century, to the pegged exchange rate system known as Bretton Woods System adopted in 1944, through the Floating Exchange Rate System that began in the early 1970s, many international monetary arrangements have been made to adapt to prevailing economic environments.

The first exchange rate regime was the fixed system. This type of exchange rate system links the domestic currency to some commonly accepted standard, such as gold, the dollar or the pound sterling. The commonly known fixed rate system was the gold standard

The floating exchange rate system allows the value of a country's currency to fluctuate in response to market forces without intervention from central Banks or by various Governments..

Whereas the fixed exchange rate is administratively determined the floating exchange rate is market determined and is entirely the function of demand and supply of foreign exchange without respect to its sources and direction.

A moveable peg or adjustable peg system is based on fixed exchange rates, but with a provision for the devaluation of a currency when the currency has a fundamental balance of payments deficit; or the revaluation of a currency when the currency has a fundamental balance of payments surplus.

A policy of rigidly fixed exchange rates means that the government of every country in the International monetary system must use its official reserves to create an exact match between supply and demand for its currency in the foreign exchange markets, in order to keep the exchange rate unchanged. Using the official reserves will therefore cancel out a surplus or deficit on the current account and non- official capital transactions in their balance of payment. A balance of payment surplus would call for an addition to the official reserves, and a deficit calls for drawings on official reserves.

Increased trade and capital movement succeeded in bringing a period of monetary and financial instability. As a result the USA could no longer have enough gold to cover its obligations as an ounce of gold cost $35. It is for this reason that Richard Nixon put an end to the conversion between the dollar and gold.

A system of margins around a moveable (adjustable) peg was the basis for the Breton Woods agreement in 1944 under the auspices of the International Monetary Fund where currencies were permitted to have a 1% margin of fluctuations around the par value.

Following the collapse of the Breton Woods agreement in early 1971, the Smithsonian (or Washington) agreement was signed in December 1971 where currencies were allowed to move up to 2.25% either side of the parity.

With the breakdown of the Smithsonian agreement in 1973, most major currencies abandoned official par rates and were allowed to float.

Volatility of Exchange Rates

A major problem with floating exchange rates in the 1980s had been the wide fluctuations in foreign exchange rates for all leading international currencies. Floating exchange rates can bring about a potential gain or loss to the International trader. Exchange rate fluctuations pose a risk to the firm, bank or nation.

The Deputy Governor of the Bank of England expressed his concern about exchange rate instability and variability (BEQB, December 1993). In particular he drew attention to the fact that variability in exchange rates in the long term as well as the short term has applied not only to the nominal exchange rates but also real exchange rates.

The US dollar is the most important International currency and yet its exchange value has been extraordinarily volatile in the 1980s and early 1990s. Between 1980 and 1985, the value of the dollar rose by 75%, but from 1985, its value then fell sharply until 1988. There was further volatility in 1990 and 1992 as a result of concerns about the pace of economic recovery

The Ghanaian cedi is one of the currencies which have suffered severe exchange rate volatilities. For example between December 1998 December 2002, the cedi depreciated by 251% and 230% against the U S dollar and the pound sterling respectively(source: Ghana Association of Bankers). In 2003 the depreciation of the cedi was 5.4%, 26.88% and 16.68% against the U S dollar, euro and the pound sterling respectively. According to a press release by the Monetary Policy Committee of the Bank of Ghana(August 20, 2004), 'for the period from January to July 2004, the cedi depreciated by 2.2 percent, 7.3 percent and 1.1 percent against the U S dollar, pound sterling and euro respectively'.

Exchange rate fluctuations can have disastrous effects on firms when not properly managed. 'Complex options trading was in part responsible for losses at the treasury of Allied-Lyons, the British foods group. The $150 million lost almost brought the company to its knees, and the publicity precipitated a management shake-out. In 1993 the oil giant Royal Dutch-Shell revealed that currency trading losses of as much as a billion U S dollars had been uncovered in its Japanese subsidiary'(9).

The collapse of Barings Bank, according to Nick Leeson, was engineered by the trading in options and straddles. He caused a loss of $50million a day to Barings Bank due to exchange rate volatilities.

Though firms are ready to embrace a favourable exchange rate movement, they would take all steps to avoid the effects of unfavourable exchange rate movements.
In order to protect themselves against adverse foreign currency exposure, many a firm would adopt one or a combination of techniques to manage its foreign exchange risk.

The commonly used foreign exchange management tools are the following:

(a) Foreign currency account
(b) Forward contract
(c) Foreign currency swaps

(d)Currency (pure) options

(e)Foreign exchange futures

(These strategies have been explained in details in a later chapter)

1.2 OBJECTIVE OF THE STUDY

The objectives of this study are to:

a. Provide more understanding of the operations of the foreign exchange markets in Ghana and to establish whether a bank (ECOBANK Ghana Ltd) could make losses by not managing its foreign exchange risk in the face of exchange rate volatilities..

b. Suggest alternative methods by which a bank such as ECOBANK Ghana Ltd could effectively manage its foreign currency assets and liabilities to minimise potential losses.

1.3 HYPOTHESIS

Hypothesis are expected to guide any study and to provide a framework for organizing the resulting conclusions. It is a way of predicting the possible outcome of an investigation.

The hypothesis associated with the objective of this research is as follows :

Ho : Exchange rate volatility affects the profitability of Ecobank Ghana Ltd.

H1 : Exchange rate volatility does not affect the profitability of Ecobank Ghana Ltd.

1.4 METHODOLOGY

A case study approach would be used in this study. This will be based on ECOBANK Ghana Ltd.

1.5 DATA COLLECTION

Data collection shall be by secondary sources interviews and questionnaires.

1.6 ORGANIZATION OF THE STUDY

The organization of the study is a chapter study using the case study methodology.

- Chapter One:

Introduces the study by stating the background to the problem, the statement of the problem, the objective of the study, methodology, and the organisation of the study.

- Chapter Two:

Contains some history and development of foreign exchange rates internationally and in Ghana.

Chapter Three:

This chapter treats the foreign exchange market and hedging strategies.

Chapter Four:

Foreign exchange risk and its management

Chapter Five:

Foreign exchange risk management at ECOBANK Ghana Ltd.

Chapter Six:

Summary, conclusion and recommendation

CHAPTER TWO

EXCHANGE RATE REGIMES.

2.1 INTRODUCTION.

In this chapter we discuss the history and development of the foreign exchange market internationally and in Ghana, and an in-depth literature review and theoretical framework of the foreign exchange market.

2.2 DEFINITION.

Foreign Exchange market is a market composed primarily of banks, serving firms and consumers who wish to buy or sell various currencies (1). This market allows currencies to be exchanged in order to facilitate international trade . Colanders (1995), defines foreign exchange market as one in which one currency can be exchanged for another. It is a system of formal or informal international monetary market governed by a set of internationally agreed upon conventions. The market therefore permits the conversion of currencies in an efficient way thereby determining the rate of exchange (the rate at which one currency can be exchanged for another or the price of one currency in terms of another) (2).

2.3 HISTORY OF FOREIGN EXCHANGE

The system for establishing foreign exchange rates has changed over time with governments playing a major role in its determination until the 1930's. Commencing 1867, with the Paris Conference and lasting until 1933 (except for the period around world war 1), there existed in most of the world economies, a system of relatively fixed exchange rates under what was called the Gold Standard (A system by which the value of a country's currency is fixed in relation to the price of gold;- existed from 1867 until about 1933) (3). Other types of exchange regimes are the fixed, floating and pegged/managed float systems.

2.3.1 THE GOLD STANDARD

Under the Gold standard, each participating country agreed to fix the price of its currency relative to gold. Countries were required by law to have a certain percentage of gold

backing for their currencies. Thus gold served as a currency or backed all currencies. The standard enabled governments to prevent short-run instability of the exchange rate. Speculative run on country currencies caused Governments to buy its currency with gold, thus preventing the exchange rate from falling.

The gold specie flow mechanism was a system of long-run adjustment mechanism in which gold flows and price level changes bring about equilibrium; it enabled the gold standard to work efficiently even when Countries run out of gold. This mechanism was called into play especially in late 1931, in response to a shrinking gold supply, when the Federal reserve decreased money in the U.S economy, deepening the depression that began in the late 1920s.

The gold standard was then abandoned following this great depression and the resulting panic that ensued in the United States and Europe. Countries that attempted to peg their currencies to the dollar or the British pound were faced with the result of the uncertainty of frequent revisions. The result of the instability in the foreign exchange market and severe restrictions on international transactions was the decline in volume of international trade during this period. (1).

2.3.2 FIXED EXCHANGE RATE SYSTEM

This type of exchange rate system links the domestic currency to some commonly accepted standard, such as gold, the dollar or the pound sterling. The commonly known fixed rate system was the gold standard. Under the Gold standard the value of a country's currency was fixed in terms of the gold content so that exchange rates between two currencies were established by the amount of gold that each currency represented (4). Therefore, if the pound sterling contained 5 times as much gold as the dollar, the exchange rate was deemed to be £1:$5.

Advantages:

(i)It removes exchange rate uncertainty and the need to hedge exchange rate risk and so encourages international trade.

(ii)It can impose economic discipline on countries in deficit (or surplus), and economies with inflationary tendencies.

Disadvantages:

(i)There is a need for official reserves, eg. US $ or gold, to support the exchange rate.

(ii)The government's freedom of action in respect of domestic economic policy becomes restricted.

(iii)Widely differing rates of inflation from one country to another make fixed rates impossible to maintain for more than a short period of time.

(iv)Governments may be reluctant to subordinate domestic economic interests for the sake of a balance of payment equilibrium. For example, governments with a balance of payments surplus (deficit) may be reluctant to pursue (inflationary) policies which could reduce the surplus (deficit).

(v)It is sometimes necessary to recognise fundamental disequilibrium in a country's balance of payments and devalue/revalue a domestic currency rather than trying to support an unrealistic exchange rate.

2.3.3 Free Floating exchange Rates

Under the floating exchange rates system, exchange rates are left to the free play of market forces and there is no official financing at all. There is no need for the government to hold any official reserves, because it will not want to use them.

Floating exchange rates are the only option available to governments when other systems break down and fail. Professor Friedman remarked (1967) "Floating exchange rates have often been adopted by countries experiencing financial crisis when all other devices have failed.''

Advantages:

(i)There is an automatic and continuous adjustment of exchange rates.

(ii)There is independence of domestic economic policies

(iii)There is no need for large official reserves. With free floating, there is no need for any official reserves.

(iv)The floating exchange rate system is a "fall-back'' system. If a fixed exchange rate system breaks down, exchange rates would 'naturally' float.

Disadvantages:

(i) Where imports are a large part of country's economy, the exchange rate is too important for the government to ignore.

(ii)Fluctuating exchange rates generate economic uncertainty and encourage speculation.

(iii)The adjustment to bring the balance of payments back into equilibrium does not necessarily work. Much depends on elasticities of demand for imports and exports and elasticity of supply.

(iv)A failure to control domestic inflation will wipe out the competitive advantage of a depreciation of the currency, and so provoke further depreciation and increase inflation.

2.3.4 The Adjustable Peg System:

This system is better known as the Bretton Woods system and has three main characteristics features:

(a) Those countries which belonged to the system adopted fixed exchange rates for their currencies and were obliged to keep such rates within narrow bands by intervention in the short-run and by the adoption of appropriate domestic policies. The values of such currencies were pegged to the dollar, which had a fixed value in terms of gold. The parities of the currencies were to be maintained within 1% point either side of the official rate;

(b) It permitted both upwards and downward revaluation when a fundamental disequilibrium in the balance of payments occurred and any change had to be approved by the IMF, except in the case of small readjustment.

(c) The IMF was prepared to provide member countries with foreign exchange assets to supplement their own reserves of gold and foreign exchange in case of balance of payments difficulties which did not arise from fundamental disequilibrium.

Advantages:

It introduced a measure of discipline into the exchange rate management and provided resources which served to prevent deflationary policy.

Disadvantages:

It give rise to speculation which could destabilise an economy. The tendency to fix exchange rate within narrow limits gave chance to speculators to profit by exchange.

2.3.5 Managed Floating Rate System:

This foreign exchange system determines rates by mainly the conditions or forces of demand and supply but with some intervention from the Central Bank or monetary authorities, some-times to influence exchange rate movements or stabilize the rates. The monetary authorities influence the movements of the exchange rate through active intervention in the foreign exchange market without specifying, or pre-committing to a pre-announced path for the exchange rates (5).

It resembles the freely floating system in that exchange rates are allowed to fluctuate on daily basis and official boundaries don't exist. It is also similar to the fixed system in that Governments can and sometimes do intervene to prevent currencies from moving too much in a certain direction.

Managed floating is sometime called "dirty'' float (as opposed to a "clean'' where rates float freely without Government intervention).

Some criticisms are the fact that it allows a Government to manipulate exchange rates in a manner that could benefit its own country at the expense of others; for example weakening a country's currency to stimulate export.

2.4 HISTORY OF FOREIGN EXCHANGE RATE POLICIES IN GHANA.

Before Ghana's independence in 1957, the Ghanaian currency (then the West African Pound) was at par with the British Pound. The government on 4 July 1958 introduced the Ghanaian Pound (G) which also was at par with the West African pound. In 1965, the

Ghanaian cedi was born, replacing the Ghanaian pound at a rate of GHC2.40 to one (1) pound (G1.00), the dollar equivalent being just sixty (60) pesewa (U$ 1.00=GHC0.60), that is GHC1.00 to US$1.67. The cedi value in terms of the US Dollar was pegged at GHC1.00 to USO.85 (U$1.00=GHC0.85) in the 1960's.

Between 1960 and 1961 the cedi went through a series of re-alignments.

The government of the Second Republic in November 1971, broke the tie of the cedi to the pound sterling and instead pegged or linked the New cedi to the U$ dollar, thus the official rate was re-instated at NGHC1.02 = U$1.00, thus effecting a defacto devaluation (6).

The devaluation of the U$ by about eight (8%) percent in terms of gold in December 1971, caused the government to devalue the new cedi by about forty four (44) percent establishing a new official rate of NGHC1.82 per U$ dollar (N GHC1.00 = U$0.55), thus abolishing at the same time all multiple rate and the Tourist rate. This devaluation partially led to the over throw of the government of the second republic.

The military government, National Redemption Council (NRC) caused the revaluation of the New cedi by about forty – two percent(42%) against the U$ (Dollar) to a new official rate of NGHC1.00 pegged at $0.78 (NGHC1.28 = U$1.00) and the new cedi relabelled cedi (GHC), the name before the currency reforms and in addition Import and exchange controls were strengthened.

The gold content or value of the cedi remained unchanged following the devaluation of the U$ dollar in February 1973, thus automatically realigning the official rate to GHC1.15 to the U$ dollar (1.00 = U$0.87), a twelve percent (12%) appreciation of the cedi. The cedi was pegged at this rate of 1.15 to the U$ dollar for six years until August 1978, when it was fixed at 2.75 per one (1) dollar (1.00)= U$0.36). An attempt at introducing the floating exchange rate regime by the NRC government was replaced by the fixed exchange rate, since the cedi was seen to depreciate consistently against the dollar.

The above rate was maintained by the government of the Third republic in 1979, and operated under the government of the P.N.D.C (Provisional National Defence Council) for some years. Though stiffer price and exchange control measures were adopted, the

degree of divergence between the official and parallel exchange rates reached an all time high of four thousand two hundred and sixty- four percent (4264%) for the period end 1982 as against (8) percent in 1967 (7).

The P.N.D.C. government operated a fixed exchange rate until April 21, 1983 when she undertook a massive devaluation of the cedi, an exchange rate adjustment process under the government's Economic Recovery Programme (E.R.P).

The system of Economic Recovery Policies introduced in April 1983 comprised a multiple exchange rate system of Dual official rates of (GHC23.38 to the US dollar and thirty (GHC30) to the dollar which were applied to specified receipts and payments in October 1983, this was replaced by a unified exchange rate at thirty ((GHC30.00) cedi to the US Dollar (7). A real exchange rate rule with the view to maintaining the cedi's real purchasing power was introduced. The rule required a quarterly adjustment of the exchange rates in accordance with relative inflation rates in Ghana and its major trading partners. This was replaced in December 1984 by more episodic exchange rate devaluation as the real exchange rate was still considered over valued.

During the period, the black market premium remained high(about 180%), an effect of exchange rate controls and rationing foreign exchange from official sources for imports. Despite the above policy measures, the cedi still remained overvalued as reflected by the divergence between the parallel and the official exchange rate and deterioration in the balance of payments position.

An auction market was introduced on the 16th of September 1986 in order to accelerate the adjustment of the exchange rate and attain the objective of trade liberalization.

2.4.1 The Post Economic Recovery Programme (1986) Period of Multiple Exchange Rates And Beyond:

Between October 1983 and 16th September 1986, all foreign exchange transactions operated under only one system, or one window termed window one . In order to make foreign exchange rates more flexible, the Government introduced an independent floating mechanism considered the best way of depolarising the issue of exchange rate adjustment,

called the auction system to replace the fixed exchange rates based on the Central Bank's policy directives.

2.4.1 (a) The Auction System:

An auction market is a market in which the orders of traders are matched directly to determine the price. Buy and sell orders are brought together and the price is set to clear the market.

The system (dual exchange rate system) which resorted to a floating scheme enabled the authorities to continually determine the exchange rate in line with the fundamental forces of demand and supply instead of having to resort to discrete devaluations under the previous pegging regime. This arrangement minimized capital flight and prevented collusion between the commercial banks. The first auction was based on marginal pricing auction (MPAS) in which all the successful bidders paid the marginal price as the exchange rate. However, the Dutch Auction System (DAS) was adopted in the subsequent auctions. Here the successful bidders paid their bid price and those whose bids equal the market-clearing (marginal) rate received a pro-rata amount of remaining foreign exchange.

The marginal rate declared on auction day applied to all extra transactions such as foreign transaction by the BOG, allocation to Central Government and other public units outside the auction and sale to Commercial Banks to replenish their working balances (7) According to Quick et al, (1987) an auction arrangement based on the Dutch Auction System (DAS), inhibits entry to the auction markets by participants fearing of having to pay a price significantly higher than the clearing price for the exchange if their bid is successful, therefore leading to the continued existence of a black market and collusion before auctions. Also rejection of bids from participants and the overvalued exchange rate in the official market, has the effect of encouraging the co-existence of a black market.

Though modifications in the implementation of the foreign exchange auction were made, divergence between the marginal rates and parallel rates widened from 24.25 percent in 1986 to 32.12 percent in 1987. The legalization of the parallel market by the introduction of the foreign exchange bureaux narrowed the premium that the parallel rate had over the official exchange rate (as evidenced by the degree of divergence between the official and parallel exchange rate falling from 24.25 percent in 1986 to 3.32 percent in 1990, (having

risen to 32.13 percent in 1987 and then fallen to 24.3 percent in 1988 and 21.2 percent in 19989). This indicated a virtual absorption of the parallel sub-market (or ''cow-lane '' popularly known in Accra) by the bureau market. The continues existence of the spread premium in the bureau market led to the introduction of the wholesale auction arrangement which replaced the retail system in March 1990.

Under the new system introduced in September 1986, a dual exchange rate system comprising two (2) windows was established

The window one exchange rate was fixed at USD/GHC 90.00 and used for such transactions as government debt service payments , covering imports of processed petroleum products, crude oil and essential drugs.

The window two was determined by the Bank of Ghana (BOG) in a conducted weekly auction system at which exchange rate for the week was determined by demand and supply. Window two took care or covered all other transactions (about 66 percent of external payment and receipts).

The surrender of exchange earnings to the BOG also corresponded to the duality of the exchange rate. These earnings from export of cocoa, residual oil products, gold and other traditional export products were surrendered and converted at window one rates while other transactions were converted at window two rates. The retail nature of the auction system empowered the BOG to auction foreign exchange on weekly basis to final users only. The new policy reduced to some extent government intervention in the cedi exchange rate. This was a major economic step to ensure a flexible exchange rate based on the changes taking place in the economy. It was also to aid reduce the persistent over valuation of the cedi, which was not adjusted readily to reflect rising price levels under the fixed system.

Window one was abolished in February 1987 and Government resorted completely to a floating mechanism considered the best way of depoliticising the issue of exchange rate adjustment.

With the introduction of the auction and abolition of window one , market restrictions on import financing was eliminated. Several categories of import previously excluded from

bidding on the auction became eligible. This called for the re-classification of the import license from 1987. Under the new system, there were three (3) types of license, namely **''A'', ''S'', and ''G''.**

The ''A'' license permitted the holder to bid for foreign exchange under the auction system and was initially issued for drugs, and producer inputs such as raw materials, semi-finished products, spare or repair parts and machinery. Permit was valid usually for a period of six (6) months, and application were to meet a specified condition.

License ''S'' holders were permitted to use their own foreign exchange resources to import goods with the provision that such imports were undertaken under the existing SIL regulations.

License ''G'' allocated to government organizations for the importation of essential commodities, including goods and services. The license ''G'' holders were directly from outside the auction system.. Most of the foreign exchange for the imports were channelled through a bulk-purchasing agent Ghana National Procurement Agency or for public sector imports, the Ghana Supply Commission.

Eventually, in January 1989, the licensing system was abolished; in addition the retention scheme that existed during the period was also modified to increase the supply of foreign exchange to the auction and to reduce foreign exchange being held on retention account.

The main purposes for the introduction of the auction system and modifications implemented between 1987-1989, were intended to achieve:

(a)An increased supply in foreign exchange to match increased demand.
(b) A decrease in the spread between the highest and lowest bid rates(or marginal exchange rates)..
(c) A narrowing of the divergence between the auction and the parallel (unofficial Rate).
The auction brought with it positive development. For example the premium of the parallel rate over the official exchange rate fell from 24.5 percent in 1986 to 3.32 percent in 1990 (7).

2.4.1(b) The Foreign Exchange Bureaux:

The key objectives in attempting to liberalize and stabilize the exchange rate and trade regime of Ghana were finally accomplished by the legalization of the parallel market in February 1988 when government decided to license individuals,
companies and financial institutions to open foreign exchange bureaux, where the public could buy and sell eight major foreign currencies namely US Dollar, Pounds Sterling, Deutschmark, Swiss franc, Canadian dollar, French franc, CFA and Japanese yen.

The purpose behind the legalization and institutionalization of the forex bureau was to

(a) Eliminate the parallel market
(a) Capture the main market forces directly behind the determination of the cedi/ dollar rate
(a) Absorb the bureau/parallel market into a single foreign exchange market.

The bureau exchange rate was closer to the parallel rate despite the wide gap, which existed between that and the auction rates. The introduction of the forex bureau concept brought with it the numerous advantages, which included:

(i) Easy access to foreign currency market by all users
(ii) Release of resources used to fight the illegal dealers
(iii) The ability of the government to receive taxed revenue on transactions in the market.
(iv) More importantly building confidence in the financial market in general and the currency market in particular, for faster economic development of Ghana (8).

Form April 1990, the eligible forex bureau and authorized dealer banks purchased foreign exchange from Bank of Ghana (BOG) for sale to end user customers, and to meet own foreign exchange needs under the wholesale nature of the new auction. These dealers were allowed to determine freely the structure of their own bids at the wholesale auction and sold to their customers with a margin determined by each authorized dealer. Note, the wholesale auction continued to be based on Dutch auction system.

2.5.0 DETERMINANTS OF EXCHANGE RATES:

Exchange rates are basically determined by the forces of demand and supply for a given currency. Where the demand for a foreign currency exceeds supply, all things being

equal, the currency would appreciate. On the other hand, when the supply exceeds demand, the currency would depreciate.

The factors that generally influence the demand and supply of a currency determine the exchange rate of that currency. These are enumerated as follows:

2.5.1 Rate Of Inflation – Purchasing Power Parity

.The Purchasing Power Parity (PPP) theory postulates that the exchange rate of any two currencies depends on relative domestic purchasing power.
(4) The most common representation links the changes in exchange rates to those in relative price indices in two countries (9).

Rate of change of exchange rate = Differences in inflation rate.
The relationship is derived from the basic idea that, in the absence of trade restrictions changes in the exchange rate mirror changes in the relative price levels in the two countries. According to PPP, price of similar commodities cannot differ between two countries because arbitragers will take advantages of such situations until price differences are eliminated. This'' law of one price'' leads logically to the idea that what is true of one commodity should be true of the economy as a whole – the price level in two countries should be linked through the exchange rate – and hence to the notion that exchange rate changes are tired to inflation rate differences.

2.5.2 Interest rates – The International Fisher Effect.

Another very important determinant of exchange rates is interest rate differentials between two currencies.

The International Fisher Effect states that the interest rate differential will exist only if the exchange rate is expected to change in such a way that the advantage of the higher interest rate is off set by the loss on the foreign exchange transactions.

The expected rate change of the exchange = the interest rate differential.

In practical terms the International Fisher Effect implies that which an investor in a low – interest country can convert his funds into the currency of the high – interest country

and get paid a higher rate, his gain (the interest rate deferential) will be offset by his expected loss because of foreign exchange rate changes.

2.5.3 -Balance Of Payments

"The balance of payments of a country can be defined roughly as the difference between what the country earns and what it spends, together with the difference between the amount of overseas investments it attracts and the amount of investments that its own residents make in other countries "(10).

When the value of a country's exports of goods and services and the amount of foreign direct investment it receives exceed that of imports, and foreign direct investment it makes in other countries, it would have a balance of payments surplus. Under this circumstance, the demand for the local currency would increase thus leading to an appreciation in its exchange rate. On the other hand, a deficit on the balance of payments account would lead to a depreciation of the value of the currency in relation to other currencies.

Balance of payments surplus or deficits can influence not only the current rate of exchange between currencies (known as spot rates) but also the rate at which dealers in the foreign exchange markets (i.e. banks) will be prepared to sell or buy currency in forward exchange deals.

2.5.4 Central Bank Intervention

Central bank intervention also influences exchange rates. A situation of overabundance of domestic currency and a shortage of foreign currency leads to a weakening of a country's exchange rate. In order to stabilize the rate of exchange the central bank intervenes in the foreign exchange market, that is buys its own currency and sells foreign currencies.

On the other hand, if the value of the domestic currency is rising because it is short in supply compare with demand for it, the central bank will enter the market and buy foreign currencies (sell local currency) which are overabundant, with the domestic currency. This action will cause the exchange rate to depreciate to the desired level.

2.5.5 Speculation:

The confidence of dealers in the future economic position of a particular country based perhaps on rumour or speculation will probably effect their quoted forward rates for the currency of that country.

Speculation in a currency might be carried out by traders as well as investors of capital the rush buying or selling of a currency based on speculation will cause the currency to either appreciated or depreciate against the currencies of other countries.

2.5.6 Political Conditions

A country with an uncertain political future is likely to suffer from disinvestment and speculation against its currency. An example is a general election and the possibility of a change in government or a coup d'etat.

2.5.7 Governmental Controls And Regulations:

Where interventions in the market are unlikely to protect a currency's value, the government might decide to impose exchange control regulations. These are regulations to restrict the outflow of capital, or to control any other factors which have an impact on:

(a) the country's foreign exchange reserves, or

(b) the value of the country's currency in terms of other currencies.

Government intervention might take the form of exchange controls, import controls or import tariffs. If there is no retaliation by other countries against such measures, their effect should be to strengthen the exchange rate.

CHAPTER THREE

3.0 THE FOREIGN EXCHANGE MARKET

3.1 DEFINITION

The foreign exchange market is a 'market in which one currency is bought and sold for another" (11)

Foreign exchange market is a market composed primarily of banks, serving firms and consumers who wish to buy or sell various currencies (1).

Colanders (1995), defines foreign exchange market as one in which one currency can be exchanged for another; thus making it a system of a formal or informal international monetary market governed by a set of internationally agreed upon conventions. The market therefore permits the conversion of currencies in an efficient way, thereby determining the rate of exchange (the rate at which one currency can be exchanged for another or the price of one currency in terms of another) (2).

3.2 CHARACTERISTICS OF THE FOREIGN EXCHANGE MARKET

The foreign exchange market is loosely organized into two tiers: the retail tier and the wholesale tier. The retail tier is where the small agents buy and sell foreign exchange, orienting themselves to the reference rates of such agencies as Reuters, which are adjusted round-the-clock to actual events in the market.

The wholesale tier is an informal network of more than 1,000 banks and currency brokerage firms that deal with each other and with large corporations. When the financial press talks about the foreign exchange market in general, it refers to the wholesale tier.

It is the largest market in the world in terms of turnover. It has a turnover of $1.210 trillion per day (12)

Trading is 24 hours a day and 7 days a week. The foreign exchange market is the core of the global Financial System. Trading between a few large banks account for most of the market volume.

For much of its history, the foreign exchange market is an over-the- counter (OTC) market, that is, it has no centralized trading place.

The foreign exchange market is made up of a bilateral interbank trading over telephone lines and/or computer terminals, which makes it similar to major bond markets. It is however, gradually shifting to electronic trading. With the aid of the Reuters Screen, for example, quotations for major currencies can be assessed minute by minute and second by second worldwide. The Reuters Screen is a computerized service that matches electronically all submitted buy and sell orders to determine exchange rates. 50 –70% of foreign exchange turnover is now conducted through electronic brokers, mainly EBS and Reuters. (13).

The major centers of the foreign exchange market are London, New York and Tokyo, with London as the hub of its activities. Other important centers are Singapore, Hong Kong and Frankfurt.

The foreign exchange market expanded rapidly with the breakdown of the Bretton Woods System of fixed exchange rates in 1971, and it exploded with the large increase in exchange rate volatility that began in the late 1970s. In 1977, trading volume in New York amounted to less than $5 billion a day. By 1992, it had increased to $192 billion a day. Trading in Tokyo accounted for another $115 billion in 1992, and trading in London, still the center of the world market for foreign exchange, for $300 billion (14)

The most important currency used in the foreign exchange market is the dollar. Even when a transaction involves two currencies other than the dollar, the dollar is still used as the basis of determining the exchange rate between them by computing cross-rates. Other major currencies on the foreign exchange market are the Euro, Pound Sterling(GBP), Yen, Canadian dollar(C$) and the Swiss Franc(SFR).

3.3 PARTICIPANTS IN THE FOREIGN EXCHANGE MARKET

The principal actors in the foreign exchange market are central banks, Commercial banks, firms and governmental agencies involved in International trade, non-bank financial institutions, forex bureaux and individuals.

3.3.1 CENTRAL BANKS

Central banks play a very important role in the foreign exchange market, though the volumes they deal in might not be as huge as that of commercial banks.

A Central bank may intervene in either the spot market (to influence spot market rates) or the forward market (to influence forward rates). A central bank might intervene in the market to buy or sell its domestic currency for the following reasons:

(a) when the government has a policy of fixed exchange rates, intervention would be made to prevent a devaluation of the currency (by buying the currency and selling off some foreign exchange reserves) or a revaluation of the currency (by selling the currency in exchange for foreign currencies);

(b) when the government allows its currency to float, the central bank might still intervene to buy or sell its currency, if the government considers that the exchange rate for the currency has appreciated or depreciated to an unjustifiable level

(c) when the government wants to stabilize the domestic economy, that is, by selling foreign exchange to mop excess liquidity in the domestic currency..

3.3.2 COMMERCIAL BANKS

Commercial banks are the largest single group of dealers in the foreign exchange market. Banks buy and sell foreign currency, which is of course an essential element in international trade. Almost all payments of international trade transactions are effected by banks in different currencies.

Commercial banks deal in foreign currency transactions for a number of reasons. These include:

(i) To execute the instructions of their customers who have deals that involve foreign currency payments or receipts or by moving funds from one foreign currency account to another.

(ii)Banks also deal in foreign currency on their own account. They buy and sell foreign currency to make profit on the spread. They also take positions to profit from exchange rate movements.

(iii)Commercial banks also help traders to eliminate or minimize their foreign exchange exposure by offering them the following services:

(a)Forward exchange contracts

(b)'Pure' or foreign currency options

(c)Swap transactions

(d)Foreign currency borrowing

(e)Foreign currency bank accounts.

3.3.3 PRIVATE AND GOVERNMENTAL INSTITUTIONS

There are other private (especially multinationals) institutions and governmental departments and agencies who also participate in the foreign exchange market through their bankers. This group of participants buy and sell across national frontiers and therefore do receive and pay in foreign currencies. Some of these organizations have Reuters Screens in their offices which assists them in the management of their treasuries.

3.3.4 NON-BANK FINANCIAL INSTITUTIONS

Non-bank financial institutions such as insurance companies, pension funds, mutual funds, investment companies etc. do actively participate in the foreign exchange market in the management of their funds.

3.3.5 OTHERS

(a) Forex Bureaux

These are licensed individuals, companies and financial institutions who are allowed to operate foreign exchange bureaux where the public could buy and sell foreign currencies for their daily transactions in smaller quantities

Though they deal in smaller amounts, forex bureaux nonetheless play a very important role in the foreign exchange market. People who want to change smaller amounts to travel abroad will prefer going to the forex bureaux rather than the banks because the procedures there are more cumbersome.

(b) Individuals (Black Market)

Apart from those legally recognized to deal in the forex market, there are those unauthorized persons(black marketers) whose activities impact significantly in the market as the rates they offer are more attractive than the others, though very risky.

3.4 MAIN TRADING SYSTEMS

There are two main trading systems in the foreign exchange market– Order-driven and quote-driven.

(a) Order-Driven System

Under the Order-driven system, orders are sent to a central location and market prices are derived from the interaction of those order flows. An algorithm matches bids and offers subject to priority rules. There are no price negotiations within this system.

(b) Quote-driven System

Under the quote-driven system, market makers quote prices at which they are willing to buy and sell (bid/offer) up to a certain trade size. Willingness of customers to transact at these quotes determine market prices (exchange rates). The price of very large orders is, however, often negotiated.

3.5 MECHANISM / METHODS USED IN THE FOREIGN EXCHANGE MARKET

There are different methods by which foreign exchange transactions can be carried out. These include spot transactions, outright forwards, foreign exchange swaps, currency options and currency futures.

(a) Spot Transactions And How They Are Quoted.

A spot transaction is executed using the spot exchange rate. A spot rate is a rate quoted immediately, for the delivery of the currency to the buyer two working days later. In practice, it could be earlier.

To ask for the sport rate is synonymous to asking for the exchange rate of a currency. The spot rate forms the basis for all transactions involving the purchase or sale of one currency against another. The spot rate is all important, and quotations for delivery or settlement on dates other than the 'spot' date will be calculated in relation to the base or 'spot' rate.
A bank should expect to make a 'profit' from selling and buying currency, and it does so by offering a rate which is different from the rate for buying the currency. In doing so, if a bank were to buy a quantity of foreign currency from a customer, and then were to resell it to another customer, it would charge the second customer more (in sterling) for the currency than it would pay the first customer. The difference would be profit, or dealer's turn.

Exchange rates are therefore shown as a spread between two prices. The bank's selling and buying prices will be quoted, as currency rates, as follows. For example:

GBP/USD	1.5580 – 1.5590
GBP/Canada $	1.8460 – 1.8470

The GBP/USD means that GBP1 will be bought at USD1.5580 and sold at 1.5590

(b) Outright Forwards and how they are quoted.

A forward exchange contract is an immediately firm and binding contract between two parties for purchase or sale of a specified quantity of a stated foreign currency at a rate of exchange fixed at the time the contract is made for a performance
(i.e. delivery of the currency and payment for it) at a future time which is agreed upon when making the contract. This future time will be either a specific date, or at any time between two specified dates.

Forward exchange contracts allow a trader who know that he will have to buy or sell foreign currency at a date in the future, to make the purchase or sale at a predetermined rate of exchange. The trader will therefore know in advance either how much local currency he will receive (if he is selling foreign currency to the bank) or how much local currency he must pay (if he is buying foreign currency from the bank). The trader therefore protects himself against the risk of adverse currency movements between the time he makes the forward contract and the time he buys or sells the foreign currency some time later.

It should be noted, however, that since a forward contract is a binding one, the trader in our example would lose the opportunity to take advantage of favourable future exchange rate movements.

The forward rate does not pretend to be on estimate of what the spot rate will be on the future date when the contract must be performed, and it will be a matter of coincidence whether the forward rate turns out to be the same as the spot rate on that future date. Infact, a forward price is the spot price ruling on the day a forward exchange contract is made plus or minus the interest differential for the period of the contract.

A forward exchange rate might be higher or lower than the spot rate. If it is higher, the quoted currency will be cheaper forward than spot. On the other hand, if the forward exchange rate is lower than the spot rate, the quoted currency will be more expensive forward than spot.

If the forward rate for a currency is more expensive than the spot rate, it is quoted at a PREMIUM on the spot rate; if the forward rate is cheaper, then it is quoted at a DISCOUNT.

Interest rate differentials tend to equal forward premiums or discounts. This normally takes place through covered arbitrage, which equalizes the effective interest rates between two currencies. i.e.

INTEREST RATE DIFFERENTIAL = FORWARD PREMIUM/DISCOUNT

The basic relationship between interest rate and forward exchange rate is shown as follows:

$$F = S^* \frac{(I+if)}{(I+id)}$$ where,

id = Interest rate of domestic currency

if = Interest rate of foreign currency

F = Forward exchange rate

S = Spot exchange rate.

As a rule of thumb,

(1) The currency at the higher interest rate will be at a discount to the lower rate currency, that is, it will require more of the quoted currency to purchase the same amount of the foreign currency (i.e. the quoted currency is said to be depreciating)

(2) Conversely, the currency at the lower interest rate will be at a premium to the higher rate currency, that is, it requires less of the quoted or domestic currency to purchase the same amount of the foreign currency(i.e. the quoted currency is said to be appreciating)

(3) If the interest rates are the same, the forward rate is at par, or equal with the spot.

Let us consider an example a 3-month forward rate. The spot rate between the euro and the dollar is EUR/USD =1.23. Let us assume that the 3-month LIBOR rates for the euro and dollar are 2% and 1% respectively.

$$\text{Forward Rate} = 1.23 \times \frac{(1+0.01 \times 90/360)}{(1+0.02 \times 90/360)}$$

EUR/USD = 1.2269.

© Currency Swaps

A currency swap is an exchange of interest (and principal) payments in one currency for interest (and principal) payments in another currency. In recent times swap transactions have expanded to cover capital market currency swap, which 'is an exchange of two streams of cash flows in different currencies'(18).The interest payments can be either fixed-fixed, fixed-variable or variable-variable. In a currency swap where we have fixed-fixed rate, the two interest rates are quoted at the commencement of the transaction.

The situation arises where, for example, two companies from different countries want to borrow the local currency of the other company. As each company can borrow relatively more cheaply in its own country, because it is better known to investors at home, the two companies would borrow in their currencies and swap the principal and interest repayments. It should be noted, however, that a swap transaction can be carried out by two companies in the same country.

The table below shows flows of a swap transaction between the EUR and USD for a borrower in dollar at 4%, and a lender in Euros at 5%, the exchange rate being EUR/USD=1.2

	(A)	(B)
Initial Principal	EUR 100,000,000	USD 120,000,000
Annual Interest	USD 4,800,000	EUR 5,000,000
Final principal	USD 120,000,000	EUR 100,000,000

In the table above, company A needs US dollars while company B needs euros. Company A can borrow euros at an advantageous interest rate while company B can also borrow dollars at a lower rate. A borrows 100,000,000 euros while B borrows 120,000,000 dollars(i.e. the equivalent of EUR100,000,000). The two companies then swap the principal amounts. A then pays the principal and interest on the dollar loan while B pays the principal and interest on the euro loan.

Swap deals are used by banks as a technique for balancing their position and avoiding foreign exchange exposure. Other dealers also use swap deals to hedge against foreign exchange risk and also to borrow at relatively lower interest rates.

(d) Currency (Pure) Option

A currency option is an instrument, which gives its buyer the right, but not an obligation, to buy or sell a quantity of a foreign currency at a specified rate of exchange (the exercise price) within a certain limited time or at the end of that time. For example, a company might take out an option to buy US $400,000 at CFA 560 in three months and the cost of the option might be $10,000. Because it is an option, the company does not have to buy the currency when the time comes, but it can if it wants to. In other words, after three months, when the position unwinds; the company can either exercise the option and buy US $400,000 at CFA 560, or let it go and do nothing. The cost of the option, also known as premium or front- end payment, is the down side loss if the option is not exercised.

Types of Currency Options

There are two types of options:

(i) Call options – They give the buyer of the option the right to buy the underlying Currency at a fixed rate of exchange (and the seller of the option would be required to sell the underlying currency at that rate).

(ii) Put options – They give the buyer of the option the right to sell the underlying currency at a fixed rate of exchange (and the seller of the option to buy the underlying currency at that rate)

Options can also be said to be either American or European. An American option permits the holder to exercise at any time before the expiration date of the option while an European option permits the holder to exercise only on the expiration date.

The purpose of foreign currency options

The purpose of foreign currency options is to reduce or eliminate exposure to currency risks, and they are particularly useful for companies in the following situations:

(i) where there is uncertainty about foreign currency receipts or payments, either in timing or amount.

(ii) to support the tender for an overseas contract, priced in a foreign currency.

(iii) to publish price lists for its goods in a foreign currency.

(iv) to protect the import or export of price sensitive goods, if there is a favourable movement in exchange rates options allow the importer/exporter to profit from the favourable change.

Fisher Black and Myron Scholes developed a formula for computing the value of a European call option (C) and put option (P) on a non-dividend paying share in 1973.

The formula is given as:

$C = S\,[N(d1)] - Ke^{-RT}\,[N(d2)]$

$P = Ke^{-RT}\,N(-d2) - SN\,(-d1)$

Where:

S is the share price today.

K is the exercise price of the option.

T is the time to expiration of the option.

N(d1) is the probability that a normally distributed random variable with mean of zero and standard deviation of 1 is less than d1, and
$d1 = [\log_e(S/K) + (R+\sigma^2/2)T]/\ \sigma T^{0.5}$
Where, R is risk-free interest rate and 0 is the volatility of the share as measured by its standard deviation.

N(d2) is the probability that a normally distributed random variable with mean of zero and standard deviation of 1 is less than d2, and
$d2 = d1 - \sigma T^{0.5}$

Note that Ke^{-RT} represents the present value of the exercise price if interest is compounded continuously.

(e) **Currency Futures**

Futures in a foreign exchange rate are contracts to buy or sell a quantity of a foreign currency at a future date. They are therefore like forward contracts, unlike forward contracts, however,

(i) they can be reversed quite simply

(ii) they are for fixed amounts of currency

(iii) they are traded on a formal exchange

(iv) traders in futures have to put up margin moneys

Financial futures in foreign exchange rates are traded on some formal Futures Exchanges, such as those in Chicago and since 1982, London. Traders in foreign exchange rate futures are dealers in large sums of money (often banks) seeking a way of hedging against exchange risks.

3.6 CROSS- RATES

A cross-rate is a rate which prices one currency (of county A) in terms of another currency (of county B) but in a dealing center of a third county (county C).

A cross-rate deal enables a dealer in the county C who wishes to:

(i)sell currency of county A and

(ii)buy currency of county B; which

(iii)have an equal value in terms of the currency of county C to arrange the buying and selling in a single transaction, instead of in two separate transactions.

Cross-rates can be read from a Reuters screen or computed from quoted rates (see Annex).

3.7 EFFICIENCY OF THE FOREIGN EXCHANGE MARKET

A market is said to be efficient if information is widely and cheaply available to investors and that, all relevant and ascertainable information is already reflected in security prices (15). That is why purchases or sales in an efficient market cannot be positive – NPV transactions. An efficient market also means 'an equilibrium price, which incorporates all the information available to investors at that time" (16)

Price changes in an efficient market are said to follow a random walk'. If prices always reflect all relevant information, then they will change only when new information arrives. But new information by definition cannot be predicted ahead of time and therefore price changes cannot be predicted ahead of time. To put in another way, if stock prices already reflect all that is predictable, then stock price changes must reflect only the unpredictable. The series of price change must be random" (16).

Harry Roberts has defined three levels of market efficiency(17). The first is the case in which prices reflect all information contained in the record of past prices. This is called a weak form of efficiency.

The second level of efficiency is the case in which prices reflect not only past prices but all other published information. This is semi strong form of efficiency.

The third level is the strong form of efficiency in which prices reflect not just public information but all the information that can be acquired by painstaking analysis of the company and the economy

The critical question to answer is whether the foreign exchange market is efficient. We find strong empirical support for the role of arbitrage in global financial markets ,and for the view that exchange rates exhibit behaviour that is characteristic of other speculative asset markets .Exchange rates react quickly to news. Rates are far more volatile than changes in underlying economic variables ; they are moved by changing expectations , and hence are difficult to forecast . In a broad sense they are 'efficient,' but tests of efficiency face inherent obstacles in testing the precise nature of this efficiency directly

CHAPTER FOUR

4.0 FOREIGN EXCHANGE RISK AND ITS MANAGEMENT.

4.1 INTRODUCTION

Foreign exchange risk is the effect that unanticipated exchange rate changes have on the value of the firm. This chapter explores the impact of currency fluctuations on assets and liabilities and on the real business of the firm. We will first identify the type of exchange rate risk that a firm faces and what hedging or exchange risk management strategy(strategies) a firm should employ.

4.2 DEFINITION OF FOREIGN EXCHANGE RISK (EXPOSURE)

Foreign exchange rate risk is usually broadly defined as the risk that a company or a firm's performance or operations will be affected by exchange rate fluctuations or movements. In other words, it is ' a potential gain or loss that occurs as a result of an exchange rate change'(9).

4.3.0 TYPES OF FOREIGN EXCHANGE EXPOSURE

Foreign exchange exposure can be categorized into three viz:

(a) Transaction Exposure

(b) Economic Exposure

(c) Translation Exposure

4.3.1 TRANSACTION EXPOSURE AND ITS MANAGEMENT

This measures the degree to which the value of future cash transactions is affected by exchange rate fluctuations. Transaction exposure has to do with the currency of denomination of assets like accounts receivables or payable.

The value of a firm's cash inflow or outflow in various currencies is affected by respective exchange rates when converted into the desired currency. Large swings in exchange rates or currency values can be devastating to firms, which rely heavily on international trade for inputs. Thus a depreciation in the value of the home currency is an advantage for exporters but disadvantage to importers.

To measure transaction exposure, it is necessary to:

(i) Determine the projected net amount of inflows or outflows in each foreign currency

(ii) Determine the overall exposure to those currencies

How to manage Transaction Exposure .

Transaction exposure can be eliminated or minimized by using the following strategies:

(a) Futures contracts

(b) Forward contracts

(c) Currency options

(d) Money market hedge

(e) Currency swap

When a perfect hedge is not available (or too expensive) to eliminate transaction exposure, firms should consider the following alterative methods:

(a) Leading and Lagging: Process of accelerating (leads) or slowing up (lags) foreign exchange payments (and/or receipts) when a change in exchange rates is thought to be about to happen.

(b) Currency diversification

4.3.2 ECONOMIC EXPOSURE

This refers to the degree to which a firm's present value of future cash flows can be influenced by exchange rate fluctuations.

Transactions requiring conversion of currencies and reflecting transaction exposures, are exports in foreign currency, interest received from foreign investments, imports denominated in foreign currency and interest owed on foreign loans. Fluctuations in foreign exchange rates would therefore affect these transactions.

Economic exposure has a devastating effect on firms, which import most of their inputs or are import based. Depreciation of the local currency would increase economic exposure and it is better for export firms, whereas an appreciation of the local currency will decrease the economic exposure and local firms become more profitable.

Domestic firms, which transact business in local currencies only, though not subject to transaction exposure, are, however, subject to economic exposure when there is an

increase in foreign competition on the local market due to depreciation of the home currency.

Steps in managing Economic Exposure

The following steps may be followed in managing economic exposure:

(1) Estimation of planning horizon as determined by reaction period.

(2) Determination of expected future spot rate.

(3) Estimation of expected revenue and cost streams, given the expected spot rate.

(4) Estimation of effect on revenue and expense streams for unexpected exchange rate changes.

(5) The selection of appropriate currency for debt denomination.

(6) Estimation of necessary amount of foreign currency debt.

(7) Determination of average interest period of debt.

(8) Selection between direct and indirect debt denomination.

(9) Decision on trade-off between arbitrage gains versus exchange risk stemming from exposure in markets where rates are distorted by controls.

(10) You make a decision about residual risk:

Consider adjusting business strategy. Subsequently, the effects on the various cash flows of the firm must be netted over product line and markets to account for diversification, wholly or in part.

4.3.3 TRANSLATION EXPOSURE

It measures the risk multinational firms, especially those which have subsidiaries in other countries, face from exchange rate fluctuations when consolidating their financial statements. Translation exposure has to do with the location of the assets. For firms which transact in foreign currency, translation exposure is very relevant.

The main determining factor of the degree of translation exposure are:

(i) The degree of foreign involvement by foreign subsidiaries.

(ii) The location of foreign subsidiaries.

(iii) The accounting method in vogue.

How to manage translation exposure

Translation exposure can be eliminated by the following hedging strategies.

(a) Forward contracts

(b) Futures contracts.

Factors that militate against the effectiveness of hedging strategies to eliminate translation exposure are:

(a) Inaccurate earnings forecast.

(b) Inadequate forward contracts for some currencies.

(c) Accounting distortions.

4.4 MEASURING EXCHANGE RISK EXPOSURE

Once the sources of risk to a firm have been identified and classified into firm specific or market risk, the firm's exposure to these sources of risk can be measured.

Measurement Devices

Many firms approach this issue subjectively, by examining the type of business in which they are operating and postulating the effects of changes in macroeconomic variables on their cash flows and value.

Other approaches are available that provide not only a sense of the relationship but also quantitative measures of it. These approaches include Accounting measures, Monte Carlo Simulations, Analytical Measure, and Regression using historical data (Reference)

The Accounting Measure Method

Basically, the departure point for the information is the company's account. Accounts receivables and short term financial claims grouped by currency indicate the firm's long position whereas account payables and short term financial liabilities grouped by currency indicate the firm's short position. For accounting purposes, the definition of net exposure is **exposed assets minus exposed liabilities,** provided that the accounting information is complemented by the expected cash flows resulting from decisions that have been made or are likely to be made. But as stressed by E. Clark and B. Marois (1996), cash flows from

non-commercial transactions (dividend payment and debt amortization) must also be considered.

The assessment of the company's currency exposure requires mastery of all the firm's decision-making circuits. Infact, more than a mere accounting issue, currency exposure reflects the company's economic position in foreign exchange, hence the necessity of economic measures.

Monte Carlo Simulation

This is a process in which repeated draws are made from the distributions of the variables underlying an analysis (such as a project or valuation) with the intent of deriving a distribution of the output variable (such as NPV or value). The firm's cash flows or values are analyzed as a function of changes in specific macroeconomic variables such as interest rates, exchange rates and inflation rates.

The steps involved in such a simulation are:

(1) Model the firm's cash flows or value as a function of the macroeconomic variables being analyzed. This can be done analytically, through a discounted cash flow model or with the help of historical data.
(2) Specify a distribution for each of the macroeconomic variables. For instance, for exchange rates, provide a distribution for the level of rates in a future period, based on historical experience.
(3) Draw one outcome from each macroeconomic distribution and calculate the firm's cash flows and value, given that outcome.
(4) Repeat the process numerous times, obtaining cash flows and value each time.
(5) Examine how value changes as a function of changes in the specified macroeconomic variable (19)

Analytical Measure

This approach to estimating risk exposure is analytical. If a firm value or cash flows can be modeled as a function of a macroeconomic variable, it is possible to estimate the sensitivity directly from the model.

This approach is best suited for bond analysis. Since our study does not cover this area, we will not go into any further details.

Regression using historical data

This approach to measuring exposure draws on historical data on firm Value, cash flows, and macroeconomic variables. Here, past changes in firm or cash flows are regressed against past changes in a macroeconomic variable to obtain a measure of the sensitivity to that variable.

Thus the sensitivity of firm value to exchange rate movements is estimated as follows:

Δ Firm Value t $= a + b \Delta$ Exchange Rate t

Where,

Δ Firm Value t = Percentage change in firm value in period t

Δ Exchange Rate t = change in exchange rate in period t

The slope coefficient in the regression, b , becomes a measure of the exposure of firm value to changes in exchange rates.

4.5 SHOULD FIRMS MANAGE FOREIGN EXCHANGE RISK ?

Many firms refrain form active management of their foreign exchange exposure even though they understand that exchange rate fluctuations can affect their earnings and value. They make this decision for a number of reasons.

(1) Management does not understand it and as such does not see the need for it.

(2) They claim that exposure cannot be measured.

(3) They say that the firm is hedged because all transactions such as imports or exports are covered. This ignores the fact that the bulk of the firm's value comes from transactions not yet completed, so that transactions hedging is a very incomplete strategy.

(4) It is also argued that the firm does not have any exchange risk because it does all its business in local currency. But a moment's thought will make it evident that even if you invoice German customers in cedis, when the euro drops your prices will have to

adjust or you'll be undercut by local competitors. So revenues are influenced by currency changes.

(5) Modern principles of the theory of finance suggest prima facie that management of corporate foreign exchange exposure may neither be an important nor a legitimate concern. It has been argued, in the tradition of the Modigliani – Miller Theorem, that the firm cannot improve shareholder value by financial manipulations; specifically investors themselves can hedge corporate exchange exposure by taking out forward contracts in accordance with their ownership in a firm. Managers do not serve them by second-guessing.

(6) Another line of reasoning suggests 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, and between interest rates and exchange rates usually referred to as the International Fisher Effect..

Though the above arguments supporting the 'do nothing' philosophy in respect of exchange rate risk management seem reasonable, measuring and managing a firm's exposure is very relevant.

Modern research in finance supports the reasoning that earnings fluctuations that threaten the firm's continual viability absorb management and creditors' time, entail out-of-pocket cost such as legal fees, and create a variety of operating and investment problems.

Exchange rate risk also has an effect on the amount of taxes that a company pays. Borrowing helps reduce the amount of taxes that a firm pays because interest payments are tax deductible. But the extent to which a firm can increase leverage is limited by the risk and cost of bankruptcy. A riskier firm, perhaps one that does not hedge exchange risk, cannot borrow as much. It follows that anything that reduces the probability of bankruptcy allows the firm to take on greater leverage, and so pay less taxes for a given cash flow. If foreign exchange hedging reduces taxes, shareholders benefit from hedging.

From the above arguments, it is clear that firms stand to benefit by managing their foreign exchange risk.

4.6.0 TOOLS AND TECHNIQUES FOR THE MANAGEMENT OF FOREIGN EXCHANGE RISK.

Exchange rate fluctuations bring about variability in the value of expected cash flows. So foreign exchange exposure or risk might bring extra profits or losses. But being exposed in a currency does involve a gamble, and most businessmen would prefer not to let their company's profits or losses hinge on a gamble if they can avoid it. Hence businesses look for ways of minimizing or eliminating entirely their foreign exchange exposure, so that they can plan their businesses and foresee their profits with greater confidence. They can do this by employing any of the under-listed tools and techniques:

(a) Foreign currency deposits (Accounts)
(b) Forward contracts
(c) Foreign Currency Swaps
(d) Currency options
(e) Currency futures
(f) Leads and Lags

4.6.1 FOREIGN CURENCY DEPOSITS (ACCOUNTS)

A firm might maintain an account in a foreign currency (say, US dollars) as well as an account in the local currency. This may be advisable where the customer regularly receives and pays out money in that currency. To avoid the costs of buying and selling the foreign currency, and to provide protection against adverse movements in the foreign exchange rate between the local currency and the foreign currency, the customer might open and maintain such an account. Many institutions (especially banks) have many foreign currency accounts where they match foreign currency receipts and payments and move funds form one account to another as a way of minimizing or eliminating exposure in those currencies.

4.6.2 FORWARD CONTRACTS

A forward exchange contract is an immediately firm and binding contract between two parties for the purchase or sale of a specified quantity of a stated foreign currency at a rate of exchange fixed at the time the contract is made for performance (i.e. delivery of the currency and payment for it) at the future time which is agreed upon when making the contract. This future time will be either a specified date, or any time between two specified dates.

It is worth stressing the point that once entered into, a forward exchange contract is binding. The bank must insist on the customer honouring his forward exchange contract, because if he does not, it will leave the bank itself exposed in the currency. 'When a bank enters into a firm commitment either to buy or sell foreign currency to a customer on a future date the bank enters into a commitment not only with the customer but in the foreign exchange market itself. This means that the bank will cover any forward contract deal it makes with a customer or a number of customers in the foreign exchange market by balancing out all its own commitments. The dealer's 'position' at the end of any particular day or period should always be square. This means that sale and purchases balance out. If for any reason the customer is unable to complete the terms of the contract the bank will, nevertheless, have to complete the terms of the contract it has arranged in the market. The bank, therefore, has to ask the customer to honour the terms of his commitment..' (Banking World: February 1984).

A forward exchange contract may be either forward fixed or forward option.

(a) 'Fixed' means that performance of the contract will take place on a specified date in the future.

(b) 'Option' means that performance of the contract may take place, at the option of the customer, either.

    (i) At any date from the contract being made up to and including a specified final date for performance; or

    (ii) At any date between two specified dates, both in the future.

USES OF FORWARD EXCHANGE CONTRACTS

(1) To hedge against possible losses due to future fluctuations in foreign exchange rates (Importers, exporters, manufacturers and investors).

(2) To price a commodity in advance.

(3) For speculative trading.

Example Of The Use Of Forward Exchange Contract As A Hedge.

Let us assume that a Beninois bank has a position to cover by buying $1,000,000 in 3 month's time (01/12/04). The USD/CFA today (01/09/04) is 534. 22. the 3 –month forward contract rate between the dollar and the CFA is 550.

(a) If the bank decides to hedge its position by buying the dollars forward, the cost to it will be 1,000,000*550 =CFA 550,000,000.

(b) Assuming the spot rate on 01/12/04 turns out to be 600. The cost of $1000,000 will be 1,000,000* 600.00 = CFA 600,000,000.

(c) Assuming the spot rate on 01/12/04 turns out to be 520.00, the cost of the transaction will be $,1000,000x520= 520,000,000.

From the above example, it would be noted that the cost of the transaction to the bank with a hedge is lower than in the second situation where the CFA depreciated to 600.

Though the bank could have paid less as in scenario C, many businessmen would not like to leave their businesses to speculation. Using forward contracts therefore protects dealers in foreign exchange against uncertainties.

4.6.3 FOREIGN CURRENCY SWAPS

A currency swap is an exchange of interest (and principal) payments in one currency for interest (and principal) in another currency.

The use of currency swaps enables the parties involved to reduce their cost of borrowing. A typical example might involve two corporations in two different countries – for example, International Computers (IC) in the USA and Naganishi in Japan. IC wishes to build a lab in Japan and Naganishi wishes to build an automobile assembly plant in the USA. Each company needs funds in the currency of the country in which the investment is to be made. However, each company can borrow relatively more cheaply in its own currency, because it is better known to investors at home. A swap enables each to cut its borrowing cost while obtaining the funds in the currency it needs.

This is how it works, IC sells bonds in the USA for dollars and Naganishi sells bonds in Japan for an equivalent amount of Yen. The two corporations then exchange the proceeds of the two issues. IC gets the yen and Naganishi, the dollars. Then, for the life of the two loans, IC pays interest and principal on the Yen bonds originally sold by Naganishi, and

Naganishi pays interest and principal on the dollars bonds originally sold by IC. In this way, each company can borrow where its cost is least, while still gets funds in the currency it needs.

4.6.4 CURRENCY (PURE) OPTIONS

A currency option is an instrument which gives its buyer the right, but not an obligation, to buy or sell a quantity of a foreign currency at a specified rate of exchange (the exercise price) within a certain limited time or at the end of that time.

Option contracts are normally used to cover whole months straddling the likely payment date, where the customer is not sure of the exact date on which he will want to buy or sell the currency.

The purpose of an option contract is to avoid having to renew a forward exchange contract and extend it by a few days, because extending a forward contract can be rather expensive in terms of cost per day.

Option contracts are also very useful when the option buyer is uncertain about future exchange rate movements. If within the option period there are favourable exchange rate movements, he will take advantage of this by either exercising the option or by allowing it to elapse.

Example of the use of an option

Suppose Cesag Company Ltd., a British company, has been invited to put in a tender for a contract in Senegal. The cost of the contract is GBP1,850,000 but it prices it at GBP2 million. With the exchange rate between the GBP and FCFA being 969.50, it puts in a bid of FCFA 1.939 billion. The contract will not be awarded until after six months.

There are two 'worse possible' scenarios.

(a) Casag Ltd decides to hedge against the currency risk, and on the assumption that it will be awarded the contract in six months' time, it enters into a forward contract to sell the FCFA1.939 billion in six months' at a rate of FCFA969.50=GBP1

As it turns out, the company fails to win the contract and so it must buy FCFA 1.939 billion spot to meet its obligation under the forward contract. The exchange rate has changed by now, say to FCFA 865.50 = GBP1

At the outset:

Cesag sells FCFA 1.939 billion forward at FCFA 969.50 to GBP1 = 2,000,000

Cesag buys FCFA 1.939 billion spot to cover the hedge at FCFA 865.50 =(2,240,323.51)

Exchange loss on close out of forward contract = (240,323.51)

(b) Alternatively, Cesag Ltd might decide not to make a forward exchange contract at all, and to wait and see what happens.

As it turns out, Cesag might be awarded the contract six months later, but by this time the value of the FCFA might have fallen, say, to CFA 1108 = GBP1, when Cesag then sells FCFA receipts at the spot rate .

Cesag wins the contract for FCFA 1.939 billion, which has a sterling value of (FCFA 1108 = GBP1)	(1,750,000)
Cost contract	(1,850,000)
Loss on contract (Exchange Loss)	(100,000)

A currency option, for a certain cost, would eliminate these risks for Cesag. When it makes its tender for the contract, Cesag might purchase a currency option to sell FCFA 1.939 billion in six months time at FCFA 969.50 to GBP1 at a cost of, say, GBP40,000.

The worst possible outcome for Cesag Ltd. is a loss of GBP40,000

(a) If the company fails to win the contract, Cesag will abandon the option (unless the exchange rate has moved in Cesag's favour and the FCFA has weakened against sterling so that the company can make a profit by buying FCFA 1.969.50 =GBP1)

(b) If the company wins the contract and the exchange rate for the CFA has weakened against sterling, Cesag will exercise the option and sell the FCFA at 969.50.

	GBP	GBP
Proceeds from selling FCFA 1.939 billion		2,000,000
Cost of contract	1,850,000	
Cost of Currency option	40,000	1,890,000
Net profit		**GBP 110,000**

From the above analysis, it can be concluded that options are very useful tools for managing foreign exchange risk. With options, one can determine his maximum loss while his gains can be limitless.

4.6.5 CURRENCY FUTURES

Futures in foreign exchange rate are contracts to buy or sell a quantity of a foreign currency at future date. Futures contracts are for standardized amounts and in terms of delivery dates. The normal currency futures delivery dates are March, June, September and December. Futures are traded in organized exchanges such as London International Financial Futures and Options Exchange (LIFFE), SIMEX in Singapore and the IMM in Chicago.

With currency futures, cash changes hands every day during the life of the contract, or at least every day that has seen a change in the price of the contract. The daily cash compensation largely eliminates default risk.

4.6.6 FOREIGN CURRENCY INVOICING

One way of avoiding exchange risk is for an exporter to invoice his foreign customer in his domestic currency, or for an exporter to arrange with his foreign supplier to be invoiced in his domestic currency.

However, although either the exporter or the importer can avoid any exchange risk in this way, only one of them can deal in his domestic currency. The other must accept the exchange risk since there will be a period of time elapsing between agreeing on a contract and paying for the goods.

CHAPTER FIVE

5.0 MANAGEMENT OF FOREIGN EXCHANGE RISK AT ECOBANK, GHANA LTD.

INTRODUCTION.

Ecobank Ghana Limited (EBG) comprises the Bank and three wholly owned subsidiaries: Ecobank Investment Managers Limited, Ecobank Stockbrokers Limited and EcobankLeasing Company Limited. EBG is a subsidiary of Ecobank Transnational Incorporated, a bank holding company incorporated in 1985 in the Republic of Togo which has eleven other subsidiaries strategically spread across West and Central Africa. EBG was licensed in March 1985 as a merchant bank With seven (7) branches in three regions in Ghana, the Bank has now been licensed to do universal banking.

EBG deals in different foreign currencies. The exchange rates of these currencies do fluctuate from time to time against the cedi (the local currency). These exchange rate volatilities do have an impact, either positively or negatively, on the profitability of the Bank

In this chapter, we shall try to identify the various types of risks that EBG faces, the various sources of exchange rate risk and their effects on the profitability of the Banks and how the Bank manages these risks.

5.1 DEFINITION OF RISK

Risk is the variability of actual returns from expected returns. Risk is uncertainty that has an impact on the health of any bank or institution, Ecobank not an exception.

5.2 TYPES OF RISKS THAT ECOBANK GHANA, LTD FACES

EBG, like any other financial institution, faces different types of risks in the cause of its operations.

Risk can be grouped into two broad headings – Business risk and financial risk

.

Business Risk:- This covers those risks arising from manufacturing and marketing products and services

.**Financial Risks:-** Those risks arising from unexpected movements in currencies, interest rates, commodities, and equities. Financial risk can be subdivided into :

a) Market Risk – Uncertainty related to changes in value or liquidity of financial instruments

.**b) Credit Risk:** - The risk that a borrower might default on a promised payment.

c) Operational Risk: – Uncertainty related to losses resulting from inadequate systems or controls, human error, management failure etc

.**d) Legal Risk:** – This is uncertainty regarding the possibilities that a contract cannot be enforced

.**e) Exchange Rate Risk: -** This is the uncertainty created in expected cash flows in domestic currency, as a result of unanticipated changes in currency rates.

Our concern in this chapter, however, will be based on exchange rate risk and its management in EBG.

5.3 EXCHANGE RATE RISK AT ECOBANK GHANA LTD

EBG deals in different foreign currencies. These are the US dollar(USD), pound sterling(GBP), euro(EUR), FCFA, Japanese yen(JPY), Swiss Franc(CHF), South Africa Rand (ZAR), Nigerian Naira (NGN), Canadian dollar (CAD), Danish Kronner (DKK) and the Norwegian Kronner (NOK).

The main transactions that EBG effects which involve foreign exchange are trade finance, foreign transfers and foreign exchange trading. The principal departments which initiate the above – mentioned transactions are:

(i) Institutional Banking Department: This department holds the accounts of large Institutional clients, some of which do have forex and foreign exchange accounts. These clients do instruct the Bank to effect transfers on their behalf, sell foreign currencies to or buy foreign currencies from the Bank

.

(ii) Commercial Banking Department: It handles the accounts of small and medium scale enterprises involved in manufacturing, trading etc. These customers sometimes import and also export their products. In their dealings with the Bank, these clients do call on the Bank to buy or sell foreign currencies and effect foreign transfers on their behalf.

(iii) Customer Banking Department: It holds accounts for individual clients, alternatively called personal accounts holders. Some of these individuals have foreign accounts through which they effect different transactions. Others also authorise the Bank to debit their cedi account to buy foreign currencies to pay for their bills (e. g wards' school fees, medical and other travel expenses among others).

(iv) Trade Finance Department: It is one of the most important departments whose activities have a tremendous impact on the foreign exchange transactions of the Bank. It establishes letters of credit for customers, makes and receives foreign exchange payments on behalf of its clients in respect of imports and exports. It also effects different types of foreign exchange transfers on behalf of its customers

.

(v) Branches: All the seven (7) branches of the Bank do hold foreign exchange accounts for their clients through which they receive and make payments in foreign currencies. They also sell and buy foreign currencies from the public. These transactions impact significantly on the Bank's foreign exchange position

.

(vi) Treasury Department: This is the hub of the foreign exchange operations. It is the department that manages the Bank's foreign exchange position .

Any department that initiates a transaction which involves the payment of foreign currency first contacts the Treasury Department for approval. This is so because it is the Treasury Department that keeps and manages the foreign currency reserves of the Bank. The department on its own also trades on the foreign exchange market. It buys and sells foreign currencies with the view to making profit. It also moves funds from one foreign account to another as part of its foreign exchange risk management functions.

The effect of the activities of the departments enumerated above is that it either increases or reduces the foreign currency reserves of the Bank.

5.4 ANALYSIS OF THE EFFECT OF EXCHANGE RATE FLUCTUATIONS ON ECOBANK

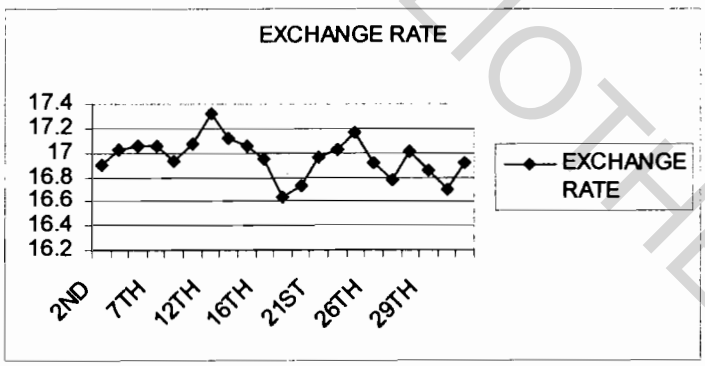
In its dealings, the Bank faces exchange rate fluctuations. These fluctuations affect the profitability of the Bank. The magnitude of the effects of these exchange rate volatilities depends on the size of the foreign currency that the Bank is holding at any given time. This is generally referred to ass the bank's "POSITION". There are three types of positions- Long, short and square. We have positions in individual currencies as well as a consolidated position .

The graphs below show exchange rates movements of the cedi against the FCFA and Euro

Exchange rate movements of the cedi against the CFA in January 2004.

CFA/GHC

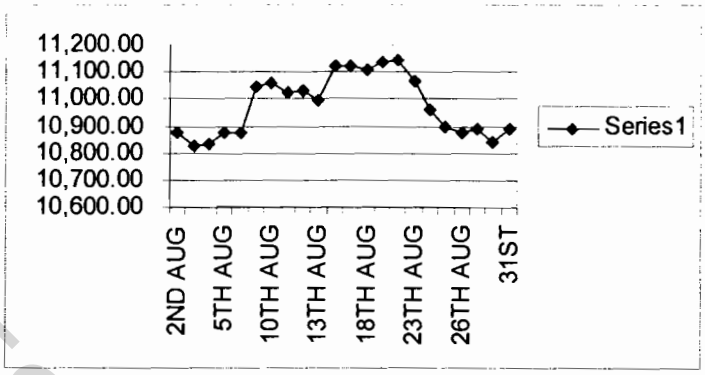
(i)



Period

Exchange rate movements of the cedi against the euro for August 2004

(ii) EURO/GHC



Exchange Rate

Period

(Source: Ecobank Ghana Ltd)

The two graphs above show that EBG operates in an environment characterised by foreign exchange rate volatility.

5.4.1 Long Position:

"This arises when a dealer purchases more of a currency (spot or forward) than he requires for his selling needs. It is therefore an 'overbought' position, with assets exceeding liabilities in the currency'' (18)

A long position can arise when, for example, a customer informs the bank that it wants to buy a certain quantity of a foreign currency and the bank arranges to purchase that currency immediately. Meanwhile the customer decides not to go ahead with the transaction. This leaves the bank with a long position.

A long position can also arise through a deliberate action by the bank to buy more of a currency to take care of a specific transaction (s) or for speculative purposes to make profit.

A long position can be illustrated as follows (FCY Asset + FX Bought)> (FCY Liabilities +FX Sold) where,

FCY= Foreign currency

FX = Foreign exchange

When a bank is long, an appreciation of the currency (currencies) will give it an exchange gain. On the other hand, a depreciation will cause the bank to have an exchange loss. Let us consider practical examples in EBG. The exchange rate between the cedi and the FCFA on 24/03/2004 was FCFA1= GHC16.77 while the Bank was FCFA 204,630,306.20 long. The following day (25/03/2004), the FCFA depreciated to GHC16.55 =FCFA1. With an exchange rate of FCFA1 = GHC16.77, this gives a cedi equivalent of GHC3,431,650,235.00. With a depreciation of the FCFA to FCFA1 = GHC16.55 on 25/03/04, the value of the CFA stock was GHC3,386,631,568.00 This gives an exchange loss of GHC45,018,667.39 (3,431,650,235- 3,386,631,568 = 45,018,667.39)

5.4.2 Short Position

When a dealer has bought less of a currency (spot or forward) than he requires for selling needs, he is taking a 'short position.' He is therefore 'under bought or 'oversold' with liabilities exceeding assets in the currency. This is illustrated as follows:
(FCY Assets+ FX Bought)< (FCY liabilities + FX Sold)

A bank may decide to go short for the following reasons:

a) To trade and make profit.
b) To meet a specific urgent transaction for a valued customer.
c) The bank may also go short when it expects the foreign currency to depreciate.

Let us consider the following practical example for EBG. The exchange rate between the Euro and the cedi on 09/01/2004 was EUR1 = GHC11,201.70. The Bank was short in Euro by 2,482.02.

The Euro appreciated the following Monday (12/01/2004) to EUR1 = GHC11,359.55. The cedi equivalent of this amount on 09/01/2004 was GHC27,802,843.43 oversold position. With an appreciation of the Euro, the cedi equivalent of the same amount of euros which the Bank had to buy was GHC28,194,630.29, giving the Bank an exchange loss of GHC391,786.81 (28,194,630.29 – 27,802,843.43). There is evidence that the Bank

actually bought the Euros to cover its position as the Bank went long on 12/01/2004 by EUR 54,487.06.

From the above example, it can be concluded that with a short position in a foreign currency, a depreciation of the local currency (an appreciation of the foreign currency) brings a loss to the Bank while an appreciation of the local currency brings an exchange gain.

5.4.3 Square Position

This occurs where a dealer has his purchases and sales in balance and he therefore has no position, long or short. This position does not have any effect on the Bank when there are exchange rate changes.

5.4.4 An Open Position

This refers to either a long or short position. Either of these positions can effect the fortunes of the Bank depending on which direction exchange rates move.

RESULTS OF HYPOTHESIS TEST

The tests above have shown that Ecobank Ghana Ltd has on a number of occasions incurred exchange losses when there were adverse exchange rate movements. The null hypothesis has been confirmed that Ecobank Ghana Ltd incurs losses when there are unfavourable exchange rate movements.

5.5 HOW ECOBANK MANAGES ITS FOREIGN EXCHANGE RISK

EBG, cognisant of the effects of exchange rate volatilities, has devised strategies aimed at minimising, if not eliminating completely, the adverse effects of exchange rate movements.The following are some of the strategies EBG uses to manage its foreign exchange risk:

5.5.1 A) LIMITS ON FOREIGN EXCHANGE POSITION IN VARIOUS CURRENCIES

The bank has set limits on positions for various currencies within which the dealers must operate. Having a large position (either long or short) in a particular currency can have a

devastating effect on the Bank if there should be wild adverse exchange rate fluctuations. In the light of this, the Bank has set the following limits for major currencies it deals in.

CURRENCY	OVERBOUGHT	OVERSOLD
EUR	5,000,000	2,000,000
GBP	1,000,000	500,000
USD	5,000,000	2,500,000
FCFA	500,000,000	300,000,000

There are also dealer limits which restricts the dealer to trade up to the limit set for each currency.

5.5.2 B) OBSERVATION/STUDY OF EXCHANGE RATE MOVEMENTS

Another strategy the Bank uses to manage its foreign exchange risk is by studying the market to form an opinion on the likely direction of future exchange rate movements. Based on this, the Bank decides how much of a particular currency it should hold. If, for example, the Bank thinks a particular currency will appreciate in the near future, it will buy more of that currency now to profit later from the appreciation. On the other hand, if the Bank thinks that the currency will depreciate, it will go short so that it buys it later at a cheaper price.

5.5.3 C) FOREIGN CURRENCY POSITION AS A PERCENTAGE OF SHAREHOLDERS FUNDS

Having a greater portion of the Bank's assets in foreign currencies means that a major adverse movement in currency values would erode the asset base, and for that matter the capital base, of the Bank. To forestall such an occurrence, the bank has set limits as to how much of shareholders' funds can be in foreign currencies. For a single currency, the Bank cannot have a position of more than 15% of shareholders' funds. For all the foreign currencies put together, the limit is 30%.

5.5.4 D) HEDGING WITH FORWARDS

Another method the Bank uses to hedge against exchange risk is by trading on the forwards market. The Bank buys or sells certain currencies forward by 'locking' in the

rate so that the Bank would be protected against any exchange rate movements. This helps it in planning.

.5.5.5 E) MATCHING REVENUES AGAINST PAYMENTS

To avoid the adverse effects of exchange rate volatilities, EBG matches its revenues against payments in the various currencies. What the Bank does is that if, for example, a loan is given to a customer in dollars it will expect to receive repayment in dollars. If a loan given in dollars is repaid in cedis, the Bank would receive less cedis if the dollar depreciated at the time of repayment..

5.5.6F) SHORTENENING OF TENOR OF LOANS WHOSE PAYMNETS AND RECEIPTS ARE NOT IN THE SAME CURRENCY

To forestall the unfavourable effects of exchange rate movements, the Bank avoids giving for a long duration loans whose currency of repayments are not the same as that of the initial loan. The Bank will therefore not like to give a dollar loan, whose repayment is in cedi, for say a duration of ten years. If it does, it can incur a large loss because as the repayment period is long, there can be large exchange rate movements during the intervening period. The tenor of such loans may therefore not be long.

5.5.7 G) MATCHING LOAN AMOUNT WITH BORROWER'S INCOME

With this approach to exchange rate risk management, the Bank takes into account how much the borrower earns (in local currency) and gives a certain percentage of that amount as a loan in foreign currency. The Bank factors in possible exchange rate movements before taking a decision on how much to give as a loan.

Let us assume that the expected cash inflow from a project the Bank wants to finance is GHC100 million and GHC80million of this amount is earmarked for the repayment of the loan. The Bank will not give the dollar equivalent of the whole GHC80 million as a loan. It will rather give the dollar equivalent of say GHC60 million. Should there be any adverse exchange rate movement against the customer, he will still be able to pay the dollar loan because a margin has been provided for that. If the whole amount of the dollar equivalent of the 80 million cedis were given out, the customer could default in repayment in the event of unfavourable movements in exchange rates.

Apart from the use of strategies which play on the rate of exchange in managing foreign exchange risk by EBG, there are other control measures put in place to minimise, if not eliminate, foreign exchange risk of the Bank. These strategies seek to prevent physical loss of foreign currencies or acts that will encourage fraud. Some of these are listed below.

5.5.8 THE BLOTTER

The blotter is a daily record of sales and purchases of foreign currencies of the Bank. It also shows the closing balances of the various currencies at the close of business on a particular day. The rate at which the various currencies are bought and sold are also indicated on the blotter.

The blotter is signed by the foreign exchange trader, the Head of Treasury Department, Internal Control department and subsequently submitted to the Managing Director for his perusal.

The blotter is an important tool for managing foreign exchange risk. The Internal Control Department captures daily all foreign exchange transactions of the Bank. It then compares this with the blotter. Any discrepancies between the two documents are quickly investigated. If an omission of a transaction is detected this is quickly captured so that it does not result in a loss.

The blotter also helps to identify any fraudulent deals which can cause foreign exchange loss to the Bank. It also helps to prevent the stealing of foreign currency notes as this would be detected through the blotter system.

The exchange rates quoted in the blotter are examined to ensure that wrong rates which can cause a loss to the Bank are not quoted again or are reversed where possible.

This monitoring of the blotter by the Internal Control Department helps to minimise possible foreign exchange loss.

5.5.9 CASH COUNT AND CONTROLS

The internal control Department carries out surprise cash count in the Bank's main vault and at all the branches and compares these figures with the General ledger Abstract. (GLA)

If there is any discrepancy between the physical cash and the balance on the GLA, the officer – in – charge is called upon to explain and necessary action taken.

The Bank also insures its cash holdings(including foreign currencies) against theft, fire, etc. Each cashier also has a limit as to how much cash she/he can hold in her/his till. There is also a limit on the amount of cash that can be held in the Bank's vault. Any amount in excess of this is sent to the Bank of Ghana. In the case of foreign currencies, the sum total must not exceed the equivalent of ¢7 billion.

All these measures help to minimise the physical loss of foreign exchange.

5.5.10 RECONCILIATION OF ACCOUNTS

The Bank has a unit within the Internal Control Department which reconciles all accounts of the Bank, including NOSTRO accounts. The Bank has 21 NOSTRO accounts which are reconciled regularly. The Bank uses a software called the 'CORONA' to carry out the reconciliations. All outstanding items are then investigated.
The reconciliation helps to identify errors (e. g overpayments) and fraud, thus minimising the risk of possible foreign exchange loss to the Bank.

5.5.11 SYSTEMS ADMINISTRATION

Another control measure which assists in managing foreign exchange risk in EBG is the institution of the Systems Administration desk within the Internal Control Department. Its functions are independent of the IT Department.

The Bank has two systems that it uses to manage its network. The first is a Banking Software called GLOBUS while the other is the SWIFT (Society for Worldwide Inter bank Financial Telecommunications).

These two systems have an interface with each other. GLOBUS is used to keep all the accounts of the Bank while the SWIFT is used to effect transfers.

The Systems Administrator ensures that both the Banking and database applications are secure. He also ensures that each user of the systems gets access to only data that he/she needs for his/her work. The system does not also allow one person to start a transaction from the beginning to the end.

The System Administrator gives each staff a profile – that is what one can and what one cannot do.

The purpose of these controls is to curtail fraud and thus eliminate any potential foreign exchange loss.

5.5.12 PERIODIC AUDITS

The operations of the Bank are audited, at least once a year, by the following groups:

a) The Internal control Department of the Bank
b) Group Audit Team from ETI(Ecobank Transnational Incorporated)
c) External auditors (PricewaterhouseCoopers)

With these audits, any omissions and or commissions on the part of any staff which have the potential of causing foreign exchange loss to the Bank are nibbed in the bud.

5.6 CRITISMS/WEAKNESSES OF METHODS USED TO MANAGE FOREIGN EXCHANGE RISK AT ECOBANK GHANA LTD

1. Limits on foreign exchange Position in various currencies

Though this measure helps to minimize any potential losses, it also restricts the possibility of windfalls from foreign exchange rate transactions. The Bank is not able to take advantage of any favourable exchange rate movements since there are limits as to how much currency can be bought or sold.

2. Observation/study of exchange rate movements

Exchange rate movements are often unpredictable. In an environment characterized by high exchange rate volatilities, sometimes predictions become mere guess work and this can lead to high exchange losses.

3. Foreign currency position as a percentage of Shareholders Funds

Here again the restrictions do not give Management the free hand to operate. The Bank's ability to take advantage of favourable exchange rate movements {and for that matter higher profits) have been curtailed.

4 Hedging with Forwards

Forward contracts are the most common means of hedging transactions in foreign currencies. The trouble with forward contracts, however, is that they require future performance, and sometimes one party is unable to perform on the contract. When that happens, the hedge disappears, sometimes at great cost to the hedger.

5. Matching Revenue against Payments

This approach of exchange rate risk management may not be effective. Take for example a dollar loan taken in January is repaid in June of the same year at a time when the dollar might have depreciated against all the other currencies. When this happens the Bank will still experience exchange losses in so far as there is no clause in the agreement for the borrower to bear the exchange difference/loss.

6. Shortening of tenor of loans whose payments and receipts are not in the same currency

The weakness with this method is that a wild exchange rate fluctuation can occur even a day after a loan is granted depending on world events.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Having exhaustively analysed the foreign exchange market in general, and managing foreign exchange risk in particular, this concluding chapter summarises our findings and offers some recommendations.

The objective of the study was to:

1. Establish whether a bank (ECOBANK) could make losses by not managing its foreign exchange risk in the face of exchange rate volatilities.
2. Find out whether ECOBANK manages its foreign exchange risk effectively, and
3. Suggest alternative methods by which a bank such as EBG could effectively manage its foreign currency assets and liabilities to minimize potential losses.

6.1 FINDINGS

Our study revealed that the Bank operates in an environment characterised by exchange rate fluctuations. Even though the rate of fluctuation has reduced due principally to sound macroeconomic policies put in place in recent times, and the adoption of the HIPC initiative by Ghana, the effects of these fluctuations cannot be underestimated.

It was established that given sufficient time, competitive forces and arbitrage will neutralize the impact of exchange rate changes on the returns to assets due to the relationship between rates of devaluation and inflation differentials, these factors will also neutralize the impact of these changes on the value of the Bank. This is simply the principle of Purchasing Power Parity and the Law of one Price operating at the level of the firm. On the liability side, the cost of debt tends to adjust as debt is reprised at the end of the contractual period, reflecting (revised) expected exchange rate changes.

In the long run, it would seem that a firm operating in this setting will not experience net exchange loses or gains. However, because of contractual, or, more importantly, strategic commitments, these equilibrium conditions rarely hold, in the short and medium term. Therefore the essence of foreign exchange exposure, and, significantly, its management, are made relevant by these "temporary deviations".

We also established that the Bank, on a number of occasions, made exchange losses. It was again established, from interviews and observations, that there are a lot of items outstanding on the monthly reconciliation statements which have the potential of causing foreign exchange losses to the Bank. It should be noted, however, that some of the outstanding items do not really pose any danger to the Bank since they arose as a result of internal entry passing errors or a communication gab between the entry passing points and the Reconciliation Unit.

Our study also showed that ECOBANK, aware of the risk involved in dealing in the foreign exchange market, employs strategies and measures which have helped to reduce its foreign exchange exposure. Notable among these strategies are:

a) limits on foreign exchange positions (long or short)
b) Limit on foreign currency position as a percentage of shareholders' funds.
c) Hedging with forwards (seldom)
d) Shortening of tenor of foreign exchange loans when currency of repayment is different from currency of initial loan.
e) Matching revenues against payments.
f) The use of other control measures such as the BLOTTER, surprise cash counts, reconciliation of accounts, periodic audits, etc. The Bank does not, however, employ most of the traditional hedging strategies such as currency options, currency swaps and futures.

6.2 CONCLUSIONS

The foreign exchange business is by its nature risky, because it deals primarily in risk – measuring it, pricing it, accepting it when appropriate, and managing it. The success of a bank or other institution trading in the foreign exchange market depends critically on how well it assesses, prices, and manages it, and on its ability to limit losses from particular transactions and to keep its overall exposure controlled. EBG is aware of this risk and has conscientiously made the effort to put in place measures to minimise its foreign exchange risk.

6.3 RECOMMENDATIONS

Even though ECOBANK has in place strategies for managing its foreign exchange risk, we recommend the following additional measures and strategies to assist in the management of its foreign exchange exposure.

a) The Bank should study and seek ways to predict currencies in order to decide when and when not to hedge. This can be done by political event analysis, fundamental or technical analysis. Forecasting exchange rate changes is very important for planning purposes. To the extent that all significant managerial tasks are concerned with the future, anticipated exchange rate changes are a major input into virtually all decisions of enterprises involved in and affected by international transactions.

b) The Bank can also borrow in the currency to which it is exposed or investing in interest bearing assets to offset a foreign currency payment.

c) The Bank can also use 'stop- loss' clauses. This is a clause that limits the loss of an entity or an entity's counterparty through the cancellation of an agreement should a change in cash flows due to exchange rate movements cause a loss up to and exceeding a certain level.

d) The Bank could hedge with currency options, currency swaps and currency futures where appropriate

e) There should be a strong reconciliation desk Each department should have an officer in charge of reconciliations who will constantly liaise with the Internal Control Department to "knock-out'' outstanding items.

6.4 COMPARISON OF HEDGING METHODS USED BY ECOBANK GHANA LTD AND THE ALTERNATIVE METHODS RECOMMENDED

Generally, the success of hedging with derivatives widely depends on both the hedger's mastery of the techniques used and the suitability of these techniques. Whenever this side of the coin was ignored, the results have been disappointing.

Using a 350- firm sample to examine whether firms that use derivatives exhibit more or less exposure to foreign exchange risk. George Allayanis and Eli Ofek (1996) found that

the use of currency derivatives significantly reduces the firm's exposure to exchange rate risk- Richard Levich (1998)

From the above, it can be said that Ecobank Ghana Ltd can better manage its foreign exchange risk by using derivatives like Forwards, Options, Currency Swaps and Futures.

It should, however, be noted that the derivative market is not yet developed (or perhaps non-existent) in developing countries like Ghana. Using them (derivatives) , which is only possible off-shore, entails great cost which may outweigh the benefits.

The Bank should therefore carry out cost-benefit analysis on all the strategies before deciding on which one to use at a given time.

6.5 CHALLENGES ENCOUNTERED

Though the objectives of the research have been achieved, one cannot say that the study did not encounter some difficulties. Some of these limitations are:

(1) Our inability to get all the necessary data {due to their confidential nature} to enable us determine a consolidated exchange loss/gain positions for the Bank over a period of time.

(2) About hedging strategies, our desire to use financial information to perform simulations to determine their effectiveness could also not be achieved.

(3) Time constraint could also not permit us to do a more detailed study than we did.

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ECOBANK

Fx Nr Nº 002906

FX PURCHASE/SALE SLIP

CONTRACT DATE.....

TO .....
(Department)

FX No.....

We have Purchased/Sold..... from/to.....
Amount and Currency Counterparty

against..... at.....
Amount and Currency rate

Value date.....

We receive funds through .....

We pay funds through.....

COMMENTS: .....

.....

.....

.....

.....
Dealer's Initial

GHANA ASSOCIATION OF BANKERS

AVERAGE INTERBANK EXCHANGE RATES

MONDAY 23/8/2004

		BUYING	SELLING
COUNTRY	CURRENCY	CEDI EQUIVALENT OF CURRENCY	
U.S.A.	US Dollar	8,915.00	9,109.45
DERIVED RATES FOR OTHER CURRENCIES			
United Kingdom	Pound Sterling	16,178.05	16,532.74
Switzerland	Swiss Franc	7,109.36	7,260.76
Australia	Australian Dollar	6,425.92	6,571.76
Canada	Canadian Dollar	6,852.49	6,999.17
Denmark	Danish Kroner	1,471.80	1,503.15
Japan	Japanese Yen	81.47	83.20
New Zealand	New Zealand Dollar	5,961.61	6,100.58
Norway	Norwegian Kroner	1,324.57	1,352.24
Sweden	Swedish Kroner	1,192.03	1,217.34
South Africa	S/African Rand	1,339.55	1,363.95
EMU	Euro	10,948.13	11,182.86
Countries under BCEAO eg.Republic of Togo CFA		16.69	17.05
NON CONVERTIBLE CURRENCY			
Gambia	Dalasi	302.65	309.25
Mauritania	Ouguiya	41.79	42.70
Nigeria	Naira	68.13	69.61
Sierra Leone	Leone	3.34	3.42
ECOWAS	WAUA	13,115.77	

GHANA ASSOCIATION OF BANKERS, ACCRA
Executive Secretary

TO: ALL DEPARTMENTS
FROM: TREASURY
[redacted]
SUBJECT: CROSS RATES

TODAY'S BOG RATES

BUY	SELL		GHC	GBP	USD	CHF	JPY	CFA	ZAR	DKK	EUR	CAD	NGN
16,178.05	16,532.74	GBP	16,355.40	1.00									
8,915.00	9,109.45	USD	9,012.23	1.8148	1.00								
7,109.36	7,260.76	CHF	7,185.06	2.2763	1.2543	1.00							
81.47	83.20	JPY	82.34	198.64	109.46	87.27	1.00						
16.69	17.05	CFA	16.87	969.50	534.22	425.91	4.88	1.00					
1,339.55	1,363.95	ZAR	1,351.75	12.0994	6.6671	5.3154	16.42	80.13	1.00				
1,471.80	1,503.15	DKK	1,487.48	10.9954	6.0587	4.8304	18.07	88.173	1.1004069	1.00			
10,948.13	11,182.86	EUR	11,065.50	0.6766	1.2278	1.5401	134.40	655.957	8.186	7.439	1.000		
6,852.49	6,999.17	CAD	6,925.83	2.3615	1.3012	1.0374	84.12	410.541	5.124	4.656	1.598	1.00	
68.13	69.61	NGN	68.87	237.48	130.86	104.33	1.20	4.082	0.051	0.046	160.672	0.010	1.00

QUESTIONNAIRE

The purpose of this questionnaire is to identify the various sources of foreign exchange risk to ECOBANK Ghana LTD, establish how it manages this risk and to offer alternative suggestions.

1.Does ECOBANK Ghana Ltd deal in foreign currencies ?

-Yes

-No

2.If the answer to (1) above is a 'yes', then which currencies does it deal in?

3.What are the sources of foreign exchange holdings of the Bank?

4.Does ECOBANK sometimes suffer from foreign exchange losses as a result of open positions?

-Yes

-No

5. Does ECOBANK hedge against foreign exchange risk?

(a) Always

(b) Sometimes

(c) Not at all

6. If the answer to (3) above is in the affirmative, then which hedging strategies does it use?

7. What informs the Bank's decision in establishing a correspondent bank relationship?

8. Does ECOBANK have:

I Counterparty limits?
II Currency limits?
III Country limits?
IV Dealer limits?

9. If yes, how often are these limits reviewed?