PN-ABN-774

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USAID/EGYPT

EGYPT
FORWARD FOREIGN EXCHANGE MARKETS

Final Report

May 19, 1992

Office of Government Services
1801 K Street, N.W.
Washington, DC 20006

Telephone 202 296 0800

Price Waterhouse

May 19, 1992

Mr. Lawrence Brown
Office of Finance and Investment
USAID/Egypt
Cairo Center
106 Kasr El Aini Street
Garden City
Cairo, Egypt

Dear Mr. Brown:

Re: Financial Sector Development Project
Contract No. PDC-2206-Z-00-8191-00
USAID/Egypt - Egypt Forward Foreign Exchange Market
Activity No. 63

Attached please find ten copies of our Final Report for the Egypt Forward Foreign Exchange Market Project prepared by Price Waterhouse, prime contractor under FSDP.

It has been a pleasure working with you on this important assignment. We look forward to further collaboration with the Mission.

Sincerely,

J. Richard Breen
Project Director, FSDP

Enclosures

SUMMARY AND CONCLUSIONS

VALUE OF ESTABLISHING A FORWARD FOREIGN EXCHANGE MARKET

A forward foreign exchange market would enable Egyptian exporters and importers to increase their international competitiveness and would also improve the climate for foreign investment.

ESTABLISHING A FORWARD MARKET

The development of a liquid market in forward foreign exchange will be hindered initially by the low level of activity in the spot interbank foreign exchange market. Moreover, certain Central Bank restrictions, and the lack of experience among Egyptian bankers and clients in using forwards in Egyptian pounds are also important, but correctable, factors.

In order to enable banks to offset risk and to foster the development of an active forward market, the following steps will be required.

1. Development of the spot interbank foreign exchange market.

2. Changes in Central Bank regulation to enable banks to measure limit compliance based on their TRUE POSITION. This position would be measured by combining the net currency position of the balance sheet with the net currency position in contingencies such as forwards.

3. An Educational Process which should include bank management, Central Bank audit staff, traders, loan officers and ultimately many of the customers.

Until a liquid market develops, banks which offer forwards will need to offset risk by using their own balance sheets, by using or creating offsetting assets and liabilities. This method of offsetting risk is described in Endnote 1 to this summary as well as throughout the accompanying report. Additionally, the development of an efficient money market, including interbank deposit activity, would assist in the development of a forward foreign exchange market. This would enable banks to easily manage their excess or shortage of liquidity arising from their foreign exchange activity.

PRUDENTIAL REGULATION AND OVERSIGHT

While the Central Bank should minimize regulation, it may also wish to limit the overall currency positions held by banks against the LE. Further the Central Bank should require that banks maintain prudential risk management systems and oversight, just as they are expected to do in their lending activity.

The Central Bank should make it perfectly clear to banks that if they wish to enter into more complex transactions such as forwards, they would be expected to have established strong systems of risk control. Each bank's Board of Directors should be required to approve risk limits and should review the bank's policies governing the activity, the methods of control and the position reports to be utilized. Since forwards must be hedged within the bank's overall balance sheet and since they include both interest rate risk and currency risk, they pose a particular challenge.

READINESS OF THE BANKING SYSTEM

The Egyptian banking system is in a period of transition. The types of management information and controls which banks need for controlling their risk today are very different from what was needed just a year ago.

The joint ventures with foreign partners have well-developed controls, reports and procedures that are comparable to those their foreign partners use worldwide. The trading staff of these banks is generally well trained and management has a good understanding of risk and risk management techniques. These banks are well prepared to deal in forwards.

A few other banks have remarkably good risk control systems given that changes in the market are so recent. Some may be prepared today to meet the control criteria described in the accompanying report.

The remaining banks will need time to develop adequate controls and management information for the risks which they are already taking. It is unlikely that they will even attempt to meet the criteria described in this report. Thus they should only be eligible for dealing in forward foreign exchange on a fully matched basis.

[1]. A bank which is using its own balance sheet to hedge the forward purchase of dollars against LE could hedge as follows: (1) It could take a deposit in dollars for the term of the forward; (2) It could sell the dollars for LE; and (3) It could invest the LE for the term of the forward as part of its normal funds management. At the maturity of the forward, the customer would pay dollars to the bank, which the bank would use to cancel its own dollar obligation. The bank would pay the customer the LE raised through the liquidation of the bank's LE investment.

Most of the difference between the LE income and the dollar interest expense would get passed on to the customer in the pricing of the forward.

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I. INTRODUCTION AND BACKGROUND

In the first few months of 1991, the Central Bank of Egypt (CBE) took several steps to liberalize the financial sector. In early 1991, the Central Bank liberalized interest rates and launched its first Treasury Bill auction in several decades. On February 27, the Central Bank took some steps to liberalize the trading of foreign exchange and allowed a floating exchange rate on commercial transactions. Currently, all exchange rates are unified and floating. However, certain other restrictions remain. Especially important are restrictions on banks' ability to take trading positions in foreign exchange.

This combination of both interest rate and exchange rate reform improves the climate for the development of a forward market in foreign exchange. However, to develop a forward market, further steps must be taken. This report addresses what steps are needed to develop a forward market in Egypt.

A. PROJECT DESCRIPTION AND SCOPE

USAID/Cairo contracted a team of consultants from APRE's Financial Sector Development Project (FSDP) to provide the participants of Egypt's foreign exchange market with an overview and outline of how forward contracts can be introduced and how they can become an integral part of the system, thereby enhancing the efficiency of the free foreign exchange market.

The project team was asked to describe how the forward foreign exchange market would operate in Egypt, the role of bank and nonbank exchange dealers, linkage with international exchange markets, the Central Bank's role in the forward market, and the effects on interbank dealings. It was also asked to describe typical trading strategies to introduce them to those Egyptian institutions with little or no relevant experience. The Statement of Work is attached as Annex E.

B. PROJECT STAFFING AND METHODOLOGY

The FSDP team which performed this assignment included:

- Janet Marshall Frothingham, Team Leader/Foreign Exchange Specialist. Ms. Marshall has nearly twelve years of experience in evaluating and managing treasury and credit exposure in developing countries. Her range of expertise includes evaluating bank lending, funding and trading strategies, capabilities and management information as well as advising on and providing training.

- Wafik Arif, Egyptian Financial Markets Specialist. Mr. Arif has twenty years experience in finance in Canada, Egypt, the Sudan, Saudi Arabia, and Morocco. He is experienced in credit and marketing management in addition to investment, project and trade financing.

- Jill Minneman, Financial Analyst/Technical Support. Ms. Minneman is a Senior Consultant in Price Waterhouse's International Consulting Services Unit. She has four years experience in designing and participating in financial sector development projects in developing countries for the World Bank and the Agency for International Development.

The first phase of the assignment took place over a three-week period in September 1991. The second phase took place in November, and involved training and discussions with important participants in the banking sector. Annex G contains the trip report from Phase II.

Information for the assignment was obtained from interviews and a broad range of written documents. Team members conducted interviews in Cairo with both public and private sector representatives (see Annex F for a list of persons contacted). The team met with government officials of the Central Bank of Egypt. Meetings also were held with public sector commercial banks, joint venture commercial banks, investment banks, special status public and private banks, foreign bank branch offices, and members of the international donor community. Written sources used for this project include annual reports and research studies of Egyptian financial institutions, journals, and internal documents of the Central Bank of Egypt.

II. FORWARD FOREIGN EXCHANGE

A. Description

A forward foreign exchange agreement commits two parties to exchange currencies, at a pre-agreed rate, at a specified date in the future. A three month DM/dollar forward at 1.68 obligates one party to deliver dollars and the other DM, in three months time, at an exchange rate of 1.68.

B. Uses

Forwards can be used by exporters, importers, foreign investors and banks to manage foreign exchange rate risk.

1. Exporters

An **EXPORTER** uses forwards to establish, in advance, how much LE he will receive from his export even though he will actually be receiving dollars (or other convertible currencies).

With the use of the forward, the exporter is thus able to determine what he will receive, just as though he were selling his product locally. Since the amount the exporter will be receiving will be fixed in advance in LE, and his costs are in LE, the exporter will be in a much better position to aggressively price his products. This will enable the exporter to be more competitive internationally.

In most countries where exporters are successful, they use forwards as an everyday tool when they sell goods in a currency other than the currency of their own country. They price their goods based on the forward exchange rate for the date at which they are to be paid. Normally, after closing a sale they immediately enter into a forward to ensure that they lock in the forward price and thus avoid any exchange risk. This enables company management to concentrate its attention on the production of goods and services rather than exchange risk management.

In the highly competitive international market, manufacturers which speculate on exchange rates don't generally last too long. Often one of the requirements of a company's bankers will be that the company fully cover exchange risk arising from exports.

2. Importers

IMPORTERS use forwards when they commit to pay for goods in other currencies. They use the forward exchange rate to determine what the cost of the goods will be in their local currency if they hedge their risk. At the time they close the price on an importation, they normally hedge. If they don't, they are running the risk that the actual price that they will have to pay in LE, is too high for them to profitably sell the goods they have imported.

Importers can hedge by buying the currency in which they have to pay, at the time that they close the price on their import transaction. However, unless the importer actually has the funds available to buy that currency, it must borrow in its home currency. This is generally more expensive than utilizing a forward because the bank charges a credit spread on the amount borrowed. Additionally it negatively affects the company's debt/equity ratios.

When companies have no way of hedging except to borrow in their local currency, and to buy the currency they must pay, the company's banks, may also find, that their own capital ratios are negatively impacted. Normally the bank making the loan would require the company to deposit the other currency with the bank as collateral. Accordingly the bank ends up with an extra asset and liability which affects its capital ratios. Since this is the most common mechanism currently used in Egypt, Egyptian banks may appear to be less sound than the banks of other countries where there is an active forward foreign exchange market utilized by importers for hedging.

3. Foreign Investors

FOREIGN INVESTORS will normally not invest in countries where they cannot hedge their capital exposure. If a company's International Department wanted to set up a manufacturing plant in Egypt, the first question the Treasurer will ask is whether the capital can be hedged. If the answer is no, it is highly unlikely that a plant will be established. The preferred way to hedge capital is through forwards. If, for example, a U.S. company is the investor it will: 1) bring in dollars; 2) sell the dollars for LE to establish the company; and 3) buy dollars forward against LE as a hedge. The reasoning is fairly simple: If the LE is devaluing over time against the dollar, the company will have to report exchange losses on its capital, unless it can show offsetting gains on its hedge contracts (i.e. its forward purchases).

If the only way foreign investors can hedge is to borrow LE and buy dollars, they will do so, but reluctantly, because this will affect their debt/equity ratios negatively.

4. Banks

BANKS use forwards for a variety of purposes. First, in most developed or semi-developed financial markets, forwards are an essential product to attract and keep the business of exporters and importers.

Second, the bank hopes to earn a spread between the price at which it sells the forward and the price at which it covers it's risk.[1]

Third, in many semi-developed markets, the forward is also a commonly used tool for interest rate management. Since the price of the forward is established based on interest rates (as the next section describes) it represents a "fixed rate"[2] interest expense or income. It can thus be used to offset an "interest rate mismatch" arising out of the normal assets and liabilities of the bank such as deposits and loans.

Fourth, banks can sometimes raise funds cheaper or get a better return on their deposits through the use of a forward. If an Egyptian bank takes deposits in yen, it may find that it is slightly better off hedging its risk by buying yen forward than by buying yen and depositing yen. This is particularly true for banks which may not be in a strong position to negotiate attractive deposit rates in yen, but are able to negotiate good rates on dollar accounts because of the larger amounts involved.

C. PRICING AND TRADING

1. In the Euro Market

In the **EURO MARKET** the forward market price for a currency is based on the current spot rate plus the difference in interbank interest rates between the two currencies for the period involved.

The reason this works is that arbitragers (generally banks) can always offset a forward in the "cash market" by taking deposits in one currency and placing deposits in the other for the term of the forward.

Through the combination of the three transactions (the forward, the deposit taken, and the deposit placed) the arbitrager is hedged as to currency risk. Arbitragers will enter

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[1]. As Annex B explains, forward foreign exchange trading could well be a very profitable business for Egyptian banks.

[2] Technical terms introduced in quotes (" ") are fully explained in the glossary with particular reference to their importance for the development of forward foreign exchange in Egypt.

into such a transaction if the combination of the net interest on their two deposits (taken and placed) plus the interest imbedded in the forward gives them a profit. If the forward is properly priced this will not happen. If it is improperly priced, in other words, if the interest rate in the forward is more or less than the actual rate in the interbank deposit rate, arbitragers will create demand for the forward, bringing the price back into line. In theory, if there is any profit to be made in the transaction described above, arbitragers will immediately create the demand for the forward which will bring the forward price back into line with the actual interbank interest differentials. In practice, some deviation will actually occur before the arbitragers take advantage of the situation. There are transaction costs and most forward dealing operations are not organizationally set up to instantaneously take advantage of such a situation.

However, if there is any significant difference over any period of time, such as a week, it will most likely be arbitraged out because banks will simply raise deposits in the other currency and cover their exchange risk through the improperly valued forward market. This will enable the banks to raise funds more cheaply, than they would have, if they had funded in their own currency. Their demand for the improperly priced forward will thus bring its price back into line with interbank deposit rates.

Banks which are active in forwards have traders who do nothing but buy and sell currencies forward. The traders quote their current rates on their "Reuters" (or Telerate) screens. They enter into forward purchases and sales with other banks either to offset a trade which they have made with a customer or to take a position. That position is typically what is called a "forward forward". The trader will be mismatching, for example, a 3 month forward against a 12 month forward in the same currencies. He is thus not taking any exchange risk but rather taking a position based on his expectation that there will be changes in the "forward premium or discount" on that currency. That premium or discount is based on the difference in interest rates between the two currencies. It can be computed by taking the forward rate less the spot rate.

There are hundreds of banks active in quoting forward foreign exchange. While the forward market is not quite as liquid as the spot market, a position can be covered within a few minutes, 24 hours a day, somewhere in a world trading center.

2. Outside the Euro Market

OUTSIDE THE EURO MARKET there are also very active forward markets. Brazil, for example, has been very successfully increasing its exports over the past decade despite tremendous internal problems. One of the reasons Brazilian exporters can be so

successful internationally is their access to a well- developed forward foreign exchange market in Brazil. Based on the forward market prices, exporters can establish what they will earn on an export and thus negotiate prices in the external markets with assurance.

The forward market also gives Brazilian banks another tool for managing the interest rate risk arising from imbalances in terms between their liabilities and their assets.

Outside the euro market, forward foreign exchange transactions are not handled as an entirely separate trading activity. While a bank may be able to offset its currency and interest rate risk with another forward - it is not assured (or in some cases even likely).

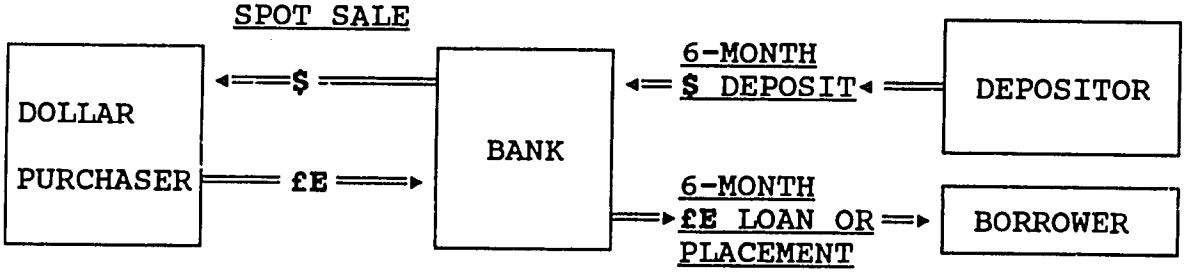
In this case, the exchange rate for the forward foreign exchange is normally based on the interest income or expense a bank will incur hedging the transaction through its normal deposit taking and placement activity.

Accordingly, the bank will offer prices for forwards that will enable the bank to fully hedge the risk in the "cash market". In its simplest form that means taking on liabilities (deposits) in the currency to be received, buying the currency to be paid and placing that currency on deposit.

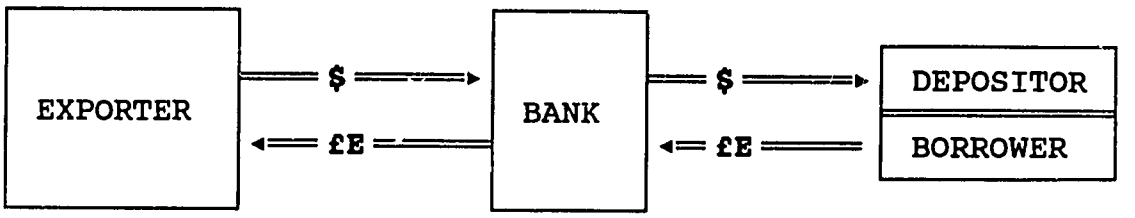
For example, if an exporter wanted to sell dollars forward and receive LE six months from now the bank would offer a price at which the bank could purchase the exporter's dollars in six months, hedge its risk, and take a small spread to earn income.

Since the bank would be receiving dollars it would take on a liability in dollars, those dollars would be sold for LE. The LE could then be deposited in the interbank market. Since LE interest rates are higher than dollar interest rates, this difference would result in the bank having extra interest income, which it could pass on to the customer, by paying more for the dollars six months from now than today. The diagrams below demonstrates how this would work.

HEDGE OFFSETTING THE RISK OF A FORWARD PURCHASE OF DOLLARS



AT MATURITY OF THE FORWARD



The equation for calculating the forward price is as follows:

> The current spot rate multiplied by 1 plus (the bank's effective income on placing a six month LE deposit less the bank's effective cost of taking a six month dollar deposit).[3]

If an importer wanted to fix a price at which it could buy dollars forward, the bank would take just the opposite action to hedge. Since it has to deliver dollars, and will receive LE, it would borrow LE, buy dollars, and deposit the dollars. Since the LE interest rates are higher than dollar rates the bank would have a loss on the difference between the interest rates. That loss would be passed onto the customer in the pricing of the forward contract.

The pricing would be based on the equation above. But in this case, the importer would be paying more than today's spot price for the dollar while, in the other case, the exporter would be receiving more than today's spot price for the dollar.

The bank would try to make as much income as it could between the price that it could negotiate with the customer and the price calculated in the formula above. If there are a number of banks offering forwards the customer will be able to strike a better deal than if there is no competition.

While the bank will price the transaction based on the equation above, as though it were going to fully hedge, it may not actually do so depending, 1) upon its overall risk position and 2) upon its expectations for interest and foreign exchange rates. Further it may find even more optimal ways to manage the position. The hedging technique shown above creates an extra asset and liability for the bank. If however, the bank already has assets and liabilities in the currencies in which it sells the forward, it can often simply adjust its normal deposit taking and lending activity to hedge the transaction.

[3]. Appendix B gives examples of pricing.

If the bank does not hedge the forward agreement it is exposed to three types of risks: 1) that the exchange rate will change; 2) that the effective cost of raising LE will change; and 3) that dollar interest rates will change.

The **risk that the exchange rate will change** is a risk that the bank already has in its spot trading positions. It may also have that risk as the result of currency mismatches between its assets and liabilities.

The **risk that LE interest rates will change** is another risk that the bank is already taking as a result of its normal deposit taking and lending activity. It should be measuring its risk, deciding how much risk it wishes to take and positioning the bank to take advantage of changes in LE interest rates. The LE interest rate risk, which forms part of the forward pricing, can be offset against the interest risk which the bank already has. Conversely it may increase the risk. In many markets the forward plays an important role as a product to help the manager of interest rates to do a better job.

The **risk that dollar interest rates will change** is the same type of risk, as the risk that LE rates will change. It would be managed in a similar fashion.

Since forwards are not necessarily going to be hedged with other forwards, the management of the position is more complex than in the Euro markets. The bank cannot simply hire a forward trader. It must manage its hedging of its forwards as part of its overall currency and interest rate risk.

This is best accomplished where all types of "treasury risk" are the responsibility of one manager. It also helps to have both foreign exchange traders and large deposit dealers physically located close together. The trader who is pricing the forward needs easy access to current exchange rates and interest rates. After a transaction is concluded, the trader needs to coordinate hedging strategy with the spot foreign exchange trader and whoever is managing interest rate risk.

D. Linkage to International Foreign Exchange Markets

Customers of Egyptian banks are primarily going to be interested in forwards in LE against the dollar. There are, however, customers who need to buy or sell other hard currencies spot or forward.

Once the Egyptian bank's trader has calculated the forward rate in dollars, he can readily determine the forward LE rate against other currencies such as the DM. It is a matter of simple multiplication to take the forward rate for the dollar in LE and multiply it by the forward dollar rate for DM for the same period.

The forward premiums and discounts for euro currencies, shown on the dealer's Reuters screen, gives a reasonably accurate indication of the current prices for "marketable amounts" for different forward periods. There will be rates for one month, two months, three months etc.

For very small transactions, the bank trader will set his forward LE rate based on the rates on the screen.

For somewhat larger transactions, the trader will want to actually call and get an indication rate for the actual amount and the actual forward date that his customer desires.

For small deals, the trader will probably not actually do an offsetting forward in the euro currency. He will instead include the deal as part of his overall exposure and interest rate risk in that currency.

In addition to risk and positions assumed as a result of customer deals, the bank may wish to position itself in various hard currencies as an investment or trading strategy. This position may be held in the form of an uncovered forward purchase of that currency, or as an imbalance between assets in that currency and liabilities in it.

In order to deal in forward foreign exchange the Egyptian bank will require some counterparties with whom it can offset its risk. Bank traders are enabled to trade only if their credit department has established an "internal credit limit" for the party with whom they wish to trade. Egyptian banks are working with many banks in the Euro market which have established internal spot credit limits to enable that bank's dealers to work with Egyptian banks. In banks active in the forward market, there is, however a different type of limit required for transacting forward foreign exchange. This limit is more difficult to obtain than a spot limit. Both parties are taking risk on the other's performance that exceeds the two day delivery period of a spot transaction. Before assuming that a bank which deals spot with them will deal forward, the Egyptian bank's traders will need to find out whether there is a forward limit set up so that indeed they can cover their risk by trading with the banks with whom they normally do business.

III. STEPS REQUIRED TO DEVELOP A FORWARD MARKET IN EGYPT

The most important changes which will have to occur to encourage the development of an active forward foreign exchange market in Egypt are as follows:

1. DEVELOPMENT OF AN ACTIVE INTERBANK MARKET IN FOREIGN EXCHANGE.

2. CHANGES IN LIMITATIONS ON NET CURRENCY POSITIONS FOR BANKS TO ENCOMPASS FORWARD POSITIONS.

3. AN EDUCATIONAL PROCESS.

(Additionally, the Central Bank should be concerned about risk controls. This subject is covered in Section IV.B.)

A. Development of an Active Foreign Exchange Interbank Market

THE DEVELOPMENT OF AN ACTIVE INTERBANK MARKET presents a considerable challenge to the Central Bank. Presently, the banks are basically buying and selling dollars only within their customer base. Any excess dollars are normally sold to the Central Bank. If banks have a shortage of dollars they simply don't deal and the customer has to look elsewhere.

This is a very inefficient system for both commercial customers and banks. Commercial customers wanting to buy large amounts often do not have access to a liquid bank market where they can call several banks and shop for the best rate. In fact, in some cases, they may not be able to quickly cover their needs at all. Since there is not a functioning interbank market, banks are only selling on the basis of what they have bought in the course of a day or from their opening positions.

From a bank's perspective, since it is unable to count on the interbank market to cover its needs, it also is unable to adjust its risk position during the day except through buyers and sellers who come through the door. This problem extends to forwards. Since a liquid forward foreign exchange market does not exist, the bank must hedge by buying and selling in the spot market.

There seem to be a number of **REASONS WHY AN ACTIVE INTERBANK FOREIGN EXCHANGE MARKET HAS NOT DEVELOPED.** The most important reasons seem to be:

1) The four government banks which control the major share of the market are not generally engaging in interbank trading with other banks, although Bank Misr has made some efforts to do so.

2) It would appear that many banks find that the Central Bank can be convinced to pay more for their dollars than the other banks might pay; They have no incentive to sell within the interbank system.[4] Alternative systems for Central Bank buying should be considered.

3) There is some uncertainty amongst traders about whether the Central Bank wants banks to trade actively with each other. A number of banks didn't think the Central Bank was in favor of trading. Thus when they did trade, they felt that they were taking some risk. The writers saw no evidence that the Central Bank is promulgating this attitude; it is perhaps a result of years of past experience in less market oriented circumstances. Some encouraging words from the Central Bank could be useful to set aside these doubts.

4) Some rules need to be established amongst the traders. For example, the use of the Reuters Quoting Screens. Some of the dealers post retail rates, some interbank rates and others just post some rates so that there are numbers on the screen. In general, the bank traders are not prepared to deal with other banks at the rates which they post. If they have dollars, they want to make sure they are available for their normal corporate clients. If they don't have dollars, they don't want to sell because they are afraid that they will not be able to cover a short positions. In most markets, dealers establish an association and form committees to agree on trading and quoting rules. These rules are updated as the market changes. Since the traders have set the rules they feel professionally bound to respect them. This could be encouraged, perhaps initially, under the wing of the Central Bank, as a number of banks have suggested to the writers.

[4] This seems to be the result of the Central Bank's accommodating attitude toward banks who have to sell their excess currency positions as a result of limitations on their free market position.

Encouraging dealers to get together and discuss the issues would also introduce them to each other. In addition to encouraging interbank foreign exchange trading, such an introduction would likely encourage more active interbank activity in other products. Furthermore, it would form a good forum for training, with both the Central Bank and the traders suggesting topics.

In addition to active interbank trading in foreign exchange, it would be helpful if there were an active overnight interbank deposit or a "repo" market in LE. Since banks will need to cover their forward sales or purchases of dollars by buying or selling in the spot market, they will need LE to fund their purchase or conversely they will produce LE through the sale of dollars spot. This requirement for LE or excess LE can be absorbed into the bank's normal funding position - but it may take several days, particularly for larger amounts or in the final days of a reserve period.

B. Changes in Central Bank Limitations on "Net Currency Positions" to Encompass Forward Positions

The next requirement for the development of a forward foreign exchange market is for the Central Bank to **CHANGE THE LIMITATION ON NET CURRENCY POSITIONS FOR BANKS SO THAT IT ENCOMPASSES FORWARD POSITIONS.** Banks have been given absolute limits on their net positions in the free foreign exchange market. Since forward positions will often need to be offset in the free market on a spot basis, the limits must apply to the net currency position after factoring in the forwards.

Furthermore, the Central Bank should seriously consider establishing one simple limit for each bank which would encompass all currency exposure regardless of its source. This limit would be set on the net position of the bank. It would include:

- All foreign currency assets and liabilities on the balance sheet.
- All commitments to deliver currency on which an exchange rate has been established. Included in this category would be forward foreign exchange transactions and other commitments such as prepaid letters of credits where the bank is committed to deliver foreign currencies without further payment from the customer.[5]

This type of limit would 1) ensure that the banking system was properly measuring its risk and 2) that it was enabled under bank regulation to fully hedge its risk.

[5] All currencies other, than the LE, would be converted into dollars, at the current spot rate for purposes of measuring compliance with the limit.

Banks with foreign ownership should be enabled to treat their parent's share of capital as a dollar liability for purposes of compliance with the limit. This is a normal procedure in many countries where limitations are applied to the net currency positions of banks. It is particularly important in Egypt today as some foreign partners in the joint ventures will be called upon to put in additional capital to meet the new capital adequacy requirements. The foreign partners depend upon the joint venture to constitute a capital hedge for them by holding a long dollar position to offset the foreign partners share of the joint venture's capital. If the joint venture is unable to cover the foreign partner's capital, the foreign partners will be very reluctant to put in more capital. Banks in general will not invest in countries where they cannot hedge their capital.

Banks often use indexed products to circumvent net currency restriction limitations. These products are useful because they can provide exchange protection without actually absorbing cash. They should be allowed. However, the net currency limitations should be extended to include such products if the Central Bank decides to implement a single limit as suggested above.

Before applying such a limitation, the Central Bank would need to take a close look at the current position of the banking system. If the system is imbalanced, the implementation of such the limit could, for example create a demand for LE which the government might need to offset within its normal exchange rate policy.

In determining the current positions of the banks it would be important to ensure that all banks are properly measuring their positions. It is not uncommon to find that there is some misstatement, particularly in the case of banks which work with prepaid letters of credit. A well trained Central Bank auditor would need to review the numbers reported by the banks and perhaps question the banks to ensure that they are not inadvertently leaving out part of their exposures.

C. An Educational Process

In addition to the factors described above, **AN EDUCATIONAL PROCESS** will be required. The new Banker's Institute would be an ideal forum for providing training.

Bank traders need to understand how they can price and work with forwards;

Bank management needs to understand the risks. They need to know how to utilize a system of limits and reports to control and review risk, and follow performance;

Bank loan officers need to understand how the forwards work and the advantages they offer. With a good understanding of forwards and their uses, the loan officers can then help their customers to also understand the product and they can identify situations where forwards would be useful.

This process could take considerable time. The first hurdle is getting people to understand that the forward is not a predictor of the future exchange rate. It is simply a mechanically determined number based on the spot price for the currency plus the "interest differentials" as we have described earlier.

The easiest group to train will be the bank's traders. Most of them are already familiar with forwards, as they are traded in the Euro market. With very little help they will be able to adapt the concept to the Egyptian market. Many of them will have a natural interest in working with a new product.

The bank's managers will be more difficult to train. First, they need to understand forwards and how they will be hedged within the bank's overall interest rate and currency positions. Second, they need to establish a control system to ensure that the bank is not exposed to unduly large risks. Further, they must oversee the establishment of management information and performance reporting. In any country these are complex tasks and the help of specialists may be required.

The loan officers can be trained through a series of seminars which can most likely be put on by the traders. They have to be "sold" on the product before they are apt to approach their customers, particularly on a subject as confusing as forwards.

IV. THE CENTRAL BANK'S ROLE IN FORWARD MARKETS

A. Pricing

Several banks have suggested that the Central Bank should take a role in offering forwards to induce the banks to get started. This is not recommended. Pricing of the interest component is complex and it depends upon the various banks' effective costs. Central Bank forward trading could easily result in an improperly priced market either discouraging trading or enabling the banks to arbitrage the Central Bank. To the extent that the Central Bank buys and sells currencies, it should do so in the spot market.

B. Prudential Regulation and Oversight

Central Bank regulators should generally treat treasury risk as they would credit risk. Central Banks do not tell banks how much they can lend to each individual type of customer. Most of them do, however, limit maximum exposure to one customer to some fraction of capital to ensure that the failure of one customer does not lead to the failure of the bank. Central Banks also require that the banks have the staff and management systems in place to analyze credit risk; make credit decisions on a sound basis; and to follow the credit until repayment is made.

Utilizing this as a philosophy the Central Bank then should only be specifically limiting the most serious exposure. The risks in forward foreign exchange trading are exchange rate risk and interest rate risk.

The exchange rate risk on LE/dollar forwards would be covered by the overall limits described in section IIB.

While large interest rate positions can result in large losses, interest rate risk is impossible to limit using a simple number. The Central Bank should not attempt to tell banks how much interest rate risk is acceptable.

Since the Central Bank would not be specifically limiting all exposures, the Central Bank should be taking the position that the banks should maintain systems of risk control and risk measurement commensurate with the kinds of business risk which they engage in. What the Central Bank should expect of a bank, which is doing forwards is the following:

1. **A system of limits controlling interest rate risk, and foreign exchange risk.** These limits should be established by the Board of Directors for the bank's overall positions. Additionally, sublimits should be set for individual managers and traders along with policies governing how those sublimits can be increased permanently or

temporarily. Stop loss limits should be established for trading positions.

In most banks, Treasury Management proposes limits to Bank Management, which in turn submits them to the Board after consideration. The limits should be submitted to the Board along with an analysis of the risks to ensure that the Board fully understands what it is approving.

Along with the limits Treasury Management should also be expected to submit a statement of accounting policies (approved by the bank's external auditors); examples of all reports which will be used to control compliance with limits including those detailed below; and, other internal policies for the trading and risk taking activities such as those covering operational risk.

The purpose of involving the Board it to ensure that all the way through the organization, the risks and controls have been carefully thought out and reviewed.

2. **A system of limits controlling credit risk.** From a credit perspective, forward foreign exchange transactions are more risky than spot transactions. In a spot transaction the bank is dependent upon the "counterparty" to deliver within the spot period which will be two days or less. In a forward the bank has risk for the whole period of the forward contract. The bank is depending on the customer to deliver the currency he is obliged to deliver at the delivery date of the forward. If the customer does not deliver and the market price of that currency has fallen the bank is subjected to a loss. Further, the bank is exposed to the normal delivery risk of a spot transaction. A separate set of credit limits needs to be established for forward foreign exchange transactions.

3. **A system to ensure that management be made aware should there be any infraction of the limits.** The accounting area of banks usually takes responsibility for measuring compliance with limits and reporting limit violations should they occur.

4. **A daily position report on all currency exposures.** This should be available to the foreign exchange manager before the opening of trading each day.

5. **A system to estimate the bank's foreign exchange position during the day.** That system should capture all interbank and large

customer trades done from the trading room plus all branch transactions over a minimal amount. Small retail transactions should simply be estimated based on historical data. The end of the day estimate should be subsequently reconciled to the actual position to ensure that the process by which estimates are made remains valid.

6. **Reports which show the interest rate risk of the bank.** These are most commonly set up as "gap" reports. Appendix C shows what such a report looks like in its most basic form. Depending upon the amount of activity, this report showing interest rate risk and limits on that risk should be updated daily or weekly. If interest rates are fixed until maturity the report will show deposits, loans etc. based on their final maturities. If, however, the interest rate may be changed before maturity, the report shows the assets and liabilities, as of the date at which the rate can or will be changed. Separate reports would need to be available for forwards and balance sheet assets and liabilities. A third report would combine the two.

7. **There should be some attempt to measure the profitability of trading activity.** Depending upon the type of activity, that can be quite easy or very complex. It will be easy if the activity involved is pure trading such as the spot buying and selling of DM. However, it will be difficult with the forwards, where the position may be hedged by the bank's overall assets and liabilities rather than specific assets or liabilities created for the sole purpose of hedging forwards.

   In the banks with the best of systems the Treasury acts more or less like the bank's company store - buying and selling money. It "pays" for funds raised by the retail area based on the effective cost of incremental funds for the period involved and it "sells" the funds to the lending area at the same cost. The Treasury must then make its money by properly positioning the bank to take advantage of changes in interest rates. To evaluate the management of the forward interest risk such a system would have to be in place.[6]

   That concept can, however, be used for evaluating the individual trader who has entered into a forward. A PC based measurement

[6]. Banks in recent years have been implementing these types of transfer pricing systems. The systems enable bank management to assess reasonably accurately whether the treasury is making money from its interest rate positions; whether the credit area is making a profit over the banks effective cost of funds; whether individual trading activities and traders are profitable etc. This type of system gives bank management a powerful tool for assessing performance and lines of business.

system can be set up whereby he "buys" his cover from the spot trader and the bank's funds managers "charge" or "pay" him for interest rate cover. He should be expected to earn a profit which means that he has created value for the bank.

8. The bank's accountants should be prepared to handle accounting for forward foreign exchange transactions. Those done in Euro Currencies are very easy to account for. The current price can be obtained by looking at the Reuters screen. Those done in LE are going to be more difficult. There will be no published market price since there will not be a liquid market, particularly initially. The accountant will thus be dependent upon the dealer to tell him what the price should be. Additionally, many of the transactions may be hedged with the bank's balance sheet. These should be given hedge accounting treatment if they can be linked to specific assets and liabilities on the day of the forward trade. In this event they will not need to be marked to market as the unhedged transactions should be.

If the Central Bank takes the position that it is the bank's responsibility to manage its own risk and to have proper controls and accounting, then the Central Bank needs the ability to occasionally audit those controls. This means that the Central Bank is going to have to have to have auditors who are capable of evaluating what they are being shown. Central Bank auditors worldwide find these subjects difficult. The auditors in Egypt will need training and may even need a knowledgeable consultant to work with them for six months to a year to ensure that they are on the right track.

This may seem like a large price to pay for developing a forward foreign exchange market. However, <u>these controls, reports and procedures are critical to establish regardless of whether a bank actually trades forward foreign exchange.</u> Banks already have interest rate risk, currency risk, liquidity risk, and trading activity. They need to understand it and manage it.

V. OPEN POSITIONS IN EURO CURRENCY FORWARDS, OPTIONS AND FUTURES

Banks which meet the kind of criteria described above in Section IV should be considered to be in a position to manage risk responsibly. CONSIDERATION SHOULD BE GIVEN TO LIFTING THE CURRENT RESTRICTIONS ON FORWARD FOREIGN EXCHANGE ACTIVITY IN EURO CURRENCIES.

Euro forwards offer opportunities to improve profitability without necessarily incurring risk. A forward can be used to hedge a basket of small currency exposures rather than having to cover in the cash market. Depending upon the interest rates that foreign banks are paying Egyptian banks for their deposits - forwards may be a better way to hedge currency risk than making deposits in that currency to offset obligations. Additionally some risk taking in Euro currencies may be worthwhile when the market has a clear trend.

Egyptian traders have also mentioned their interest in being able to transact business in foreign exchange options and futures. **The Central Bank may wish to be given notice if a bank is going to begin trading in these products.**

Foreign Exchange options are a difficult subject. Used properly they are a very valuable risk management tool and they can provide significant advantages to corporate customers. Used improperly they can be exceedingly risky. Even the most experienced banks in managing option exposure have suffered large losses from time to time. Sometimes those losses are a result of a deliberate positions that management was aware of. More often they are the result of limit excesses and improper accounting. Given the complexity of options it is difficult to find accountants who can truly evaluate exposure and profitability.

The majority of banks, even in highly developed markets, are not trading in futures. There are, however, some which have been successfully arbitraging the forward foreign exchange rates against the foreign exchange rate futures. While this is not a particularly risky activity done in small amounts, it would seem to be a cumbersome way for Egyptian banks to hedge the modest activity which they will have in foreign currencies.

VI. PARTICIPANTS

A. Banks

Brief visits to 15 banks in Egypt indicate that at least 4 or 5 banks which can do local currency activity already have all of the types of controls, reports etc. described above. Several others are close.

In other banks, significant work needs done just to control and measure risks already being taken. The most worrisome of these banks maintain that they are not taking any risks. That is virtually impossible for a bank. Its normal activity creates risk. It is only with significant efforts that these risks can be managed, particularly the more subtle forms of risk which may not be immediately apparent. Bank with this attitude often fall into more serious problems than banks willing to take measured risks.

B. Non Banks

Non banks (exchange houses) are unlikely to be significant players in a forward foreign exchange market, particularly in its early stages. They are only allowed to trade currencies in physical form. They are thus not generally going to be able to efficiently transact foreign exchange deals for the larger amounts which are normal in forward markets. Further, unlike a bank they do not have the deposit taking and placement activity which provides a natural hedge for the forward. Even in markets where they enjoy greater freedoms they have not had importance in forward foreign exchange trading.

ANNEX A

GLOSSARY OF TERMS

Arbitrage: Simultaneous transactions which enable an "arbitrager" to make a profit without taking risk. In foreign exchange trading, the arbitrager (typically a commercial bank) tries to make a profit from situations where the forward foreign exchange rate gets out of line with the spot rate plus or minus the interest differential for the term of the forward. Where there is a profit opportunity the arbitrager will take one position in the cash market (see "cash market") and an opposite position in the forward market thus locking in a spread without taking risk.

Alternatively the arbitrager will take advantage of a difference between markets. If the forward yen/DM rate quoted in Tokyo is not equal to the forward yen/dollar rate times the forward dollar/DM rate quoted in Australia the arbitrager will use this difference to make a profit by offsetting the forward yen/DM contract traded in Tokyo with a yen/dollar and dollar/DM contract traded in Australia, all executed at the same time.

Bid: The price at which a bank offers to buy currency

Bid/offer spread: The difference between the bank's bid and offer rates. This will normally be considerably larger for retail transactions than large interbank transactions.

Brokers: Brokers are commonly hired by corporations or banks to "shop " for the best foreign exchange prices on their behalf. Since the bank which quotes the broker has no idea whether the broker is representing a buyer or a seller the quoting bank is not in as strong a negotiating position as it would be if it knew what the customer wanted. Once an agreement is struck, the broker reveals who the party is and the bank decides whether it does, or does not wish to take the credit risk of dealing with that customer. The broker does not enter into the trade but does earn a commission paid by the company or bank which it is representing.

Cash Market: This term is used to describe trading or holding of actual assets and liabilities. An Egyptian bank making loans and taking deposits is working in the cash market as assets and liabilities are being created, as opposed to the derivative markets such as forwards, interest rate swaps etc. which are commitments.

Closed position: A matched or balanced position in a particular currency where the total assets and liabilities in that currency are exactly equal.

Counterparty: The party with which business is being transacted.

Cross-currency rate: The rate of exchange betv een two currencies, neither of which are the home currency. (Since the euro trading market "thinks" of itself as dollar based, the word cross is usually used to describe transactions between currencies other than the dollar, such as DM/Sterling, Yen/Australian Dollar even though the traders may physically be located in Germany or Japan.)

Effective cost of funds: A bank's cost of funds after factoring in the cost of reserve requirements or other requirements which produce an extra expense for the bank.

Eurocurrency: A freely convertible currency held outside the domestic country of that currency.

Fixed Rate: The interest rate on a transaction, fixed on a contractual basis, in which neither party can prepay, make demand or change the interest rate. If the interest rate is fixed to the maturity of a contract it is known as a fixed rate asset (liability). If, however, the interest rate can be changed before maturity it is a floating rate asset or liability. The period, however, in which a floating rate asset or liability is contractually fixed is known as the fixed rate period. In evaluating interest rate risk it is critical to closely examine a transaction before determining that it is indeed fixed rate. Fixed rate assets and liabilities are used for hedging forward foreign exchange exposure.

Foreign exchange future contract: An exchange-traded contract for future delivery of foreign exchange on standard dates. The exchange marks the agreement to market daily. The participants must post margin.

Forward discount: When the price of a foreign currency, in terms of the domestic currency, is lower forward than it is spot.

Forward forward: Two opposing forward foreign exchange contracts entered into to take an interest rate position.

Forward premium: When the price of a foreign currency, in terms of the domestic currency, is greater forward than it is spot.

Gap: A mismatch. This is a term typically used in describing interest rate or liquidity positions where the bank may, for example, have a fixed rate deposit and no offsetting asset for that same term.

Gap report: A report commonly used by banks to display interest rate risk. Limits are normally set and controlled based on the methodology used in preparation of the report. Annex C shows a version of such a report.

Interest rate mismatch: A mismatch between the interest rate terms of a liability and an asset. A fixed rate (see fixed rate) 180 day loan funded by a 30 day fixed rate deposit is an example of an interest rate mismatch.

Internal credit limit: This is a limit established by a bank governing how much credit risk it is willing to take with a counterparty. Normally different types of limits are set up for spot foreign exchange trading, which is essentially a two day risk and forward foreign exchange trading where the risk period is much longer.

Marketable amounts: Describes normal interbank amounts. If a DM/dollar trade is being referred to, a marketable amount might be between $1 million and $20 million. If a less active currency is being traded, a marketable amount might be from $200,000 to $2,500,000.

Marketmakers: Traders who are prepared to offer two-way prices for normal amounts at any time during which the market is active. This means that they will quote a price at which they will buy and a price at which they will sell without knowing whether the party to whom they are quoting is going to buy or sell. These prices are good for normal amounts dealt in their particular market.

Offer price: The price at which a bank offers to sell.

Repo: Also known as a repurchase agreement. In this transaction a bank sells a security (typically a treasury bill) to a party with whom it has an agreement to repurchase the security at a different price at a specific date in the future. The difference in price is effectively an interest rate. While this transaction can be set up for longer terms it is generally a very short term transaction. In most markets, banks use this type of transaction to raise funds cheaper than raising deposits. The reason that the funds are raised cheaper is that the party providing funds has two sources of repayment. If the bank did not honor its agreement to repurchase the security, the other party would at least have the treasury bill which it could sell and hopefully not lose any money.

Reuters: Foreign exchange trading rooms have screens sold by the news service Reuters. The screens enable the traders to view current interbank rates for currencies or deposits and check on world news. The simplest version of "reuters" is simply a monitor with a keyboard and the dealer can choose which type of information he wants to view out of an enormous selection of alternatives. More complex systems enable the dealers to hold a conversation by typing messages which then appear on the screens. These systems are normally used in larger trading operations because the deals can be arranged between the dealers working on the screen and then printed so that there is a hard copy of the transaction to ensure that there were no misunderstandings between dealers. The most active competitor for Reuters is Telerate which offers similar service.

Spot: A term typically meaning that settlement is made two business days later as it is in the Euro market. In markets where delivery is generally made same day (as in Egypt) the term may end up being used for same day delivery.

Treasury Risk / Treasury Department: Treasury risks are generally defined to be interest rate risk, liquidity risk and foreign exchange risk. In most banks all treasury risks fall under one manager who then controls overall risk taking within limits established by the bank's

Asset/Liability Committee and the Board of Directors. The Treasury department is expected to maintain adequate liquidity for the bank, to keep risk to acceptable levels and to make a profit off of the positioning, which it should, and does, do.

Additionally, there are operational risks associated with trading activity. Except in very large trading operations, the operational area is often under a different manager to maintain separation of responsibility.

Two-way (or two-sided) quote: *See* marketmakers.

ANNEX B

FORWARD PRICING EXAMPLE

The following example shows the breakeven price at which banks could buy and sell LE forward against dollars for different periods. IT IS BASED ON THE INTEREST RATES INDICATED AND THE ASSUMPTION THAT THE BANKS COULD BUY DOLLARS OR SELL DOLLARS SPOT (SAME DAY) AT 3.30 IN THE INTERBANK MARKET. To the breakeven rate the banks would add a negotiated spread to cover the bank's credit risk on the forward and to make a profit.

FORWARD PERIOD	ONE MONTH	TWO MONTHS	THREE MONTHS	SIX MONTHS
Effective LE Deposit Rate	24.0%	24.0%	25.0%	26.0%
$ Deposit Rate	5.4	5.5	5.5	5.7
Annual Interest Differential	18.6	18.5	19.5	20.3
Net Interest Expense **Incurred** in Hedging a Forward Sale of Dollars for the Forward Period	(1.55%)	(3.08%)	(4.88%)	(10.15%)
BREAKEVEN EXCHANGE RATE FOR THE FORWARD SALE OF DOLLARS FOR THE INDICATED PERIOD	**3.35**	**3.40**	**3.46**	**3.63**
Net Interest Income **Gained** in Hedging a Forward Purchase of Dollars for the Forward Period.	1.55%	3.08%	4.88%	10.15%
BREAKEVEN EXCHANGE RATE FOR THE FORWARD PURCHASE OF DOLLARS FOR THE INDICATED PERIOD	**3.35**	**3.40**	**3.46**	**3.63**

EXPLANATIONS

The **FORWARD PERIOD** refers to the term of the forward. If today were January 1, a three month forward would mean that the parties would exchange currencies on March 31.

The **EFFECTIVE LE DEPOSIT RATE** is the rate that the bank actually has to pay to gather additional funds in commercial amounts. Since there is a 15% reserve requirement the bank can only utilize 85% of a deposit whilst paying on 100%. The equation for reserve adjusting the cost of funds is the rate paid to the depositor divided by (1 - the reserve requirement). If the nominal rate paid to the customer is 20%, the effective cost is thus 23.53%. To the extent that the liquidity reserve begins to also increase the effective cost of funds, it must be added in as well.

Unless an offsetting forward can be found, the bank must hedge its currency risk using its cash book. To hedge a forward perfectly, the bank needs to create a liability in the currency it will receive and an asset in the currency it will pay, both of which should be at a fixed interest rate for the term of the forward.

The first part of the example shows the **NET INTEREST EXPENSE INCURRED IN HEDGING A FORWARD SALE OF DOLLARS FOR THE FORWARD PERIOD.** Since the bank would be selling dollars forward it would need to take a LE deposit for the same term as the forward, buy dollars spot and create a dollar asset for the term of the forward (a eurodollar placement probably). Since LE rates are higher than dollar rates the bank would suffer a loss as it would be borrowing LE and depositing in dollars. The amount of the loss would be greater depending on how many months the loss goes on for. If it is only for one month the bank will lose 1.55% of the principal amount involved. If it is for six months the bank will lose 10.15% as shown in the chart.

The **BREAKEVEN EXCHANGE RATE FOR THE FORWARD SALE OF DOLLARS FOR THE INDICATED PERIOD** is simply the spot rate (3.30) times (1 plus the interest loss). This is the rate at which the bank could pay interest on an LE deposit; use the LE funds to buy dollars; and earn a dollar interest income while breaking even against the forward sale of those dollars.

To that rate the bank will add a spread as large as the market will bear. The spread will be encompassed within the rate. If the bank wanted to make 1% on the transaction, it would offer to sell the dollars one month forward at 3.38; if it wanted to make 2%, it would offer to sell the dollars at 3.42.

The **NET INTEREST INCOME WHICH WOULD BE GAINED IN HEDGING A FORWARD PURCHASE OF DOLLARS FOR THE FORWARD PERIOD** is simply the flip side of the transaction described above. In this case since the bank would be purchasing dollars forward it would borrow dollars at the euromarket rates for the term of the forward, sell the dollars spot and place the funds into an LE asset for the same term. This is where forwards in Egypt get complicated because there is no term interbank deposit market. Bank's purchasing dollars forward will have three choices: 1) They can find a borrower for the term of the forward; 2) They can reduce deposit taking for the term of the forward and thus absorb the LE; or 3) They can manage their risk within their overall interest risk position.

The effective cost of raising LE deposits for the term of the forward remains, however, a good benchmark for pricing the forward. If a commercial customer if found which happens to wish to borrow for the term of the forward, the rate which it will pay should be higher than the bank's effective cost of raising deposits. That difference is, however, the credit spread and it should not be factored into the forward pricing. It is a spread that the bank could otherwise make independent of the forward.

Alternatively the bank can reduce deposit taking. In this case the "income earned ", is in essence, the lower interest expense resulting from the reduced deposit taking. In this case, again, the effective cost of raising deposits is the proper measure of the return on the hedge.

This sounds very complicated, but in fact, is a highly common and easy way of managing forward trading in markets similar to Egypt.
The bank may, however, need to factor in some additional spread when it is purchasing dollars forward simply to provide a cushion for any funds which cannot immediately be put to work. This cushion is needed largely because Egypt does not have a fluid interbank deposit market as most other countries have.

The additional spread should be very easy to obtain from an exporter, if the exporter has assessed its alternative cost of hedging as the final section of Annex D explains.

ANNEX C

EXAMPLE - GAP REPORT

	Assets	Liabilities	Net	Cumulative	Limit
Net Open Position				-5	
Non-interest Bearing Accounts	28	50	-22	-27	
Savings Accounts	0	75	-75	-102	
Current Month	175	144	31	-71	100
Month 2	10	20	-10	-81	80
Month 3	5	15	-10	-91	75
Month 4	16	3	13	-78	70
Month 5	22	7	15	-63	60
Month 6	14	0	14	-49	50
Month 7	0	4	-4	-53	45
Month 8	2	0	2	-51	40
Month 9	23	11	12	-39	35
Months 10-12	5	0	5	-34	20
1 to 2 years	40	12	28	-6	5
2 to 3 years	25	22	3	-3	4
3 to 4 years	0	0	0	-3	3
Over 4 years	5	2	3	0	2
TOTAL	370	365	5		

EXPLANATORY NOTES

General Notes

This is one format, of the many which could be used, to display interest rate risk positions. Banks generally prepare one of these for: 1) Their cash books in each currency in which they have assets and liabilities; 2) Their forward commitments in each currency; and 3) The combination of their cash books and their forward commitments in each currency. An active international bank will thus have a number of different gap reports.

Ideally the format would also include the average interest rate for each period for assets and for liabilities.

The assets and liabilities are put into the report based on when the interest rate can be changed. If, for example, a loan is for a term of 5 years but, in fact, the interest rate can be changed by the bank after 3 months, it would belong in the 3 month gap period. Particular care in determining interest rate change dates is required in working with products which have an "imbedded option" as is common in Egypt. If a 3 year loan can be prepaid without penalty, the bank is not assured of a 3 year stream of income. Thus the bank may have a commitment to lend for 3 years at a fixed rate, but the borrower may not have a commitment to borrow. This will require footnoting and a good understanding on management's part of the implications. Generally when management does have such an understanding, loan officers and retail bankers are no longer permitted to allow imbedded options unless the bank is fully aware of the risk, has priced it properly, and has a strategy in place to hedge the risk.

The report may also include the bank's net worth to the extent that it is not invested in non-interest bearing assets. If net worth is included, the bank needs to make a judgement regarding how long it wants to lock in the return on its capital and thus which period to put it into.

Specific Notes Keyed to The Gap Report

(A). The net open position is the difference between assets and liabilities in the particular currency of the gap report.

(B). Non-interest bearing accounts would normally include reserves at the Central Bank or any other non-interest bearing assets as well as the bank's non-interest bearing liabilities to its depositors. (In the case of Egypt with its relatively high reserve requirements some banks may wish to display the reserve requirement in the gap period of the deposit to which it applies.)

(C). Net refers to the arithmetic difference between assets and Liabilities for each period.

(D). Cumulative refers to the arithmetic addition of the net positions. Since it is arithmetic it allows opposite gap positions in successive periods to be netted out and it adds together gaps going the same direction to better display the risk position.

(E). Limits are generally established against the cumulative position. In general, larger limits are set for positions in the near future and smaller limits for the far future.

What Can We See From This Report

1. This bank has more assets than liabilities in the currency involved. If the currency appreciates the bank will have a gain.

2. IF INTEREST RATES RISE this bank is going to lose income. The cost of raising funding to support the longer term assets is going to go up without an offsetting gain, except insofar, as the free funds (checking accounts) are going to be able to be lent out at higher rates, thus helping to offset the otherwise negative position. IF INTEREST RATES FALL the bank is going to have higher profits, except insofar, as the income earned off the free funds will be reduced.

An analyst wanting to evaluate the potential Profit and Loss implications of this bank's position could use the information, displayed in the gap report, to do sensitivity analysis to determine probable gains and losses under various hypothetical scenarios including changes in the funding mix.

ANNEX D

STRATEGIES FOR PROFITABLE FOREIGN EXCHANGE OPERATIONS

Foreign exchange trading operations generally derive their profits from two sources. The first and generally the most reliable source of profit results from relationships with corporate customers. The second, and not necessarily reliable, source of profit results from positioning.

The last section of this Annex, dealing specifically with forwards, explains why there are very significant opportunities for banks to make substantial profits off of forward foreign exchange trading in Egypt.

Customer Driven Profitability

In developed markets with a high degree of liquidity and widespread market information the most consistent foreign exchange profits stem from customer relationships. A successful trading operation thus seeks to be a good provider of customer service.

In the first instance the foreign exchange trading operation (trading room) can make a profit on the bid-offer spread on customer transactions. This should more than cover operating costs, although it will be very tight when deals are done with major players.

Second, if the customer deal provides a trader with a position that he believes will earn a profit, the trader will have been enabled to take advantage of entering the position without having to buy the position on the offered (higher) side of the market. Accordingly, if the market rate moves in the trader's favor a profit will be made; if the market rate does not change, the trader will still make the bid-offer spread; if the market rate moves against the trader, the bid-offer spread will help to offset part of the loss.

Because of the importance that customer relationships have to successful trading rooms, most rooms of more than four or five dealers are divided into two groups. The first group, commonly called corporate dealers just work with the trading room's customers. Their role is to nurture customer relationships by providing good service. They normally do not hold trading positions. Since they don't have positions they are able to spend time advising their customer even when the market is active. The customer business comes into the trading room through the corporate dealers.

The other group, generally called interbank dealers manage the positions and quote prices to the corporate dealers which pass those prices on to the customer. [7]

Profitability From Positioning

With the customer driven business providing a base of profit, other income is earned on positions. This income is, however, far from assured unless the traders have insider information. If they do not have insider information, most traders will have profitable periods and unprofitable periods. In general they will do better when volatility is higher or where there is a very clear trend in the market.

The most common source of profit comes from "going with the trend". In this case the dealer will hold a position consistent with the general direction of the market. Ideally, this position is the result of a customer trade and thus purchased on the bid (lower) side of the market. This is a very popular strategy which works when the market indeed has a trend. It will not, however, be successful if the market changes or is up and down.

In volatile markets, bank dealers may enjoy a profit because they are more informed about current market prices than their customers. In the euromarket this is becoming less true because many of the larger customers are now working with most of the same information as the traders thanks to Reuters, Telerate and other information services. Smaller customers may not be, however, and in volatile markets, dealers are often able to increase their spreads because of this information advantage.

Large customer transaction may also provide particular dealers with useful information and this is another reason why customer business is important. If the corporate customer trades in large amounts the market may end up moving to absorb the transaction. If, for example, a customer buys a large amount of french francs (FF) that could push the rate for FFs up. Initially, that may put the trader at some risk because he will be short FF having just sold it to his customer. If he is, however, able to cover his position without loss by buying unobtrusively from other interbank participants he can go long FF because he knows there is a real transaction which may eventually make the market move. (The risk is, of course that the FF strengthens before the dealer can cover his position or that other factors cause the market to move in the opposite direction.)

In developing markets, there can be extreme abuses arising from insider information, particularly emanating from Central Bank sources. In this case, one bank or group of banks may make large profits off of knowledge not available to other participants.

[7]. Larger trading rooms have corporate dealers who specialize in working with particular types of companies. For example, one dealer might work with multinationals and another with local companies. Large trading rooms also have interbank dealers who specialize in particular currencies or in types of transactions. In a very large trading room a particular interbank dealer might, for example, only trade FF forwards.

In recent years any number of technical trading strategies have also emerged - many based on various types of charting. Some dealers are successful with these strategies more often than not. Other dealers don't make money on them.

Charts and the technical indicators which go with them, are nevertheless, important for a trader to follow IF significant players in the market are using them. If large participants believe that 1.75 is the resistance point for the dollar/DM price, it is very useful to know that, independently of whether you believe in the particular charting method or you don't. Charting enthusiasts can create market conditions which make the charts work simply by taking large or liquidating positions based on the charts.

Another source of profit may come from holding a longer term position on the basis of fundamentals. This is generally a management rather than a trader decision. Management may conclude, for instance, that LE devaluation is going to increase and simply decide to endure the interest loss on being long dollars. If they are correct, their interest loss will be offset by a FX gain. If they are incorrect, however, they could lose on the interest differential and have an FX loss.

Potential Profits From Forward Foreign Exchange Trading in Egypt

In a situation where traders can offer a valuable product without facing stiff competition, their spread income is apt to be very attractive. This will most certainly be the case for the first participants in the forward market.

Egyptian banks can hedge the risk of forwards at a cheaper cost than a customer would be able to, if it were to construct its own hedge. This provides a natural source of profit to the bank.

If, for example, an importer wanted to protect itself from exchange risk today, it would have to borrow LE, buy dollars and deposit the dollars.

The bank would have to do the same thing to hedge a forward sale of dollars to the importer. However, the bank's cost of raising LE is considerably less than the importer's cost of raising LE. Further, the bank is apt to get a better return on its dollar deposit than the importer would.

This difference between the bank's cost of constructing a hedge and the importers cost of constructing the hedge leaves a great deal of negotiating room for the bank.

In the case of an exporter, its alternative to a forward might well be to borrow dollars, buy LE and deposit the LE.

A bank can borrow dollars cheaper than the exporter, and much more importantly, the deposit rate which the exporter would receive is not nearly as high as the bank's alternative cost of funding (i.e. the value to the bank of available LE). The difference stems from the reserve requirement on deposits. If interest rates to the depositor are 20%, the value to the bank of LE is 23.53%.[8]

Since the bank has purchased dollars forward, it can then sell dollars spot and thus raise LE without incurring the 15% reserve requirement which it would pay if it were raising LE by taking a deposit.

[8]. For further explanation refer to the description of effective LE deposit rates in Annex D.

Statement of Work

I. Background:

With the encouragement and advice of the International Monetary Fund (IMF), World Bank, and USAID/Egypt, the Government of Egypt (GOE) has been taking active steps to reform its financial systems. The GOE was borrowing from the domestic banking system through high liquidity requirements which contributed to distortion of interest rates. The GOE recently initiated an auction market for short-term government bills which, when working properly, should force the government to pay market interest rates. Subsequently, in February, interest rates on bank credit and deposits were freed to permit reflection of the market determined rates.

The second major step toward financial system reform was the introduction of a liberalized foreign exchange policy which will allow the market to determine the exchange rate through private dealers (i.e., bank and non-bank). This recent policy change permits the establishment of forward contracts, a new instrument in Egypt's foreign exchange market.

USAID's Finance and Investment Office (TI/FI) has received requests for technical assistance from members of its Informal Working Group for the Liberalization of Financial Markets, commercial banks (e.g., Bank Misr and National Bank of Egypt), and the Central Bank of Egypt (CBE). All expressed the need for assistance from one or more persons with extensive experience in foreign exchange markets, i.e., as a successful participant, at a minimum, and as an innovator, ideally. While most of those expressing the need for assistance are aware of the basic structure and operations of forward markets in foreign exchange, they are concerned that (1) their lack of practical experience and (2) the lack of even a general familiarity with the concept by the vast majority of those in Egypt's financial community who will be expected to operate the market could lead to disastrous results. They all seek educated advice on how best to initiate forward markets in foreign exchange in the Egyptian context. (The situation is similar to that which existed prior to USAID's provision of Treasury Bill marketing assistance. That is, while an auction market was not conceptually new, its successful introduction was so important to establishing a functioning market to determine interest rates, all participants felt specialized expertise was essential.)

With the informal concurrence of the others, TI/FI selected the CBE to be the counterpart for this assistance activity. The Informal Working Group includes commercial banks and

firms which are applying to be non-bank dealers but is "informal"and not an appropriate counterpart. Its members are exclusively private and assistance to any one would be inequitable. For the same reason, assistance to the other commercial banks would not be equitable. Consideration was given to approaching the Bankers' Association, but USAID's poor prior project experience suggests that would not be advisable. Consideration was also given to the new Bankers'Training Institute, but since it has not yet been inaugurated it is premature. In any event, the Institute is an arm of the CBE. All agreed that the CBE is the most appropriate counterpart for USAID in this endeavor because it is a public institution which will disseminate the results of the assistance to the general public and is itself a legitimate and important participant in the foreign exchange market. It is noteworthy that the IMF Resident Representative encourages and endorses this provision of assistance.

II. Objective:

The objective of this assistance is to provide the participants of Egypt's foreign exchange market with an overview and outline of how forward contracts can be introduced and made an integral part of the system, with a view to enhancing the efficiency of the free foreign exchange market.

ANNEX F

PERSONS CONTACTED IN EGYPT

Agency for International Development

Larry Brown, Office Director
Mary Gad, Senior Credit Specialist
Michael McWherter, Financial Advisor
Samuel L. Skogstad, Chief Economist

Central Bank of Egypt

Mahmoud Salah El Din Hamed, Governor and Chairman of the Board
Mohamed Aly El Barbary, Deputy Governor
El Sayed M. Singer, Sub-Governor, Foreign Relations
Shoukri Tewfik, Advisor, Exchange Control
Farouk A. Gammaz, General Manager, Foreign Department
Sayed Fahim, Deputy General Manager, Foreign Department
Iskandar Melika, Chief, Foreign Exchange Control Room
Raga'a Khalil, General Manager, Banking Control

Bank Misr

Mohamed A. Hafez, Chairman
Mostafa Nader, General Manager, Foreign Operations
Fouad Abdel Latif, General Manager
Abd El Moniem M. Morsi, Assistant Manager, Dealing Room

Misr International Bank

Amal El-Tobgy, General Manager
Mamdouh El-Mougy, Manager, Foreign Exchange and Treasury
Hossam Raouf, Foreign Exchange Trader

Egyptian American Bank

Nadim H. Homsi, General Manager
Mohamed Taha, Manager, Treasury Department

Investments & Securities Group

Ahmed S. Foda, Managing Director

Export Development Bank of Egypt

Salwa Mansour, Deputy General Manager

Citibank

Ahmed Elbardai, Vice President and Regional Manager

Delta International Bank

Hany H. Badr, Assistant General Manager, Foreign Relations & Treasury Division

Banque du Caire

Fawzia T. Youssef, General Manager, Foreign Department
Mofida A. El Dahaby, Deputy General Manager, Foreign Department

Bank of Alexandria

Galal S. Kandil, General Manager, Foreign Department
Mohsen Metwally, General Manager, Foreign Department

Arab International Bank

Mohamed A. El Dib, General Manager, International Finance Sector
Hany Shaheen, General Manager, Banking Sector

Cairo Barclays

Karam A. F. Soliman, Chief Dealer

National Bank of Egypt

Mounir Sh. Barsoum, Deputy General Manager, Foreign Division
Ahmed M. El-Belbesi, Deputy General Manager, International Division

Suez Canal Bank

Mohamed M. Shehata, Assistant General Manager

Commercial International Bank

Adel A. El-Labban, General Manager and Board Member

Manufacturers Hanover

Hisham M. Mostafa, Chief Dealer

Société Arabe Internationale de Banque

Hisham El Shiety, General Manager
Mad. Ragab Eid, Assistant General Manager

EVEREADY Egypt

Harry W. Brown, Finance Director

International Monetary Fund

Pierre van den Boogaerde, Resident Representative

The World Bank

Alberto Musalem, Senior Country Economist
Dimitri Vittas, Banking Specialist
Marcelo Giugale, Country Economist
Erik Nielsen, Financial Economist

ANNEX G

PHASE II TRIP REPORT

Memorandum

To Larry Brown, USAID/Cairo, TI/FI

From Jill Minneman, PW/OGS, Financial Sector Development Project

Date November 22, 1991

Re Summary and Findings of Forward Foreign Exchange--Phase II

INTRODUCTION

The purpose of this memo is to summarize the activities as well as to present the findings and recommendations of Jan Marshall and me during Phase II of the Forward Foreign Exchange Market assignment conducted from November 5 to November 15, 1991 in Cairo. The overall objective of this visit was to respond to the concerns of the Central Bank of Egypt, senior bankers, and foreign exchange traders regarding the establishment of a forward foreign exchange market in Egypt.

During this visit, we distributed copies of the Draft Final Report (a more polished and complete version of the preliminary report which we left behind in October);[1] held meetings with the Governor and several Sub-governors and officials of the CBE, senior officials of the four public commercial banks, the Executive Director of the CBE Banking Institute;[2] and conducted two types of seminars on forward foreign exchange. The first seminar, for four hours, was repeated three times to traders and some Central Bank staff, and was intended to introduce forward foreign exchange concepts.[3] The second seminar presented conceptual issues on the operations and role of forward foreign exchange markets as well as issues of treasury management, to senior officials

[1]Copies of the report were distributed to USAID and Central Bank of Egypt (CBE) officials including the Governor, Deputy Governor, and Sub-Governors in charge of Foreign Exchange, Banking Control, and Economic Research, as well as members of the CBE Foreign Department staff. Additionally, excerpts of the report that did not contain sensitive Central Bank information were distributed to traders at the trader seminars and to some senior officials of banks.

[2]A complete list of people with whom we held meetings is included in this memo as Annex I.

[3]An excerpt of this presentation, the role play activity, is included as Annex II.

of the CBE and the four public commercial banks in a three and one-half hour session. The trader seminars were held from November 10-12 and the presentation to the CBE and the banks was November 13.[4]

In addition to the meetings and seminars described above, we formed a working group to study how the regulations which limit banks' foreign exchange position could be amended and what affect this could have on the monetary aggregates.

We received no written comments on the preliminary draft final report which we left behind on our last visit.

SUMMARY

We were very pleased with the progress made during this visit. In the course of discussing forward foreign exchange with Central Bank and commercial bank senior officials, we found a great deal of interest in continuing the process of not only establishing a forward foreign exchange market, but also exploring other features of modern financial markets and institutions.

Basically, we met with three different groups in the financial markets: the Central Bank, senior banking officials, and foreign exchange traders. The objective of meeting with the Central Bank was to respond to their concerns on how to regulate and control forward foreign exchange trading. Additionally, the Central Bank wanted our assessment of whether the banks had sufficient sophistication and expertise to offer forward contracts. The objective of meeting with senior banking officials was to discuss the readiness of their banks to manage the risk associated with forward contracts. Since forwards encompass both local and foreign currency interest rate and foreign exchange risk, they highlight the need for banks to manage risk in a coordinated fashion. The objective of holding seminars for traders was to introduce them to the technique of forward dealings in Egyptian pounds.

A number of issues surfaced during these meetings. Commonly, there seemed to be some confusion in understanding that a forward was merely a hedge, and that the forward rate was not a predictor of the future spot rate.

[4]A list of those who attended is included in this memo as Annexes III and IV.

The following lists these issues and discusses how we addressed them during this visit as well as how they may be addressed through further technical assistance and training.

Main issues raised by the CBE

(1)Readiness of the banking system.

Prior to making any regulatory changes, the CBE wants to be sure that the bankers and the CBE are well-versed in the techniques of trading, managing and controlling forward foreign exchange activities.

For this reason, the Central Bank asked us to train traders in the techniques of forward foreign exchange. During this visit we held trader seminars where the concept, uses, pricing, and trading of forwards were discussed. We used the case study method to help the traders understand the uses of a forward in their market. All attendees participated in a role playing session, where they played the role of either banks, exporters, or importers and they had to hedge their foreign exchange risk. This seminar was also attended by staff of the Central Bank's foreign department.

During the course of our visit, the CBE came to understand that it was not enough to train the traders. In order to safeguard the system, bank managers must also understand how to manage the risk that traders are taking on behalf of the bank, and the Central Bank must understand how to oversee bank activities in this area.

Therefore, the CBE and the banks expressed interest in (a) developing their capability to manage and control foreign exchange trading activity and (b) embarking on a technical assistance program that would combine training with follow-on consultation.

(2) Central Bank's regulatory role.

The CBE wants to know what regulatory changes are the most important so that banks can do forwards safely, how the current limits on banks' foreign exchange exposure could be amended, how working capital balance limits could be assessed, and whether banks have the capability to know their foreign exchange positions daily.[5]

[5]A copy of the recommendation to the Central Bank for measuring a bank's compliance with the limit on bank usage of foreign exchange is included in this report as Annex V.

Of key importance are the two types of limits imposed on banks by the Central Bank. The Banking Control Department imposes one type of limit on banks' foreign currency positions (namely, banks must ensure that foreign currency assets and liabilities are within 5% of one another, or, foreign currency assets or liabilities must not exceed 15% of capital, whichever of the two is lower--this limit was developed with the assistance of the IMF). The purpose of the Banking Control Department's limit is to ensure that individual banks do not take large positions in foreign exchange.

Secondly, the Exchange Control Department imposes another type of limit on banks' foreign currency positions (namely, that a bank's daily net buys and sells of foreign currency must not exceed a certain ceiling, for example, Banque Misr's limit is the equivalent of $5 million in all foreign currency holdings, while other banks' limits are quite smaller--this limit is referred to as the working capital balance). The purpose of the Exchange Control Department's limit is to ensure that the banking system in aggregate does not hold too much foreign currency in relation to the Central Bank, and thereby be in a position to create excessive pressure on the exchange rate.

There are two problems with these limits. One is that they do not encompass a bank's entire foreign exchange position. Because forwards are considered either contingent assets or liabilities and are, as such, off-balance sheet items, they are not incorporated in the limits as they are currently defined.

The second problem with these limits is that banks may find themselves in situations where they are unable to comply with both of them at the same time. For example, if a bank goes from a balanced foreign exchange position to an imbalanced position, say a $7 million dollar asset goes bad, the bank may not be able to buy enough dollars and at the same time stay within the limit on its daily net buys and sells. In other words, the limit on the bank's daily net buys and sells will not allow it to buy enough dollars to enable it to comply with the requirement that its liabilities not exceed its assets by more than 5%.

Also at issue is how the Central Bank should regulate the banks' activities in forward foreign exchange. The report suggests that the Central Bank require that a bank's board of directors certify that the bank has in place a whole gamut of management tools and controls prior to engaging in forwards, and that the Central Bank examine the bank to ensure that these tools and controls are in place and maintained. This way of regulating obviates the need for the CBE to regulate product-by-product and bank-by-bank. Jan made the point that there are hundreds of banking products which have yet to be introduced in Egypt, and that the Central Bank should not be in the business of regulating individual banks and financial products.

The CBE does not appear to be comfortable with the report's recommendation that banks self-regulate their activities and that the Central Bank supervise banks to ensure that they have the ability to manage risks. This is understandable given the great variance in sophistication within the Egyptian commercial banking system. Since this is an issue that is likely to arise again and again as new financial products are introduced, we recommend that further research be undertaken, perhaps by the Banking Institute, on how the Central Bank can effectively regulate, not only forward foreign exchange activity, but also the introduction of new financial products in Egypt.

We formed a working committee to study the impact of changes to the limit, including the macroeconomic implications. In the future, the committee will also study how the Central Bank regulates the introduction of new products. The working committee is comprised of staff from the Exchange Control Department, Banking Control Department and Economic Research Department.[6]

(3)Central Bank's Supervisory Role.

The CBE wanted to understand how forward contracts can be hedged so that banks do not take excessive risk. CBE wants to be sure that banks have the currency to back the forward contracts into which they enter, or undertake speculative trades. Specifically, they are concerned that out-of-control traders will cause banks to take big losses, as happened in Egypt a few years ago. They want to make sure that the CBE could examine banks to be sure that they are operating safely in forwards.

During the presentation on November 13, the mechanics of forward contracts and perfect hedging were discussed in great detail, and all participants came to understand how forwards could be undertaken. However, prior to authorizing forwards, the Central Bank would like to be sure that bank managers and CBE examiners can control and oversee the risks that traders take.

(4) Development of bank managers.

The Banking Institute has received some inquiries from the banking system regarding how to develop a career path for bankers in Egypt and how bankers can be properly trained. As the Egyptian banking system becomes increasingly sophisticated, it will need managers who are properly trained to manage their banks. The Institute requested technical assistance in how to build career paths, what kind of training is

[6]A list of the people who attended this working group meeting is included as Annex VI.

required, and how to structure career development programs that feature rotation throughout different banking departments.

Main issues raised by senior bankers

(1) **Establishing treasury risk management.**

Some of the senior public banking officials (notably the National Bank of Egypt and the Bank of Alexandria) wanted to learn how they could manage both interest rate risk on Egyptian Pounds together with interest rate and exchange risk on foreign currency. Since the liberalization of the interest and exchange rates, they have found that they are finding it difficult to coordinate the risk to the bank from these sources because their organizational structure is not conducive to this. Since forwards encompass interest rate risk in local currency, interest rate risk in foreign currency, and exchange rate risk, they highlight the organizational weakness of these banks.

For example, when the foreign department of a bank sells dollars for Egyptian pounds, it does not know the impact this sale has on its Egyptian pound liquidity because the management of Egyptian pound liquidity and interest rates is handled by a separate department. This makes it difficult to price interest rates and foreign exchange correctly. It also makes it difficult to track the bank's risk-taking activities, and makes it hedging more complex.

Currently, all four public banks have separate treasures for local currency and foreign currency. When interest and exchange rates were administratively determined, there was less of a need for a single treasury. Having identified the problem that its organizational structure is causing, some of the public banks are taking steps to improve the coordination between their Foreign Department and Local Currency Department by requiring their management committees to report to one another. Moreover, they are also beginning to study the use of gap reports (a tool used by treasury departments to track currency and interest rate exposure) so that they can understand their interest rate risk position in local and foreign currency. They also mentioned that they are interested in learning how to measure the sources of their profits, incremental cost of capital and improve their systems capability to capture management information.

(2) **Tools of treasury management.**

Bankers want to understand the kinds of management controls and reports that our report to the Central Bank suggests they have in place prior to engaging in forwards. They want to know what they would need to do to meet these standards.

We provided the section of the report that deals with this subject to all participants in the trader seminars and to some of the banks. This issue is very much tied into (1) above; and

(3) **Rules on forward trading.**

Bankers reported a wide difference in understanding on whether the Central Bank permitted forwards and how their foreign exchange position was limited by the Central Bank.

This is certainly understandable given the two types of limits on foreign exchange positions that the Central Bank imposes on banks. Regarding whether banks are permitted to do forwards, we now understand that they are "not prohibited."

Furthermore, most bankers spoke of the lack of an active interbank money market and spot foreign exchange market. When banks have excess local currency liquidity, there is a dearth of instruments in which to place it. Treasury bills, while a major help, are still only traded on the primary market. Banks would have much greater flexibility if they could trade treasury bills on the secondary market.

Main issues raised by traders

(1) **Interbank trading.**

Traders were concerned about the lack of active interbank trading. During the trader seminars, traders began to discuss how the interbank market functions, and the meaning of the exchange rate they quote on the Reuter's screen.

We recommend that a traders club be established, that may result in something like weekly chat sessions that would foster the establishment of trading rules.

(2) **Forward contracts in Egyptian pounds.**

They were also curious about how forward contracts could be structured in Egyptian pounds. Through the use of case studies in the trader seminars, traders actually calculated breakeven forward rates for bankers entering into contracts with exporters and importers as well as the costs for exporters and importers to hedge currency forward utilizing their own costs.

(3) **Rules on forward trading.**

Traders wanted to understand clearly the regulatory environment in which they were operating. There was some question about whether forwards were permitted in Egyptian pounds. Clearly, we were not in a position to tell them about what their government permitted, did not permit, and prohibited and we referred such questions to the Central Bank.

(4) **Effective risk management.**

Finally, traders were concerned that their management and their banks' lending officers fully understood their activities and their products. Traders actually wanted their management to be fully aware of the kind of risks they were taking, and to have effective limits placed on their activities.

FINDINGS AND RECOMMENDATIONS

Following a presentation to Messrs. Barbary and Singer as well as other officials of the Central Bank and the four public banks, it was suggested to concentrate in the immediate term on the following: (1) technical assistance to the Central Bank; (2) further training in treasury management as well as forwards at various levels including bank chairmen and executive managers, senior bank officials with treasury responsibility, traders, bank accountants. bank credit officers, Central Bank examiners, and exporters and importers; and (3) follow-on consultation with participants in training seminars to facilitate the implementation of techniques learned in the courses.

Technical Assistance to the Central Bank

The main purpose of the technical assistance would be to work together with the Central Bank to find appropriate ways to regulate and supervise the financial sector, particularly in the area of forwards and more sophisticated financial products. This activity could be combined with research undertaken under the auspices of the Banking Institute on general issues of bank regulation and supervision. In addition, technical assistance could be provided in the structuring of bank management training programs. The regulatory issues are discussed in detail above, under "Main issues raised by the CBE."

Additionally, the CBE has expressed some interest in developing its dealing/trading room. The CBE's current method of spot trading is in need of modernization.

Training

The purpose of further training would be to enable banks to do forwards safely, to manage treasury risk, and for the Central Bank to oversee bank activity in forwards. Participation in the training would be open to all banks in the Egyptian system, but priority would be given to those banks in greatest need of the training. Training would also be available to importers and exporters, so that they can understand how they can benefit from engaging in forward contracts with banks.

A detailed curriculum for nine trading courses in included in Annex VII.

Follow-on Consultation with Training Participants

The value of training can be measured by the extent to which participants put the new concepts and tools to work in their own institutions. These are complicated subjects, and the implementation of new management tools and controls is complex. Particularly in need of consultation following training will be the four public commercial banks.

We recommend that further work be done with the four public banks to enable them to move toward establishing a treasury department and to use management tools that are employed in free markets throughout the world. Banks in countries with free markets have treasury departments which manages all types of market risk (interest rate risk, foreign exchange risk, liquidity risk and various trading risks). A treasury department enables banks to control their cash flow efficiently, safely undertake the market risks which they must necessarily assume as banks, and conduct their trading activities in a professional and controlled manner.

Today, in the newly liberalized financial environment, Egyptian banks face risks which they are unable to coordinate or manage. The Central Bank as well as several banks mentioned that they would like to establish, as an interim step, an asset-liability committee that would coordinate the risk-taking activity of the both the local and foreign currency sides. While this would be a valuable first step in coordinating risk, it would be insufficient to meet the goal of **managing** these risks.

It would be important to work with the public banks for the following reasons: (a) they control 70-80% of the market; (b) currently, without having a full understanding of the kind of risks they are taking, the public banks can compete unfairly with the private sector, since they are less aware than the private banks of their costs. The only way they can improve their ability to price correctly will be through better

management and controls; (c) if these banks are ever to be privatized, they will need to be organized with a single treasury department; and (d) most importantly, improved bank management will enable the financial sector to do a better job of mobilizing and allocating scarce financial resources to private investors.

CONCLUSIONS

Should you agree, FSDP is ready to work with USAID to develop a project which would encompass the above and would aim at developing the money markets and modernizing the banking system. FSDP will provide you with a proposal on how such a project would be structured, timed, sequenced and staffed.

The project would likely include the following broad tasks:

1. To give further assistance to the Central Bank in the rewriting of the limitations on banks' net foreign currency positions.

2. To assist the Central Bank in defining guidelines for banks in the area of managing foreign exchange risk, interest rate risk, liquidity risk and general trading room exposures.

3. To assist in the development of an efficient money market to enable banks to manage liquidity arising, in part, from their foreign exchange activity, and to encourage interbank trading activities.

4. To provide training and counseling to the management of banks to enable them to properly structure their banks to ensure that liquidity, interest rate risk and foreign exchange risk along with trading room activity is well-organized and controlled. This would involve a bank-by-bank review of treasury and related operational activities. It could also include the development of bank management training programs.

5. To provide formal classroom training for all interested banks and Central Bank staff. Brief seminars would also be offered to exporters and importers on the uses of forward foreign exchange contracts.

6. To undertake research on key financial market issues such as the proper role for the Central Bank in regulating and supervising the financial system, the banking law amendments, and the restructuring/privatization of the banking system.

Annex I

List of Persons with Whom We Held Meetings

USAID/Cairo
Larry Brown, Office Director
Michael McWherter, Financial Advisor

Central Bank of Egypt

Mahmoud Salah El Din Hamed, Governor and Chairman of the Board
Mohamed Aly El Barbary, Deputy Governor
El Sayed M. Singer, Sub-Governor, Foreign Relations
Faika Al Refa'i, Sub-Governor, Economic Research
Farouk Mishriky, Sub-Governor, Banking Control
Fouad M. Shaker, Director General, Banking Control
Shoukri Tewfik, Advisor
Sayed Fahim, Deputy General Manager, Foreign Department

Banking Institute

Mahmoud Abul-Eyoun, Executive Director

Bank of Alexandria

Ismail Hassan Mohamed, Chairman
Mahmoud A. S. Omar, Senior Executive General Manager

National Bank of Egypt

Aly Chahine, Senior Executive General Manager
Afe'. Maged, Senior General Manager, Foreign Department
Essam M. El-Tohamy, General Manager, Research and Planning Division
Inas M. El-Hagrassy, Deputy General Manager, Economic and Planning Division
Ahmed El Hadidi, Deputy Manager, Banking Control

Banque Misr

Mahmoud A. Rouby, Managing Director
Ahmed Mostafa Hussein, Manager

International Monetary Fund

Pierre van den Booegaerde, Resident Representative

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Annex II

Copy of Role Play from Seminar Presented to Bank Traders and Central Bank Staff

TEAM 1

COMPANY NAME: STARCHED SHIRTS INCORPORATED

COMPANY POLICY: To hedge all currency risk

YOUR ROLE: You are the Treasurer of the company. Your responsibilities include eliminating financial market risks wherever possible. The managers of your company are then able to concentrate on making good products and marketing them rather than speculating on currency movements.

TRANSACTION THAT NEEDS HEDGED: Sale of $500,000 worth of white shirts to the Stiff Upper Lip Company in London for delivery 3 months from now against a dollar based Letter of Credit in favor of STARCHED SHIRTS.

PRODUCTION COSTS: All expenses are LE

BORROWING COSTS IN DOLLARS: Libor + 2

BANKING ARRANGEMENTS: Your two banks are THE BID-OFFER BANK and THE CROSS CURRENCY ALL STARS. They don't know whether you are going to be buying dollars or selling dollars and don't tell them until after you agree on a price. You should ask them for a two way price. This means that they must tell you at what price they will sell and at what price they will buy. Negotiating skills might be useful, but you should be aware that if you don't take a banks price it is not committed to continue to make that rate available to you. You should, however, begin by calculating your alternative form of hedging which is to borrow dollars for three months and deposit LE.

At the conclusion of the negotiation please decide who will speak for your team and write down on the transparency how you calculated your breakeven rate to sell dollars and the actual rate you obtained from your bank.

TEAM 2

COMPANY NAME: NEW SHOE LEATHER

COMPANY POLICY: To Hedge all currency risk

YOUR ROLE: You are the Treasurer of the company. Your responsibilities include eliminating financial market risks wherever possible. The managers of your company are then able to concentrate on making good products and marketing them rather than speculating on currency movements.

TRANSACTION THAT NEEDS HEDGED: Purchase of $500,000 worth of shoes from Italy for delivery 3 months from now on an open account basis.

SALES AND COMPETITION: All your sales are made in LE. Your principal competitor is NEWER SHOE LEATHER, INC. which manufacturers similar shoes in Egypt using Egyptian labor and Egyptian materials.

BORROWING COSTS IN LE: "LE Prime" + 2. In order to hedge by buying dollars you would have to pay this rate.

BANKING ARRANGEMENTS: Your two banks are THE BID-OFFER BANK and THE CROSS CURRENCY ALL STARS. They don't know whether you are going to be buying dollars or selling dollars and you should not tell them until after you have agreed on the price. You should ask them for a two way price. They means that they must then tell you at what price they will sell and at what price they will buy. Negotiating skills might be useful, but you should be aware that if you don't take a banks price it is not committed to continue to make that rate available to you. You should, however, begin by calculating your alternative form of hedging which is to borrow LE for three months and deposit dollars.

At the conclusion of the negotiation please decide who will speak for your team and write down on the transparency how you calculated your breakeven rate to buy dollars forward rather than spot and the actual rate you obtained from your bank.

TEAM 3

BANK NAME: THE BID-OFFER BANK

BANK POLICY: To hedge risk arising from forward foreign exchange contracts with either offsetting forwards or by creating actual assets and liabilities which completely offset all interest rate and foreign exchange risk.

YOUR ROLE: You are the Treasury Manager of the bank and are responsible for managing interest rate and FX risk.

COMPETITIVE SITUATION: Two different commercial customers will be asking you to quote the rate at which you will buy dollars from them in three months and the rate at which you will sell them dollars in three months. You will not know whether the commercial customers are buyers or sellers. You can, however, be assured that the amounts they are looking for are small enough that you can manage it by trading foreign exchange in the spot market and through your normal deposit taking and lending activity. You can also tell them that the rate is only good for that time and if they come back you may give them another rate. Another bank is competing for the business. You should begin by calculating your breakeven rate to buy and to sell based on the spot foreign exchange market and on the current interest rates.

After the two customers make their deals with the banks you will have an opportunity to do a forward with a third bank to offset your risk. That bank will also be asking you to quote a two way price.

LIMITS: You have already obtained credit limits from your credit department enabling you to deal in forwards with the customers for terms of up to six months for amounts of up to $1,000,000. You also have credit limits for the other banks. The amounts that the customer will be buying will not cause you to exceed your intraday limits for taking foreign exchange or interest rate risk. Nevertheless you do have the right to ask how much the transaction will be for.

At the conclusion of the negotiation please decide who will speak for your team and write down on the transparency how you calculated your breakeven rate to buy or sell dollars forward based on hedging by taking deposits or making placements or loans.

TEAM 4

BANK NAME: THE CROSS CURRENCY ALL STARS

BANK POLICY: To hedge risk arising from forward foreign exchange contracts with either offsetting forwards or by creating actual assets and liabilities which completely offset all interest rate and foreign exchange risk.

YOUR ROLE: You are the Treasury Manager of the bank and are responsible for managing interest rate and FX risk.

COMPETITIVE SITUATION: Two different commercial customers will be asking you to quote the rate at which you will buy dollars from them in three months and the rate at which you will sell them dollars in three months. You will not know whether the commercial customers are buyers or sellers. You can, however, be assured that the amounts they are looking for are small enough that you can manage it by trading foreign exchange in the spot market and through your normal deposit taking and lending activity. You can also tell them that the rate is only good for that time and if they come back you may give them another rate. Another bank is competing for the business. You should begin by calculating your breakeven rate to buy and to sell based on the spot foreign exchange market and on the current interest rates.

After the two customers make their deals with the banks you will have an opportunity to do a forward with a third bank to offset your risk. That bank will also be asking you to quote a two way price.

LIMITS: You have already obtained forward foreign exchange credit limits from your credit department enabling you to deal in forwards with the customers for terms of up to six months for amounts of up to $1,000,000. You also have forward foreign exchange credit limits for the other banks. The amounts that the customer will be buying will not cause you to exceed your intraday limits for taking foreign exchange or interest rate risk. Nevertheless you do have the right to ask how much the transaction will be for.

At the conclusion of the negotiation please decide who will speak for your team and write down on the transparency how you calculated your breakeven rate to buy or sell dollars forward based on hedging by taking deposits or making placements or loans.

Attendees of Trader Seminars

SUNDAY, NOVEMBER 10, 1991

NAME OF BANK	NAME OF PARTICIPANT
National Bank of Egypt	Mr. Hisham Dabbous
Egyptian American Bank	Mr. Mohamed Moustafa Gad
Bank of Alexandria	Mr. Mohamed El Sayed Taha
Suez Canal Bank	Mr. Amr El Ganaynee
Commercial International Bank	Mr. Hassan Soliman
Banque du Caire	Ms. Niveen El Shafei
Misr International Bank	Mr. Hussam Raouf
CENTRAL BANK OF EGYPT	
Foreign Operations Dept.	Ms. Shaymaa Hashem
Exchange Control Dept.	Mr. Ahmed Salah
Foreign Dept.	Mr. Mahmoud Radwan

MONDAY, NOVEMBER 11, 1991

NAME OF BANK	NAME OF PARTICIPANT
National Bank of Egypt	Mr. Mohamed El Geyoshi
Bank of Alexandria	Ms. Hala Magdy
Suez Canal Bank	Ms. Elham El Shemmy
Commercial International Bank	Mr. Rafik Madkour
Export Development Bank of Egypt	Mr. Emad Deghedi
Delta International Bank	Mr. Mohei El Kashef
Banque Misr	Ms. Effat Ishak
Misr International Bank	Ms. Amani Helmi Khalil

CENTRAL BANK OF EGYPT	
Letter of Credit Dept.	Mr. Nabil Antoun
Foreign Dept.	Ms. Somaya Abou Zobaa

TUESDAY, NOVEMBER 12, 1991

NAME OF BANK	NAME OF PARTICIPANT
National Bank of Egypt	Mr. Ahmed Mohamed El Hadidi
	Mr. Ahmed Essam Lotfi
Commercial International Bank	Mr. Hassan El Guindi
Export Development Bank of Egypt	Mr. Amr Adham
Banque du Caire Barclays Intl.	Mr. Karam Soliman
Delta International Bank	Mr. Hany Badr
Banque Misr	Mr. Mohamed Omar El Sengary

CENTRAL BANK OF EGYPT

Foreign Operation Dept.	Ms. Fiby Farid
Exchange Control Dept.	Mr. Sayed Aly Tolba
Credits Dept.	Ms. Fadia Sayed Fahim
Foreign Dept.	Mr. Mohamed Gamal

Annex IV

Participants in Central Bank and Public Bank Seminar Held November 13, 1991

Central Bank of Egypt

Mohamed Al Barbary, Deputy Governor
Sayed Singer, Sub-Governor, Foreign Department
Fathy Farahat, Foreign Department
Sayed Fahim, Foreign Department
Ahmad Orabi, Exchange Control
Salah Hassan, Foreign Operations

Banque Misr

Abdul Monem Morsi
Effat Ishak

Banque du Caire

Niveen Shafei
Moufida A. Sattar

Bank of Alexandria

Talaat Ghorab
Hala Magdi

National Bank of Egypt

Aly Chahine
Afaf Maged
Essam M. El-Tohamy

RECOMMENDATION TO THE CENTRAL BANK OF EGYPT ON THE MODIFICATION OF THE LIMIT CONTROLLING THE FOREIGN EXCHANGE RISK POSITION OF BANKS

I. RECOMMENDED METHOD OF CALCULATING A BANK'S UTILIZATION OF ITS LIMIT

For purposes of measuring compliance with the 105% limitation and the 15% limitation, a bank's utilization of the limits should be calculated as follows:

Foreign Currency Denominated Assets less Foreign Currency Denominated Liabilities

PLUS

Contracts to Receive Foreign Currency less Contracts to Pay Foreign Currency (at prearranged rates)

All currencies other than the dollar should be converted into dollars at the current spot rate for purposes of calculating limit utilization. Dollar indexed assets or liabilities should be treated as dollar denominated for purposes of the limit.

For those banks which are only able to produce a monthly balance sheet, the daily foreign currency position will need to include estimates of such items as interest accruals or revaluations of foreign exchange balances. Such estimates should be accepted providing that: (A) they are based on a system of estimation that gives a reasonable approximation of the bank's position; (B) that the estimated position is reconciled to the actual position once the balance sheet is available; and (C) that the system in use is to be documented in writing and used in a consistent manner.

II. RECOMMENDATION TO SIMPLIFY THE CURRENT LIMIT STRUCTURE

The current limit on net buys and sells from the free market should be eliminated. The 105% / 115% limitation effectively controls the banks risk position. With both limits still in affect it is quite possible that a bank could be out of compliance with the 105% / 15% limitation and be unable to do anything about it because of its limit on net buys and sells from the free market.

III. EXAMPLE OF HOW THE RECOMMENDED LIMIT WOULD BE MEASURED AT TH TIME THAT THE BANK PREPARES ITS BALANCE SHEET AND BETWEEN ACCOUNTING PERIODS

The example on the following page is intended to show the reader how a bank can calculate it daily position by using as its beginning position the bank's most recent balance sheet and adjusting that position for transactions which affect the bank's net currency position.

The example shows how to calculate the beginning position and then describes a series of transactions. It examines which transactions affect the position. Only those transactions whicl actually affect the net position would need to be considered in calculating each day's new net position.

BEGINNING POSITION

FROM THE BALANCE SHEET ACCOUNTS	($650,000)
Foreign currency denominated assets MINUS foreign currency denominated liabilities from the balance sheet.	
FROM THE CONTINGENT ACCOUNTS	200,000
Contracts to receive foreign currency at prearranged exchange rates MINUS commitments to pay foreign currency at prearranged exchange rates.	
NET POSITION AT BALANCE SHEET DATE	($450,000)

NEW ACTIVITY AND HOW IT AFFECTS A BANK'S NET POSITION

ACTIVITY	AFFECT ON THE POSITION
$1,000,000 DOLLAR LOAN GETS REPAID IN DOLLARS	NO AFFECT because net dollar assets do not change. The amount of dollar loans gets reduced and the amount of dollar cash goes up.

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ACTIVITY	AFFECT ON THE POSITION
$200,000 DOLLAR LOAN GETS REPAID IN LE	DOLLAR POSITION CHANGES BY ($200,000) because a dollar asset is replaced by LE.
$20,000 OF INTEREST DUE TO THE BANK IN DOLLARS GETS PAID IN DOLLARS	NO AFFECT because net dollar assets do not change.
$10,000 OF INTEREST DUE TO THE BANK IN DOLLARS GETS PAID IN LE	DOLLAR POSITION CHANGES BY ($10,000) because a dollar asset is replaced by LE.
RETAIL BRANCHES BUY ON A NET BASIS $500,000 DOLLARS	DOLLAR POSITION CHANGES BY $500,000.
FOREIGN EXCHANGE DESK ENDS THE DAY WITH NET SALES OF $250,000	DOLLAR POSITION CHANGES BY ($250,000)
BANK ACCEPTS LE AS PREPAYMENT OF A $75,000 LETTER OF CREDIT	DOLLAR POSITION CHANGES BY ($75,000) because the bank is obligated to pay dollars in the future with no corresponding increase in a dollar asset.
BANK ACCEPTS DOLLARS AS PREPAYMENT OF A $130,000 LETTER OF CREDIT	NO AFFECT. Dollar assets on the balance sheet go up but contingent liabilities go up by the same amount.
BANK AGREES TO SELL $700,000 FORWARD FOR DELIVERY IN 60 DAYS AT A RATE OF 3.38	DOLLAR POSITION CHANGES BY ($700,000) since the Bank is obligated to deliver dollars and receive LE at a pre-agreed exchange rate.
BANK AGREES TO BUY $400,000 FORWARD FOR DELIVERY IN 35 DAYS AT A RATE OF 3.32	DOLLAR POSITION CHANGES BY $400,000 since the bank has the right to receive dollars and pay LE at a pre-agreed exchange rate.
BANK SETTLES A $1,300,000 FORWARD DOLLAR SALE BY PAYING THE CUSTOMER $1,300,000 OUT OF ITS CASH POSITION AND RECEIVING LE	NO AFFECT. A reduction in a contingent (off-balance sheet) dollar liability is offset by a reduction in a on-balance sheet dollar asset
BANK SETTLES A $450,000 FORWARD DOLLAR PURCHASE BY PAYING LE AND RECEIVING DOLLARS	NO AFFECT. A reduction in a contingent (off-balance sheet) right to receive dollars is offset by actual receipt of dollars on-balance sheet.

ACTIVITY	AFFECT ON THE POSITION
BANK COMMITS TO SPEND $200,000 buying a new computer	DOLLAR POSITION DECREASES BY $200,000. The creation of a dollar liability without an offsetting asset reduces the bank's dollar position by that amount.
BANK PAYS OUT ON A $50,000 DOLLAR DEPOSIT IN DOLLARS	NO AFFECT. Dollar liabilities and dollar assets decrease by the same amount.
BANK ACCEPTS $250,000 DOLLARS IN DOLLARS AS A DEPOSIT	NO AFFECT. Dollar liabilities and dollar assets increase by the same amount.

Each day's net position would be calculated based on the beginning position plus or minus those new items which actually change the position. For purposes of determining the bank's net foreign currency position between reporting periods, the Chief Foreign Exchange Dealer would not need to be concerned about those transactions which have no affect on the net position. Any item which changes the position should, however, be communicated immediately to the Chief Dealer who is responsible for protecting the bank against taking excessive foreign exchange risk.

Since a Chief Foreign Exchange Dealer should be able to ascertain the bank's position at all times, reporting it to the Central Bank should not be burdensome so long as the Central Bank does not need to be provided with any transactional detail.

Annex VI

Participants in Working Group Meeting of November 14

Central Bank of Egypt

Ibrahim Lewis, Economic Research
Ahmad Orabi, Exchange Control
Raga'a Khalil, Banking Control
Maisa El Gohari, Banking Control
Sawsan Zaki, Banking Control
Mohamed al Shafei, Banking Control
Abdelaty Lashin, Banking Control

Curriculum for Training in Treasury and Forward Foreign Exchange

(1) ASSET / LIABILITY MANAGEMENT FOR BANK SENIOR MANAGEMENT[7]

Attendees: Chairmen and other very senior bank managers.

Classroom time: Two to Three Days

Topics:
* Formation and role of an Asset/Liability Committee
* Strategic issues in positioning banks which would include interest rate risk management, foreign exchange risk management and liquidity risk management.
* Review of and introduction to treasury products such as forwards, options and interest rate swaps.
* Review of methodologies for evaluating risk in Treasury positions and treasury profits.
* Review of the limit setting process.
* Discussion about structuring the Treasury and Trading functions.
* Review of trading room risks and general operational controls and organizational controls including the function of the accounting and audit areas.
* Pricing Issues.
* Capital adequacy issues.
* Introduction to the concept of transfer pricing also known as management accounting.

(2) ASSET/LIABILITY MANAGEMENT FOR TREASURY MANAGERS

Attendees: Treasury managers or those with responsibility for treasury management in local currency and foreign exchange.

Classroom time: Two Sessions of Five Days Each Given Three Weeks Apart

Topics:
* Strategic issues in positioning banks which would include interest rate risk management, foreign exchange risk management and liquidity risk management.
* Review of and introduction to treasury products such as repos, forward foreign exchange, options and interest rate swaps. (Options will be discussed only as a hedging tool that they may want to explore in the future and not as a product to trade now).

[7]This class could be taught bank-by-bank, so that participants could speak frankly about their needs as well as go at their own speed.

* Review of methodologies for evaluating risk in Treasury positions and treasury profits.
* Review of the limit setting process.
* Discussion about structuring the Treasury and Trading functions.
* Detailed review of trading room risks and operational controls and organizational controls including the function of the accounting and audit areas.
* Pricing Issues.
* Capital adequacy issues.
* Introduction to the concept of transfer pricing also known as management accounting.

(3) FORWARD FOREIGN EXCHANGE FOR TRADERS

Classroom time: Half-day sessions

* Concept, uses, pricing and trading of forwards.
* Trading strategies.

(4) TREASURY FOR BANK AUDITORS AND CENTRAL BANK EXAMINERS

Attendees: Bank Auditors or Central Bank Examiners Who Will be Auditing Bank Treasuries

Classroom time: seven days

* Review of the business of Treasury, the products and the inherent risks.
* Review of the system of limits to control risk, how they are set and how they are monitored.
* Review of the operation procedures of a sound dealing room.
* Review of standard testing procedures used by Auditors to review dealing room risk control.

(5) FORWARD FOREIGN EXCHANGE LE/$ FOR BANK ACCOUNTANTS

Classroom time: One Afternoon or One and one-half days, as needed.

* Discussion of hedge accounting and trading account accounting for forwards LE/$.
* Other subjects as may be pertinent to the types of business in which the banks are engaged.

(6) TREASURY CREDIT LIMITS FOR THE BANK'S SENIOR CREDIT OFFICER

Classroom time: One and one-half days

* Credit risks inherent in Repo activity, Deposit Placements, Spot Foreign Exchange and Forward Foreign Exchange.
* Methodologies for measuring and controlling Credit risk.

(7) BEGINNING TREASURY FOR TRADERS AND TREASURY ANALYSTS

* Telerate offers a PC-based course that can be available at any time. The Banking Institute can offer this course by buying the diskettes. The remainder of training for traders is generally done

on the job, although there are certainly traders in Egypt who could provide some more formalized training should there by a need for it.

(8) INTERMEDIATE TREASURY

* This would be more oriented to the introduction of specific products such as Interest Rate Swaps or Options. This kind of training should probably wait until the banking system has well established treasury functions, well trained accountants and auditors. When more advanced products such as these are taught to traders they will also need to be taught to managers, accountants, auditors, examiners and credit mangers.

(9) EXPORTERS AND IMPORTERS

Classroom time: One-half day

* Methods of Hedging.
* Affect on leverage.
* Pricing of forward foreign exchange contracts.