

*“Managing Foreign Exchange
Risks in Commercial Banks in the
Caribbean Region.”*

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Managing Foreign Exchange Risks in the Caribbean Commercial Banking Sector

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I INTRODUCTION

It is well accepted that foreign exchange reserves play a critical role in the development of small, open economies such as those in the Caribbean. Efficient management of foreign exchange resources therefore, is important for the proper functioning of Caribbean economies. This is so whether the primary responsibility for management lies with the Central Bank, which is the case in a fixed exchange rate regime or with the commercial banks, in the case of a flexible rate regime. When such management is the responsibility of private financial institutions then bank management has implications for the financial system as well.

A critical dimension to the management of these reserves is the management of the associated risks. Until the period of financial liberalization beginning in the nineties, the risks inherent in the management of foreign exchange resources were primarily the responsibility of the region's Central Banks. Management of these risks by commercial banks in the region is then a relatively recent phenomenon. It was only with increasing liberalization that witnessed more flexible rate regimes that regional Central Banks devolved greater responsibility for foreign exchange management to commercial banks.

Understanding these risks in order to mitigate them is what this paper is about. While the paper focuses on one country, Trinidad and Tobago, the exposure is considered useful to practitioners and policy makers across the Caribbean.

After the introduction, the paper will then in Section 2, define the standard risks inherent in foreign reserve management. In Section 3 we look at the case of Trinidad and Tobago over two different exchange rate regimes. Section 4 will zero in on the specific risk management experience of one of the region's largest commercial bank, Republic Bank Ltd. Section 5 will point to some on-going issues while the paper will be concluded in Section 6.

II THE THEORY OF FOREIGN EXCHANGE RISK MANAGEMENT

While the ability to earn foreign exchange must of necessity be important to small developing countries so too must be the management of these resources. Indeed the proper management of what is available might ensure that the imperative to earn is not as

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foreboding. Proper management of foreign exchange resources implies proper management of the associated risks. Risks are inherent in assets, liabilities, capital and other items in a balance sheet denominated in a domestic or foreign currency. Our primary interest in this paper is with the latter. Major associated risks are identified as:

- (i) price or exchange rate risk
- (ii) credit or settlement risk and
- (iii) interest rate and liquidity risk and
- (iv) operational risk.

These will now be discussed in turn.

(i) Price Risk or Exchange Rate Risk

The international foreign exchange market is the largest market in the world. It is estimated that approximately US\$3.5 trillion is traded daily. It is a 24-hour market spanning the globe. Prices change by the second and in order to manage price risk dealers use real time information systems like Reuters, Bloomberg and Telerate.

A minimum requirement for traders is use of real time information systems that provide real time prices. These systems help to monitor price movements so that one can mitigate risks that will affect a bank's holding positions and profits. For example, Bank A sells Euro 1.00 @ US\$0.90 = US\$0.90 on the basis that it can cover the sale by buying Euro at US\$0.89. Bank A waits for whatever reason and the price of Euro changes to US\$0.91, then Bank A pays US\$0.91 for the Euro 1.00. It loses US\$0.01. On US\$1.0 million this loss amounts to US\$10,000.

In practice, banks help mitigate adverse movements by using various techniques which will be discussed below.

(ii) Credit or Settlement Risk

Settlement risk is the financial risk that a counter-party will fail to perform on a contract at settlement. It is a particular challenge when two counter-parties are to exchange payments and there is no means of ensuring that a payment is made if, and only if the reciprocal payment is made.

Settlement risk is a particular problem in the foreign exchange markets for several reasons. Offsetting payments are typically in different currencies, which can preclude payment netting. Time zone differences can cause delays between the timing of one payment and the reciprocal payment in another currency.

A famous example of the repercussions of settlement risk is the failure of the German Herstatt bank. On June 26, 1974 that bank had already taken in all its foreign currency receipts in Europe but had not made any of its US dollar payments when German banking

regulators closed the bank. Counter-parties to the German bank therefore incurred substantial losses. For this reason, settlement risk is sometimes called Herstatt risk.

The Herstatt incident illustrates that settlement risk not only has a credit risk component, but a liquidity risk component as well. If a party does not receive currency that it has purchased, it will not have the liquidity it needs to make payments to other parties and the party must somehow cover the shortfall in that currency. Following the closure of the Herstatt bank, the foreign exchange markets experienced severe systemic problems. Let us take a look at an example:

A foreign exchange (FX) deal is the exchange of two currencies. When the deal has been agreed upon the two parties arrange settlement. Settlement takes place in the two countries whose currencies are being used.

A US Dollar/British Pound deal is settled by the payment of US dollars in the USA against the payment of British Pounds in London. Settlement of both sides of an FX deal should be made on the same working day. Due to time zone differences, settlement occurs earlier in the Far East, later in Europe and even later in the US. This intra-day time difference implies risks. A US dollar/Pound deal will settle in London before settlement in the US. If the recipient in London goes bankrupt after receiving Pounds and before paying US dollars, losses may occur to the US bank.

Settlement risk has continued to be an important issue with which the international foreign exchange market has been grappling since the Herstatt incident. It is now being addressed by a new system of settlement called CLS or Continuous Linked Settlement. CLS is a real-time simultaneous settlement process with finality of both legs of an FX obligation, i.e. a final transfer in one currency occurs if, and only if, a final transfer in the other currency also takes place. CLS transformation is ongoing and at this time is limited by membership criteria and technological capabilities of potential participants.

(iii) Interest Rate and Liquidity Risk

Foreign currency positions often give rise to interest rate and liquidity risks. Interest rate risks arise from the “mismatching” of the timing with which interest rates on assets and liabilities can be changed. In the case of cash-flow imbalances, access to liquidity in the relevant currencies is important. If the domestic currency is not easily convertible to hard currency then cash flow mismatches must be minimized as pointed out in McNaughton (1992).

(iv) Operational Risk

This covers a wide array of situations which might include human error, fraud, technology breakdown and unauthorized transactions.

A proper risk management system addresses these risks in several ways. One way is through the specialization and segregation of functions. Duties are segregated so that no

one person has control over any entire transaction. The system breaks up the transaction into a series of independent responsibilities so that no one person has sole control of a single transaction. Traders are responsible for the initiation of transactions only. The back office is charged with the responsibility of confirmations and reconciliations and includes settlements personnel, who are responsible for payment and receipt of funds.

The accounting and reporting functions are also done separately. Independent reporting of profits and losses, of position limits, of excesses and of variances in volumes must be ensured. Competent and experienced accountants are employed. Same day processing remains the norm and timely reports are compulsory.

Human risk exists throughout the entire transaction. On the other side for example, a trader may quote the wrong price, say, a buying rate instead of a selling rate, resulting in a loss. On the settlement side the deal could be settled to the wrong bank or settlement could be sent in the wrong currency. There is also the risk of fraud in dealing with counterfeit notes and cheques.

Unauthorized transactions can increase exposure and potential for loss. Human resource management is therefore key. Competent and experienced staff must understand activity and risks. Traders must be properly trained, experienced and have strong technical expertise. The availability of relief personnel is also important to ensure that there is continuity. Disclosure of personal interests must be done up front.

Staff limits as well as customer limits are important to control exposure and loss. Trading limits are also important. Regular review of limits would ensure maximum efficiency. Delegation of limits must be made in writing. Transaction execution must be professional, careful, timely confirmation and document execution, independent verification. Conflict resolution with the use of taped conversations helps in the business and facilitates in taking quick action on issues.

Highly rated correspondent banks are very important in the process. They must be sound institutions, providing timely statements and regular contact.

Compliance is also important. Annual internal audit must be conducted to ensure compliance with laid down systems and procedures

Finally, disaster recovery is important to ensure business continuity. These risks sometimes become apparent only when loss occurs, such as in a natural or man-made disaster as September 11. An effective risk management strategy is not limited to the foregoing but in fact remains fluid to be further developed as new risks are identified. It is necessary to constantly review the adequacy of strategy to ensure that it is capable of limiting any potential for loss.

III THE CASE OF TRINIDAD AND TOBAGO OVER DIFFERENT EXCHANGE RATE REGIMES

Perhaps the most critical issue in foreign exchange risk management is the nature of the regime in which banks operate. Trinidad and Tobago experienced two (2) exchange rate regimes in its recent history. These two systems demanded different risk management skills. While the risk management dynamics are different among countries, the experiences in this country may have lessons for the rest of the region. The regimes were essentially (i) a fixed exchange rate regime between 1976 until May 1993 during which time several devaluations occurred and a dual exchange rate was in existence for a short while and (ii) a so-called "managed float" from April 1993 until the present time when a more flexible arrangement was put in place.

Fixed Exchange Rate Regime

During the latter half of the seventies the TT dollar was pegged to the US dollar at TT\$2.40 to US\$1.00. The Central Bank managed the foreign exchange reserves by the use of exchange controls which maintained the exchange rate at its TT\$2.40 level which it had attained early in the oil boom and following the end of the sterling era.

During the seventies, Trinidad and Tobago's economy was characterized by rapid growth. Diversification strategies at that time focused on development of the petrochemical sector and establishment of energy-based companies such as steel, methanol, urea and ammonia.

In the eighties declining oil prices resulted in a significant reduction in export earnings and government revenues. The government responded by devaluing the currency in 1985 from TT\$2.40 to TT\$3.60. The rate of TT\$2.40 was maintained for essentials, however. By 1988 the dual exchange rate was unified and set at TT\$4.25 to US\$1.00. This rate remained in effect until March 1993.

Under the fixed rate regime the Central Bank guaranteed that it would purchase or sell foreign exchange to commercial banks at fixed rates that allowed them to earn a 1.0 percent spread. The commercial banks did not bear the day-to-day price risks, nor the risks associated with overnight holdings or settlement. Additionally, the Central Bank also took in banknotes from the commercial banks and assumed costs such as that of counterfeits, price changes and repatriation.

The only risks commercial banks assumed were those related to efficiency in processing and accounting for transactions, i.e. the bank was responsible for accurately accounting for currency bought and sold. These were covered with the Central Bank on a daily basis. It was also the responsibility of the banks to detect fraudulent items.

Previously, there were two types of approval. One of which was exercised by the Central Bank for trade, and the other, which was in the form of delegated authority to the

commercial banks for subscriptions, medical purposes, travel, gifts etc., up to a nominal stated amount. Both were bureaucratic processes requiring a lot of paperwork.

Essentially, the environment then was relatively safe and protected, with a guaranteed profit to the commercial banks for the services which they provided. The important point is that during the fixed exchange rate system, risks were limited and most of the risks that existed were borne by the Central Bank. The commercial banks faced no price risks, no liquidity risks and no settlement risks under a fixed rate system.

Managed Float

With the global and regional movement towards liberalization, the Government of Trinidad and Tobago took a decision to float the TT dollar with effect from April 13, 1993. Simultaneously, the currency was devalued from TT\$4.25 to US\$1.00 to TT\$5.77 to US\$1.00. Exchange controls were removed and the exchange rate was essentially determined by general demand and supply conditions in the context of a "managed" market. The size of the foreign exchange market more than doubled from US\$901 million in 1993 to US\$2.3 billion in 2001. Citizens were now free to hold foreign currency accounts in local banks. As at March 1993, the value of such deposits in the domestic banking system was US\$50 million. As at September 2002, this figure was US\$1.1 billion.

We have seen therefore that simultaneous with the development of the flexible market, there has been a rapid build up of US dollar funding in the domestic banks. This presents a different set of treasury management issues for commercial banks from a prior concern with only domestic currency management issues.

With the float of the dollar, banks were faced with an overnight change in the foreign exchange environment. They had to immediately assume control and responsibility for managing their foreign exchange business. The Central Bank adjusted its role to that of overseeing the proper functioning of the market.

The immediate challenge which faced commercial banks was to adapt from a virtually risk free foreign exchange environment in which they were largely facilitators of services, to one in which they are pivotal to the system. Treasury management now includes, the US dollar side of the banking business as well as the TT dollar side. Only the latter was of concern under the fixed exchange rate regime.

Foreign exchange liberalization meant a migration of risks from the Central Bank to the commercial banks, necessitating the establishment of a risk management and control framework to ensure stability, protection of the financial system and proper functioning of the foreign exchange market in a highly liberalized environment. The two systems are presented in Appendix 1.

IV THE REPUBLIC BANK EXPERIENCE IN MANAGING FOREIGN EXCHANGE TRADING RISK

As noted above, with the advent of a floating exchange rate environment, the risk dynamics faced by commercial banks literally changed overnight. The banks moved from a relatively safe environment, with minimal risk and in which they earned a guaranteed 1 percent spread, to a situation in which they needed to manage a range of various types of risks in a competitive market environment and in which there were no guaranteed spreads.

The rest of this section focusses on the Republic Bank experience' with managing the various types of risks.

Price Risk

In the floating rate environment, commercial banks faced the risk of unfavourable price movements on their intra-day and overnight currency positions. For example, a commercial bank could have sold US\$1,000,000 against TT dollars at a rate of TT\$6.25 to US\$1.00. The bank could then be carrying an oversold position on US\$1,000,000 and when it attempts to close off this position by buying US\$1,000,000 on the spot market, it faces a risk that it has to pay more than TT\$6.25 to US\$1. That is, if it now purchases this amount at a rate of TT\$6.26 to US\$1, it incurs a loss of 1 cent per dollar on the US\$1,000,000 transaction; a total loss of TT\$10,000. The reality is that commercial banks must deal in market or price risks as part of their trading position.

At Republic Bank, we manage this price risk by separating transactions into retail and wholesale transactions. At 8:00 a.m. every weekday morning at the start of trading day, retail rates are set for the system and are distributed to the branch network, corporate customers, the Central Bank, other commercial banks and the general public via the Internet. These rates may be subject to intra day changes should there be any significant price movement on the market. They are valued for retail transactions of up to US\$5,000 or its equivalent in other foreign currencies.

All wholesale transactions i.e. above US\$5,000 must be called in to our centralised dealing room for a "firm rate" i.e. a confirm rate at which the bank is prepared to deal and for approval for the amount of the deal as well. Deal amounts therefore range from US\$5,000 and up with the average deal ranging between US\$250,000 to US\$1,000,000. However, it is not unusual, for spot deals to be called through to the centralized dealing room for amounts of up to US\$20,000,000.

Through the operation of a centralised dealing room, the bank is able to quote real time rates of all wholesale foreign exchange transactions and simultaneously maintain the foreign exchange blotter, which effectively tracks intra day position limits.

With the exception of US/TT dollar transaction currency pair, it is not the practice to maintain intra day and/or overnight open positions. Therefore all these positions are covered immediately after transactions are executed. In short, the bank does not engage in own account proprietary trading. That is to say, if we sell 1,000,000 Euros against US dollars to a customer, we immediately purchase 1,000,000 Euros against US dollars. Our Euro position is therefore "square" at the end of these two transactions and if the dealers have properly executed these two transactions, the bank should have earned its spread, which typically ranges between 10-50 pips. In dollar terms, this translates into a profit of US\$1,000 and US\$5,000, respectively.

We see therefore that the spread on these deals are very narrow. Typically, less than one-half percent and for the larger deals, due to competitive pricing, less than one tenth of 1 percent. It is therefore, crucial that dealers have up to date real time information on foreign exchange prices and that they seamlessly execute the buying and selling transactions to "square off" positions and lock in spreads.

Settlement Risk

As noted above, commercial banks face settlement risk in that, while we settle our side of the deal, our counter party may fail to pay his. For example, we might initiate/engage in a deal where we are to pay US dollars and receive Japanese Yen in settlement. On our side, we would issue instructions to our correspondent bank in the United States to debit our account and pay the US dollars to our counter party's US dollar account, also in the United States. In settlement, we expect our counter party to have issued instructions to his Japanese bank to debit his account and pay the Japanese Yen into Republic Bank's Japanese Yen account maintained with a correspondent bank in Japan. Of course, we would have issued our instructions to our U.S. bank without knowing at that time, whether our Japanese Yen account would have been credited with the funds we are to receive.

To limit this risk, we deal only with counter parties whom we "know", that is, counter parties for whom we would have evaluated their credit worthiness and assigned credit limits for the amount of any one transaction and also for the total amount of exposure outstanding to these counter parties, at any point in time. For example, for a specific counter party, we may do deals up to a maximum value of US\$2,000,000 per deal and with a maximum total value outstanding for settlement of US\$5,000,000.

In instances where credit limits have not been established, we would still do deals with counter parties, but on a delivery vs payment (DVP) basis, i.e. we would only deliver foreign exchange against payment.

Liquidity Risk

The foreign exchange market is very deep and liquid for all major currencies. We can purchase or sell all the Japanese Yen, Euros, Canadian dollars that we need on a spot

basis against US dollars. Therefore, for these currencies, we face very little liquidity risk. However, there is very little or no international demand for the TT dollar and from an international dealer perspective, the TT dollar will be regarded as an emerging market or exotic currency.

Within the domestic foreign exchange market, the TT/US dollar is the major currency pair being traded, accounting for some 90 percent of the value of transactions executed in this market. That is to say, most of the deals done in the Trinidad and Tobago market are for the purchase/sale of US dollars against TT dollars. The liquidity conditions for this currency pair vary considerably. At times, there is a surplus of inflows over demand, resulting in an appreciation of the TT dollar against the US dollar. At other times, there is a surplus of demand for US dollars over the inflows of these US dollars resulting in a depreciation of the TT dollar against the US dollar.

The result of this situation is that if we are to meet customer requirements in a smooth and orderly fashion, we will always have to maintain an open position with the TT/US currency pair. We will therefore always be oversold US dollars or overbought US dollars and consequently, open to price risk. To limit this risk, executive management put in place overnight limits for our open positions. These limits are continuously adjusted based on market trends and conditions.

The liquidity risk is perhaps one of the most difficult risks to deal with, since it reflects market conditions and generally impacts all market dealers the same way. If the market is tight, then all dealers are tight and in such a situation, it is very difficult to square off/reduce an oversold US dollar position by passing your position onto another dealer in the market. One of the challenges, therefore, is the creation of an inter-bank market, where dealers can pass positions on to other dealers in the system, thereby allowing them to reduce their price risks. This is really a system issue which at least initially, will require the involvement of the Central Bank.

Operational Risk

As noted in Section 2, there are several facets to operational risks. We will discuss how Republic Bank manages some aspects of this type of risk.

i) Segregation of duties

The key aspect of the management of operational risk is the effective segregation of deal origination and deal settlement, i.e., the dealers who initiate and originate the transaction must not be involved in the confirmation and settlement of these deals nor are they to be involved in the handling of queries related to these transactions.

We mentioned that management requires that both the internal and external auditors in their annual report comment on and confirm that there is indeed this effective separation of duties. The Central Bank of Trinidad and Tobago in their scheduled audits of the Bank, also verifies that this functional independence is maintained.

The personnel in the dealing room are the only ones authorised to quote rates and approve wholesale transactions. These personnel are also the only individuals who will execute deals with the international foreign exchange dealers with whom we have established a relationship. At the time we establish relationships with international dealers/banks, the back office will also exchange, what is referred to as Standard Settlement Instructions (SSI) with the international banks. We note that this is done independent of the dealers, so that while the dealers have the authority to execute deals in terms of amount and rate, within approved limits of course, the dealers have no authority to change SSI. For example, if we have established a foreign exchange dealing relationship with Bank X New York's office, then its back office will know exactly where we receive our Yen, Euros and so on. Thus, if we execute a deal with Bank X to receive Yen, then Bank X New York will know exactly which Japanese bank and account number to pay our Japanese Yen into. Any instructions from a dealer to vary the SSI must therefore be regarded as suspicious or unusual and will be independently verified by Bank X New York. This is an important control mechanism in the separation of the two responsibilities of origination and settlement.

(ii) Reconciliation

The timely reconciliation of foreign currency accounts held with international correspondent banks through which foreign exchange deals settle, is a very important risk management procedure. It is important to verify that we receive the foreign currency which we are suppose to receive and pay out the foreign currency which we are suppose to pay out in settlement of foreign exchange deals.

This can only be verified through the reconciliation of this foreign currency, or what is known, as NOSTRO accounts. As noted, we also check to verify that we have paid out the funds that we are suppose to pay because, while we do not face the settlement risk here, we run the risk of affecting the relationship with our international foreign exchange dealers and hence, in this situation we face reputational or name risk.

At Republic Bank, we maintain at least one foreign currency account for each currency we trade, since this is necessary for settlement purposes. Daily statements on each of these accounts are received electronically (in most cases via SWIFT) and each of these accounts is then reconciled on a daily basis. Through this procedure, we therefore limit our settlement and name risks. This is also a key control measure for fraud prevention and detection.

(iii) Information Systems

An important feature of our risk management process is availability of systems which provide real time market information and prices and which also allow for efficient settlement of transactions. Republic Bank subscribes to both the Reuters and Bloomberg information systems. These provide both real time changes in the exchange rates, which are necessary if we are to execute deals, cover transactions, and ensure that spreads are

locked in. These systems also provide market commentaries and analysis, which allow our dealers to be aware of market sentiments and trends. Republic Bank is also a member of SWIFT (Society for Worldwide Inter-Bank Financial Telecommunication) and it is through SWIFT that we settle our foreign exchange deals. SWIFT provides a secure messaging network for bank-to-bank electronic transfers.

(iv) Staffing

Based on our identification and discussion of the risks mentioned above, it should be clear that staff selection and training is also an important aspect of the foreign exchange dealing process. In the dealing room (front office), in addition to good marketing and interpersonal skills, we require staff that have a strong understanding of both the international and local foreign exchange environment. The senior staff in the dealing room have been exposed to short courses conducted by professionals in the area and have also been provided with the opportunity to sit with international foreign exchange traders, in the dealing rooms of our correspondent banks.

Staff selection in the back office is equally important to ensure that deals are efficiently and accurately processed.

V ON-GOING ISSUES IN FOREIGN EXCHANGE TRADING

While it is acknowledged that the commercial banks have done a relatively good job in FX risk management, as the situation evolves certain challenges remain.

Liquidity

As noted above, one of the biggest issues we face in Trinidad and Tobago has to do with fluctuations in liquidity conditions in the foreign exchange market. At times, the environment has been characterised by very tight liquidity conditions, which have put extreme pressure on the exchange rate. There have been periods where the system has even been characterized by queues for foreign exchange. This has created further pressure on the rate. To deal with these situations, it is imperative that there be more timely Central Bank interventions. This however, is a short-term solution. A more long-term solution would be the development of an inter-bank market.

Spreads

Under a fixed exchange rate regime, commercial banks operating in Trinidad and Tobago were assured a spread in the order of 1 percent in an environment characterised by minimal risk in foreign exchange dealing.

As we have discussed, under the floating rate regime, most of the risks have now been transferred to the commercial banks. In the early period of the floating rate regime average spreads earned by commercial banks were widened to just over 2 percent to

reflect the increased risks now being borne by dealers. However, overtime, competition has reduced these spreads to average levels of between 0.8 to 1 percent. The concern therefore is, although the risk being borne by commercial banks have increased significantly, the spreads earned are presently less than those that existed under the fixed regime. Banks may be approaching a position in which existing spreads do not adequately compensate for risks.

More Sophisticated Products

Trinidad and Tobago has now been operating under a floating exchange rate system for just short of 10 years. Over this period, spot foreign exchange trading activity can be regarded as being fairly well developed. This is despite the liquidity issues mentioned earlier.

Forward trading activity, however, remains relatively undeveloped within the domestic foreign exchange market. The demand for forward exchange contracts is low relative to the spot foreign exchange demand. This is so despite the fact that all commercial banks operating in the system have the technical know-how and expertise to quote on and execute these transactions. The absence of demand for forward transactions reflects some degree of unsophistication by market participants and perhaps their willingness to themselves bear some foreign exchange risks.

There is also very little demand for the more sophisticated foreign exchange risk management products such as swaps, foreign exchange options and currency swaps. We expect that as the market matures, there would be some interest in these risk management products. However, the absence of sufficient demand may suggest that commercial banks should be more aggressive in selling these products to their customers. This should encourage businesses to better understand inherent foreign exchange risks as well as be exposed to the products that are available for hedging these risks.

Treasury Management

While this paper focuses on foreign exchange trading, we should not ignore the fact that when Trinidad and Tobago moved to a flexible exchange rate regime, the authorities also allowed residents and non-residents to maintain foreign currency accounts with the commercial banks. Foreign currency deposits held in accounts at domestic commercial banks total around US\$800 million. This represents some 25 percent of the total deposit base. Simultaneous with the increase in foreign currency liabilities in commercial banks, has been the increase in demand for foreign currency loans by bank customers. Loans and advances amounted to US\$741 million as at September 4, 2002.

One of the new challenges faced by commercial banks was not just managing foreign exchange trading, but also managing the foreign currency treasury position.

To ensure that commercial banks maintain sufficient liquidity in certain currencies, the Central Bank issued a guideline requiring the banks maintain a 20 percent liquid asset

ratio, that is, 20 percent of the foreign currency deposits must be invested in hard currency investment grade assets with a maturity of six months or less.

The reduction of US interest rates over the last eighteen months has resulted in increased customer demand for US dollar loans. Commercial banks continue to exercise a high level of prudence in carefully evaluating such requests to ensure that foreign currency loans are granted to customers who have the ability to generate foreign currency cash flow to repay these loans.

Treasury management must also focus on managing the interest rate risk and funding or liquidity risk on a growing US dollar portfolio.

VI CONCLUSION

With the introduction of financial sector liberalization, management of foreign exchange risks in the context of a flexible exchange rate regime represented a major challenge for profit-driven commercial banks in the Caribbean. In the case of Trinidad and Tobago, which switched from a fixed exchange rate regime to a "managed float" in 1993, management of the new risks which emerged were primarily the responsibility of the commercial banks, although the Central Bank continued to play a key role in nurturing the new system.

The system has worked relatively well. Since the change in the regime the TT/US dollar exchange rate has depreciated marginally at an average annual rate of less than 1.0 percent. The ten-year period of the managed float is characterized by both appreciation and depreciation of the rate. Foreign currency deposit accounts held in commercial banks now represent some 25 percent of total bank deposits and foreign currency reserves represent some eight months of import cover. Commercial banks along with the Central Bank have proven that they are up to the task and have played their role in risk mitigation and in ensuring relative stability of the system.

The fact is that the system operates on a primarily pragmatic basis. While on the one hand it certainly reflects the sound market macroeconomic fundamentals of the Trinidad and Tobago economy, at the same time it recognizes the existing market imperfections. The latter suggests appropriate intervention from time to time and the players have not shirked their responsibility in this regard.

Appendix 1

Fixed Rate System	Flexible Rate System
1. Rate set by Central Bank	Commercial banks set daily rates in consultation with Central Bank periodically
2. Central Bank provides cover	No cover provided by Central Bank
3. Residents limited in holding foreign currency accounts	Residents free to hold foreign currency accounts
4. Foreign exchange transactions conducted only with approval of Central Bank	All foreign exchange transactions done through commercial banks with no need approval necessary from Central Bank
5. Rates fixed intra day	Rates subject to change intra-day
6. System rudimentary	System demands new technology, human resource training, internal controls etc.

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