PAMPHLET SERIES
NO. 3

EXCHANGE RATE

The pamphlet explains what the exchange rate is, why it is important and the factors that determine it. It also touches upon exchange rate appreciation and depreciation and the significance of nominal and real effective exchange rates. It describes the spectrum of different types of exchange rate regimes ranging from the fixed exchange rate system to the floating exchange rate system and traces the history of the evolution of exchange rate regimes in Sri Lanka since Independence. It also provides an overview of the foreign exchange market and the role of the Central Bank in maintaining exchange rate stability.

Central Bank of Sri Lanka

April 2006

1. EXCHANGE RATE

Most countries use their own currencies as a medium of exchange, similar to the Rupee in Sri Lanka and the Dollar in the United States. They are deemed to be the legal tender or legally valid to make all local payments. However, a few countries have adopted currencies of other countries as legal tender. An example of such a country is Liberia, which uses the US dollar as legal tender. Some countries, as a group, adopt a common currency as legal tender, such as the “euro” in the European Union.

Whenever a country with its own unique currency has to make payments to other countries which have different currencies, it has to exchange its currency with other currencies at a given rate of exchange. The rate at which one currency may be exchanged against another is called “the exchange rate”. The exchange rate is formally defined as the number of units of one currency that can be exchanged for a unit of another. Thus, it is the price at which the national currency is valued in relation to a foreign currency.

It is usually the supply of and demand for a foreign currency in the market that determines a country’s exchange rate. Demand for a currency arises from payments required for imports of goods and services and for capital payments, whereas supply of a currency is determined by the exports of goods and services as well as from capital receipts. As such, the demand and supply for a currency in the foreign exchange market rest on real forces determining a country’s imports, exports, services and capital flows.

The exchange rate can either be expressed in terms of number of units of domestic currency per unit of foreign currency (direct quotation) or number of units of foreign currency per unit of domestic currency (indirect quotation)[1].

Example:

1 US dollar ($)	= 100 SL Rupee (Rs)	–	Direct Quotation
1 Sterling pound (£)	= 1.90 US Dollar ($)	–	Indirect Quotation
1 euro (€)	= 1.30 US Dollar ($)	–	Indirect Quotation

1 In practice, except for the Pound Sterling, Euro, the Australian Dollar and the New Zealand Dollar, all other currencies are expressed using the direct quotation system in the international market. Also, for convenience and ease of comparison, the exchange values of most currencies are expressed relative to the US dollar, which is the most widely used currency in the world today.

In the foreign exchange markets, the former expression is more widely used. For instance, if the exchange rate of the US dollar for the Sri Lankan rupee is Rs.100, that means that a person who wants to buy one US dollar would need to pay one hundred Sri Lankan rupees in exchange for one US dollar. In other words, one Sri Lankan rupee is worth US dollars 0.01 at the time of the transaction.

The increase in the value of the domestic currency in terms of another currency is referred to as a nominal appreciation. For instance, suppose you paid Rs.100 to buy one US dollar a week ago and need to pay only Rs.95 to buy the same US dollar today. This is because the Sri Lankan rupee has appreciated by Rs. 5 compared to the US dollar during the week. Similarly, a decrease in the value of the domestic currency in terms of a foreign currency is known as the nominal depreciation of the exchange rate. Suppose that the Rupee amount you need to buy one US dollar referred to in the above example increased to Rs.105 today. This means that Sri Lankan rupee has depreciated by Rs. 5 against the US dollar compared to the previous week.

2. IMPORTANCE OF THE EXCHANGE RATE

The importance of the exchange rate differs from country to country. Generally, for closed economies, its importance is less. For small, open economies, such as Sri Lanka, however, the exchange rate is very important as it affects the prices of exports as well as imports. While a country’s exports depend on the purchasing power of the rest of the world and the price competition of the goods and services it exports, its imports are dependent on the income and spending power of its residents and the competitiveness with imported products in relation to domestically produced goods and services.

A trade deficit, which results from an excess of imports over exports, tends to bring downward pressure on the domestic currency (depreciation of the exchange rate). Since the exchange rate determines the value of foreign goods, services and financial assets that can be purchased with domestic currency, if the domestic currency depreciates against other currencies, imports become more expensive in terms of domestic currency. Whereas the higher import prices in terms of domestic currency will reduce the purchasing power of domestic consumers, domestic producers will benefit from becoming more competitive against imports, both in domestic and export markets. This would lead to the substitution of imports through increased domestic production. The higher demand for domestic goods and services to be used for producing goods to be exported would increase the domestic prices. This way, the exchange rate serves to allocate resources between those goods and services that can be traded internationally and those that are sold only in the domestic market.

In addition to the trade balance and inflation, exchange rates also influence foreign investments as investors decide on the composition of their investment portfolios based on the prevailing as well as expected exchange and interest rates. Exchange rates also affect a range of other factors ranging from worker remittances to the reserve position of a country. The value of a country's exchange rate also depends on both, domestic and foreign monetary conditions. An unexpected increase in domestic interest rates, for example, could attract capital inflows and would lead to an appreciation of the domestic currency in the foreign exchange market of an open economy.

3. MEASUREMENT OF CHANGES IN EXCHANGE RATES

Exchange rates around the world are in a constant state of flux. However, the nature of these fluctuations is such that not all the exchange rates change in the same proportion or in the same direction. Hence, indicators have been developed to monitor the general movements of a country's exchange rate against currencies of other countries. These are called effective exchange rates. Sri Lanka uses trade weights of 5 and 24 major trading partner countries for monitoring the exchange rate movements.

Exchange rates generally incorporate all economic information that is available and it is only the arrival of news or some unanticipated event that would change the exchange rate between today and tomorrow. As a result, in markets where there is much uncertainty regarding the movement of the exchange rates, they tend to be more volatile. 'News' also plays an important role behind volatility of exchange rates in the market. However, in the face of extra uncertainty, the foreign exchange traders tend to quote prices based on simple "rules of thumb" instead of economic fundamentals. When many such traders behave as a "herd" in the market, they can move the exchange rate off the desired path, requiring intervention by the Central Bank.

4. EFFECTIVE EXCHANGE RATES

Given that there are more than 100 different national currencies in the world, the exchange rate of a currency could change against one currency by a certain amount in a specific direction over time, whilst changing against other currencies at a different rate and/or in the opposite direction. In order to measure the effective change of a currency, an average of the respective changes of the bilateral currencies is generally used. These are called the Effective Exchange Rates.

Nominal Effective Exchange Rate (NEER)

The NEER is the weighted average of major bilateral nominal exchange rates. The weights are usually based on the trade shares, reflecting the relative importance of each of the major currencies. NEER Index is usually computed to reflect the changes in the foreign currency value of the domestic currency against a basket of currencies, which are important to the economy. Usually, currencies in the basket are determined on the basis of major trading partners of the country. An index is generally constructed with respect to a particular base year. The main focus of NEER is on the trade balance, particularly the exchange rate induced changes in trade flows. Although NEER can be used to assess competitiveness, a more appropriate measure is described in Box 1.

5. EXCHANGE RATE REGIMES

Exchange rate regime is the process by which a country manages its currency in respect to foreign currencies.

The two major types of exchange rate regimes are *the floating* exchange rate regime, where the market freely determines the movements of the exchange rate, and the *fixed* exchange rate regime, which ties the value of one currency to

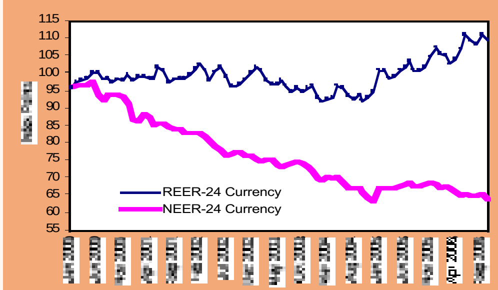
BOX 1

REAL EFFECTIVE EXCHANGE RATE (REER)

With the passage of time, the domestic prices in one country may rise faster than those of others. The average increase in prices (inflation) is measured by a price index. The REER is said to measure the real exchange rate, taking into account variations of exchange rates and inflation differentials of major trading partner countries. As the inflation rate in each country is assumed to broadly indicate the trends in domestic costs of production, the REER is expected to reflect foreign competitiveness of domestic products, given the rise in domestic prices.

The Central Bank of Sri Lanka computes NEER and REER indices using exchange rates and price indices of its 24 major trading partner countries. Information on these indices is disseminated to the public on a regular basis through the various publications of the Central Bank as well as through its website. Chart 1 shows the movements in the effective exchange rates in Sri Lanka since 2000, based on 1999 prices.

Chart 1
Effective Exchange Rates Indices
(1999=100)



The 24-currency NEER index has been defined in such a way that any increase reflects a nominal appreciation of the rupee against currencies of major trading partners. Similarly, any increase in the REER index reflects a depreciation of competitiveness of Sri Lanka's exports and import competing industries. A decrease in NEER and REER indices, on the other hand, represents a nominal depreciation of the rupee against currencies of major trading partners and an appreciation of competitiveness of Sri Lanka's exports and import competing industries, respectively.

However, one cannot solely rely on the REER indicator to gauge the variation in competitiveness, as it does not adequately capture the impact of a host of other factors such as changes in macro-economic policies, changes in the trade and exchange system, including the changes in the regulatory and institutional environment and productivity changes. There could also be deficiencies in the price indicators.

another currency. There is also a spectrum of exchange rate regimes that lie in between these two extremes. These are generally referred to as intermediate regimes. These regimes and the different circumstances, under which they are used, are explained in Box 2.

6. EVOLUTION OF EXCHANGE RATE REGIMES IN SRI LANKA

Sri Lanka's foreign exchange market gradually evolved from a fixed exchange rate regime in 1948 to an independently floating regime by 2001.

Fixed Exchange Rate Regime

At the time of gaining independence in 1948, Sri Lanka had a fixed exchange rate regime. The exchange rate was pegged to the Indian rupee and currency was issued and managed by a Currency Board. The Currency Board was

BOX 2

EXCHANGE RATE REGIMES

In a fixed exchange rate regime, as the name implies, the exchange rate is pegged to another currency. Generally, it tends to be the currency of the country with which it trades with the most. In fixed regimes, monetary policy must be subordinated to the requirements of maintaining the peg. A currency board is an extreme form of fixed exchange rate wherein the monetary authority's ability to increase the money supply is restricted to the foreign currency reserves. In a free floating exchange rate regime, on the other hand, it is the market forces of demand and supply of a currency that determine the exchange rate.

The range of intermediate regimes depends on the extent of flexibility which the Central Banks would like to maintain.

The rules under which the intermediate regimes operate are referred to as BBC rules – Baskets, Bands and Crawls. The use of a "basket" of several currencies is deemed to be preferable for economies with diversified trade as opposed to pegging to a single currency, because a country could reduce the vulnerability of its economy to fluctuations in the values of individual currencies in the basket. A single currency peg is deemed to be better if the peg is to the currency of the dominant trading partner. However, the currency in which the country services its debt must also be taken into consideration. A "band" allows some flexibility by providing a pre-announced margin within which the monetary authorities could gradually adjust the exchange rate on a daily basis to enhance the competitiveness of a country's exports and to ensure exchange rates are not destabilized against one another by way of sudden devaluations. The'"crawl" allows even more flexibility by allowing the Central Bank to announce the exchange rate to adjust the center of the band more frequently, say on a daily basis, to keep it in line with the economic fundamentals without provoking expectations of changes in exchange rates to destabilize markets.

Historically, there was a shift from fixed to flexible exchange rate regimes, which started with the collapse of the Bretton Woods system of fixed exchange rates in 1971, when the major currencies of the world were floated. As governments became reluctant to adjust parity to take account of underlying changes in the economy, exchange rate parities lost their credibility and invited speculative attacks that led to harmful consequences on the economy, by draining foreign exchange reserves and often, forcing the abandonment of the fixed exchange rate regimes. Although most developing countries continued to peg their exchange rates to either a single currency or a basket of currencies, by the early 1980s, in the face of rapid acceleration of inflation in many of these countries, they gradually shifted away from the pegs to adopt more flexible exchange rate arrangements. As markets proved superior to governments and economists in setting prices, a notion emerged that all prices should be set by the market that led some countries to adopt "crawling pegs" whereby exchange rates could be adjusted according to pre-set criteria such as relative changes in the rate of inflation. Greater exchange rate flexibility has also been associated with more open, outward looking policies on trade and investment and increased emphasis on market determined exchange rates and interest rates.

replaced by the Central Bank in 1950, with explicitly defined objectives of stabilizing the domestic and external values of the rupee and promoting economic growth. The Sri Lanka rupee became the standard of monetary value and was fixed at 0.88 grams of gold which yielded an exchange rate of Rs.13.33 for one British pound and Rs. 4.77 per one US dollar.

Dual Exchange Rate Regime

By the mid 1960s, however, the country faced a balance of payments crisis, triggered by low export prices and a high volume of imports. The situation was aggravated by the devaluation of the British pound, forcing Sri Lanka to devalue the rupee by 20 per cent on 22 November 1967, in order to maintain export competitiveness. In an attempt to ease the pressure on the country's balance of payments, a Foreign Exchange Entitlement Certificate system was introduced in 1968. This involved a system of dual exchange rates with one official rate applicable to essential imports and non-traditional exports, and another higher official rate applicable to all other exports and imports. The objective of the scheme was export diversification and import compression by allowing the market mechanism to regulate the flow of non-essential imports. It was designed to bring the rupee cost of a wide range of such imports closer to the realistic value of foreign exchange. However, this amounted to subsidizing the cost of providing the foreign currency at lower rates to the non-traditional exporters, which eventually had to be borne by the Government. The exchange control restrictions imposed towards the latter part of 1950s in view of the looming balance of payments difficulties, were tightened further with the onset of the oil crisis in 1973. Due to the-balance of payments crisis it sparked, Sri Lanka adopted highly restrictive controls on current and capital account transactions, which prevailed until 1977.

Managed Floating Regime with Crawling Band

The dual exchange rates were in effect until November 1977, when Sri Lanka shed protectionist policies to embrace market oriented economic policies. The currency was reunified and set at Rs. 16 per US dollar, and a managed float exchange rate regime was introduced. The rupee exchange rate was linked to a basket of currencies, weighted in terms of their relative importance in trade. The Central Bank announced its buying and selling rates for the US dollar for its transactions with commercial banks and commercial banks were to quote buying and selling rates for currencies within the specified margin for their transactions with customers. The margin between the Central Bank buying and selling rates, which was initially set at Rs. 1.50 per US dollars 100, was gradually increased and by 1992, the margin took on a percentage value and was set at 1 per cent of the middle rate announced by the Central Bank.

Independently Floating Regime

In order to provide commercial banks with more flexibility in quoting exchange rates, the margin was increased to 2 per cent in 1995 and in late 2000, it was raised to 5 per cent in the face of a large balance of payments deficit. The Central Bank continued to widen the band gradually from 6 per cent in August to 8 per cent in January 2001, allowing market forces greater scope in terms of determining the exchange rate. On January 23, 2001, the Central Bank took a major step towards liberalizing the foreign exchange market by allowing the commercial banks to determine the exchange rate (independent float). The central bank no longer stands ready to buy or sell foreign exchange at preannounced rates, but monitors the movements of the exchange rate, reserving the right to intervene in the market, to buy and sell foreign exchange at or near market prices, as and when it is deemed necessary. The aim of intervention is to prevent excessive volatility in the short-term and to build up the country's international reserve position in the medium-term. Thus, the managed floating regime can be construed as an intermediate step (until the market became significantly matured) in the evolution of exchange rate policy in Sri Lanka towards independent floating.

7. ROLE OF CENTRAL BANK

Governments and Central Banks stay vigilant over the foreign exchange market to ensure that it functions in an orderly manner. They operate on the premise that currency movements tend to be excessively volatile in the absence of regulation. Volatility in the exchange rate is caused primarily by unstable trade and capital flows as well as expectations of trade flows. In addition to its supervisory roles, Central Banks also have ultimate control over the money supply and interest rates of countries. Thus, they intervene in the markets for freely convertible currencies, to preserve orderly markets by filling in temporary shortfalls in supply and demand that could otherwise result in excessive fluctuations in exchange rates. They do so by using their own stocks of foreign exchange reserves or by influencing interest rates through money market operations. Under the fixed or pegged exchange rate regimes, Central Banks fix the official rates of exchange and act as the obligatory counter party in a transaction.

8. FOREIGN EXCHANGE MARKET

A foreign exchange market provides the framework for the exchange of one currency for another, in order to facilitate international trade and financial transactions. The foreign exchange market is the largest market in the world. Unlike stock markets, foreign exchange markets do not have fixed opening hours, a centralized payment mechanism, standardized contracts or a specific location. The foreign exchange market is actually a worldwide network of traders, connected by telephone lines and computer screens. A foreign exchange trader will contact other foreign exchange traders to ask their buying and selling prices, find the best price and then complete the transaction. Most deals are done on telephone while most conversations are recorded on some voice capturing media and later confirmed by e-mail, telex or fax.

The key players in the foreign exchange market are commercial banks, foreign exchange brokers, business firms, the Central Bank, and customers and governments, who wish to buy and sell various currencies to fulfill their payment obligations. Commercial banks are the main participants. Foreign exchange dealers in commercial banks “make the market” in foreign exchange by quoting two exchange rates at which they are willing to buy and sell foreign currencies. The spread between the buying and selling rate provides the gain to the foreign exchange trader.

From the point of view of the corporations that operate across borders or engage in international trade that requires the services of commercial banks to cash receipts and expedite payments made in foreign currencies, it would be tedious and costly for them to search for people and businesses willing to buy and sell foreign currencies to match their requirements. Commercial banks serve as middlemen by bringing together those who supply and demand foreign currencies. With each bank trying to maintain its share of corporate business, a competitive quote is the most important factor that determines which bank gets the business. In leading foreign exchange markets in London and New York, currencies are traded electronically and information is updated every second to ensure that the world knows what is happening to the currencies through media such as Reuters and Bloomberg.

The foreign exchange market consists of a wholesale tier, for bulk foreign exchange transactions and a retail tier, for smaller transactions. The wholesale tier is an informal network of banks and currency brokers that deal with each other and with large companies, financial institutions and government agencies, which need to trade large amounts of currencies on a regular basis, either for themselves or for their customers. Participants in the wholesale market tend to get the best prices for different currencies, as they trade in large amounts. Individuals and small companies who have smaller foreign currency needs operate in the retail market and have to pay a somewhat higher price and they work through the commercial banks.

9. SPOT FOREIGN EXCHANGE MARKET

In Spot markets for foreign exchange, currencies are exchanged for immediate delivery. In practice, however, there is a delay of two working days involved in delivering the currency. This does not necessarily mean that one cannot purchase currencies for instant delivery. Currency delivered instantly is referred to as “Cash” and those with a one day delivery lag are called “Tom”, shortened for “tomorrow”.

10. FORWARD FOREIGN EXCHANGE MARKET

Changes in leads and lags between international trade business and the required foreign exchange transactions, or shifts in institutional investor sentiment, can offset major trends in the market. If the rupee appears to be depreciating rapidly, Sri Lankan importers have an incentive to purchase foreign currency sooner to meet future commitments rather than wait for the payment date when it might be more expensive. On the other hand, if the rupee appears to be appreciating or depreciating at a relatively slower pace, exporters may sell their foreign exchange receivables in the forward market to hedge against the exchange rate risk.

Forward transactions are contracts between two parties, wherein each party agrees to trade foreign currency against local currency at some future date, for a pre-determined exchange rate that is agreed upon in the contract. For instance supposing today is June 1, you could ask your bank to quote you an exchange rate to sell Sri Lanka Rupees for US dollar for a date in July and the transaction would be settled in July at the rate agreed upon on June 1 (irrespective of the exchange rate prevailing in July). The exchange rate applied in the forward market transactions is called forward exchange rate. The forward exchange rates will reflect the interest cost of domestic currency plus some factor for uncertainty. Most commonly used quotes are for maturity periods of 30, 90 and 180 days. Since the forward contracts are entered into in the anticipation of minimizing the exchange rate risk associated with trade and finance, the same agents that constitute the spot market are responsible for driving the forward market as well.

The recent introduction of currency options is expected to lead to the further development of the forward market. While a forward contract is based on a trade that is agreed to at one point in time but will take place at some later time, an option takes it one step further by giving the holder of the option, the right, but not the obligation, to perform the specified transaction with the issuer of the option, according to specified terms.

11. CURRENCY MARKETS AROUND THE WORLD

Although there are hundreds of banks around the world that handle foreign exchange transactions, much of foreign exchange trading is concentrated within about 25 large banks located in London, New York and Tokyo. These banks accommodate over half of the total volume of transactions. Every currency in the world can be traded in the foreign exchange market. However, due to difficulties in matching buyers and sellers from all over the world, a handful of currencies, which are most widely used in international trade, have dominated the foreign exchange market. These currencies include the United States dollar, the Sterling pound, the euro and the Japanese yen.

If the market rate in one financial center deviates too far away from the average, there would be opportunities for making profits from foreign exchange trading. This is called arbitrage and involves simultaneously buying a currency in one market and selling it in another. Arbitrage can involve more than two currencies. Traders with a keen eye for price discrepancies who are willing to take quick action are generally rewarded. Arbitrage corrects the discrepancies in the foreign exchange markets by driving them back to internationally consistent rates of exchange. In this manner, banking activities in the foreign exchange market tend to establish a uniform price range for a particular currency throughout the financial centers of the world. In some cases, however, it propels the exchange rates to take on new paths and settle at new equilibria among the currencies.

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