

## **Chapter II.**

### **Background and Structure of Interest Rate, Exchange Rate and Forward Rate**

#### **2.1 Background of the Study**

With the passing of time, new evidence has accumulated causing the exchange rate system to move through various exchange rate regimes. Each exchange rate regime works efficiently under different circumstances. When the circumstances change, the exchange rate regime has to change in order to adopt the exchange rate regime that is best for the world trade situation in each period. In history, from time to time, the exchange rate regime has changed.

1797-1821	Disruption due to Napoleonic wars
1821-1875	England on gold standard; other nations on various commodity money arrangements
1876-1914	Worldwide gold standard
1914-1945	Bretton Woods system of fixed exchange rates
1973-Present	Floating exchange rates among leading nations <sup>1</sup>

In this study, I will focus only on the exchange rate regime that plays an important role after World War II. The disadvantages of the gold standard and the unsettled condition of the 1930s led to a breakdown in trade, and drove countries to try to find a new system for their international trade. The disadvantage of the gold standard came from the limitations of the gold itself. Trade had been growing rapidly with the need for international reserves following in step. But worldwide gold production was much smaller than the growth of

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<sup>1</sup> McCallum, Bennett T. (1996) International Monetary Economics, Oxford University Press, Inc: New York.

desired reserves. Moreover, the distribution of gold across countries was very uneven. The disadvantage of the unsettled condition of the 1930s also related to gold, as the countries believed that protectionism was best for their economies during that period. The idea is due to the consideration that the wealth of a country was a result from the amount of gold reserves of a country. So, each country tried to keep their gold reserve high by exporting as much as they could and importing as little as possible. However, the resulting effect on world trade was not as expected. On the contrary, it reduced size of international trade and brought on the bad experiences of the great depression in the 1930s, which confirmed that the protectionism policy neither lifted up the world economic nor thrived any country's economy. It caused the economic sanction and breakdown in trade.

After World War II, the conference with the purpose of designing postwar arrangements for an international monetary system was held at Bretton Woods, New Hampshire, in July 1944. There were 45 participating countries. The conference adopted the Bretton Woods arrangement of "fixed but adjustable exchange rates" that applied to most major currencies.

The Bretton Woods system is a system that fixed exchange rates between nations, but at rates that could be adjusted when necessitated by discrepancies in growth rates of national productivity or other related factors. A two-tier system of convertibility was established, which was known as the "gold-exchange standard". The first tier of the system was the US monetary authorities guaranteed the convertibility of the dollar into gold fixed at the rate of \$35 per ounce of gold. The second tier was the commitment of the monetary authorities of the participating countries to convert their currency into dollars at a fixed price (official exchange rate). Following this system, the world approximated the ideal situation in which there exists single world currency. There were two steps of conversion that were fixed at

constant rates. Each country was able to convert their currency to dollars, and from dollars the country could convert to gold and vice versa.



Two new organizations were founded to support the system. Both are now famous as world leading organizations. The International Monetary Fund (IMF), whose role was to manage and facilitate operation of the exchange rate system, and the International Bank for Reconstruction and Development (the World Bank), which was to provide loans to needy nations for development projects that promised to enhance the welfare of their citizens.

Though the IMF was found in 1947, most nations did not convert their currencies until 1958. At that time there was small capital flow because of government restrictions. Even though there was small transaction in investment or capital flow, there was large transaction in trading. Price is the major factor that indicates which country would receive advantage from trading. The country which had high price levels leading to a high inflation rate, would have a trade deficit. The deficit country was initially allowed to borrow from the IMF to finance their trade deficit, rather than having to adopt a restrictive monetary condition which tends to induce a recession, and was allowed to fix its exchange rate at a new lower parity (i.e. devaluation). After that the country had to follow a set of austerity measures from the IMF to reduce its balance-of-payment difficulties.

The system worked relatively well for only a few years. After that the system began to come under strain in the middle of the 1960s, which was the result of asymmetric adjustment process between surplus countries and deficit countries. The surplus countries did not want to undergo revaluation of their currencies for the benefit of the

deficit countries. Since revaluation meant that the surplus countries had to reduce the advantage in trade that they were enjoying and gave that benefit to the deficit countries therefore the deficit countries had to devalue.

The devaluation of deficit countries allowed speculators to attack those currencies. In the case of the US, the current account deficit was due to the large amount of dollars held by third countries that exceeded the value of US gold reserves. Free convertibility of dollars into gold at the official rate became impossible. Excess demand and limited supply of gold drove gold prices very much higher than the official rate, and eventually convertibility of the dollar into gold was suspended while simultaneously adopting a program involving wage and price controls as well as an import tax surcharge. The dollar was not able to fix at the official rate and was floated in 1973.

**Table 2.1 U.S. Monetary Gold Stock and Liquid Liabilities to Foreigners**

End of year	Monetary gold stock (\$ billion)	Liquid liabilities to foreigners (\$ billion)
1949	24.6	Na
1952	23.3	Na
1954	21.8	12.4
1955	21.7	13.5
1956	22.1	15.3
1957	22.9	15.8
1958	20.6	16.8
1959	19.5	19.4
1960	17.8	21.0
1961	16.9	22.9
1962	16.1	24.1
1963	15.6	26.3

1964	15.5	29.0
1965	13.8	29.1
1966	13.2	29.8
1967	12.1	33.2
1968	10.9	33.7
1969	11.8	41.8
1970	11.1	43.3
1971	10.2	64.2
1972	10.5	78.7
1973	11.6	87.6

Source: Schwartz (1983); Triffin (1960)

Other countries also faced this type of problem. In the early 1970s, international capital mobility and differential inflation rates between countries increased. The result of the pressures was larger deficits and surpluses on current account. Countries then realized that a fixed but adjustable exchange rate regime was not suitable for their situation any more. Most countries left the Bretton Woods system and floated their currencies before 1972.

Yet in fact, exchange rates were not being left to float freely. Instead, the monetary authorities were influencing the exchange rates. The US authorities intervened mildly when compared with Europe authorities.

After the end of the Bretton Woods system, the volatile movement in nominal and real exchange rates led Europeans to move back to managed exchange rates. Members of the European community established the European Monetary System (EMS) in 1979. The EMS commitment for all members was to keep the exchange rate between their upper and lower limit (wide: +/- 6 percent; narrow: +/- 2.5 percent). However, the asymmetry that was the case in other countries and US before also happened with EMS.

The asymmetry, which forced deficit country to make adjustments on its exchange rate, created conflicts in the system. As members agreed that if pressures became too high their central rates could be changed, the ranges of the upper and lower limits got wilder and wilder. After a speculative attack on the Italian lira, Sterling and the franc on September 16, 1991 the pound sterling and the lira left the system. Those remaining in the system increased the range of the limit to +/- 15 percent. At this level the system no longer was a fixed exchange rate regime.

Though Europeans tried to avoid volatility of exchange rates and high inflation which would lead to higher unemployment rate by moved back to fixed exchange rate between their member countries, it did not work properly. Eventually they had to return back to floating exchange rate regimes.

In the case of Thailand, the signs that revealed that the exchange rate was not proper to the situation were pretty much the same as Chile, Sweden, Mexico and other countries mentioned above. But the Thai balance-of-payments was surplus and this concealed signals that might tell the Thai authority to adjust the exchange rate before it came to a crisis. As can be seen from the table 2 below that the Thai balance-of-payment was surplus except during the effect of rapidly increasing oil prices (1975-1979) and in 1983. Even though in 1996 the Thai balance-of-payment surplus was reduced to thirty percent of that in 1995, it was not sufficient to get the Thai authority's attention. Due to the nature of balance-of-payment that is composed of current account, capital account, and official reserve transactions. Capital inflow is counted as one part of the balance-of-payment. In the case of Thailand, enormous capital inflow was attracted from high interest rate and high return from investment in the developing country.

**Table 2.2 Thai Balance-of-Payment**

Year	Thai balance-of-Payment (Millions of Baht)
1973	864
1974	8,012
1975	-2,858
1976	-83
1977	-7,538
1978	-13,298
1979	-7,925
1980	5,179
1981	2,531
1982	3,314
1983	-18,078
1984	10,588
1985	12,464
1986	33,578
1987	18,183
1988	40,490
1989	1,114,555
1990	97,232
1991	105,776
1992	77,113
1993	98,791
1994	104,827
1995	179,530
1996	54,608
1997	299,210
1998	57,623
1999-Q1	39,287

Source: Bank of Thailand

In general, the exchange rate and the interest rate are the indicator and the connector of each country to link their economic system to the world economy. They present the country status. The exchange rate is a price between two currencies, which also shows the country wealth by comparing value of each currency. The interest rates represent the money need of a country, which reflects the amount of money circulating within the system.

Before Thailand was opened to financial liberalization, disparity of the country's representative factors (exchange rates and interest rates) did not have a negative effect on the economy. Impacts from outside did not have much influence. The situation would not have been so severe if not for the ease of capital inflow through the Bangkok International Banking Facility (BIBF). BIBF allowed corporate and private sectors to borrow from abroad which had lower interest rate compare to the domestic rate. Borrowers just deposited money in domestic banks then received profit from the difference of the interest rates. Therefore, a huge amount of capital inflow flowed in to the country after liberalization.

The BIBF cause an asset bubble because Thailand was not really ready to open the country. The financial sector and its supporting institutions were underdeveloped, and they did not prepare or study what would be the result of liberalization before opening the country. After BIBF, there were huge amounts of capital inflow, which had never come in Thailand before. They did not know how to manage that money or didn't know which industry they should invest in in order to bring country growth. The most capital inflow was invested in non-real sectors which give high return but do not produce real products or any value added products. Actually, the financial liberalization policy committed during 1994 and 1995 increased the need to reform Thailand's stabilization policy.

Inadequate financial sector supervision, the maintenance of relatively fixed exchange rates and high domestic interest rates existed simultaneously for a long period of time. The high interest rates were used to attract enormous capital inflow, foreign reserves were used as a shock absorber and exchange rates were stabilized to reduce the exchange risk for exporter, the real sector and for foreign investors. When pressure was not too high and Thailand had enough foreign reserves this was not a problem. However, when pressure was high



(compared to foreign reserves) speculators saw the way to make profit. This increased the problem, and finally ended up with the crisis.

The longer the time passed the larger the size of the problem. After Thailand opened up to liberalization, the gap of foreign exchange reserves and outside pressure increased over time due to disarrangement of representative factors. The high convertibility of the Baht indicated that exchange rates might have to be flexible, or otherwise domestic interest rates had to respond to capital flows. It was essentially not possible to manage a macroeconomy by targeting both the exchange and interest rates together as can be seen from the recession of the economy and export, weakness of financial institutions and meltdown of the real estate sector that effect foreign investment's confidence.

From 1990-1995, Thai economic growth was from the export of labor intensive goods, in which Thailand had advantage from relatively inexpensive labor cost. In 1996, Thai investment was 41.4% of gross national income. Domestic saving could not supply such high level of investment. Investors had to rely on foreign capital. Though there was a large amount of capital inflow, foreign direct investment was small. The main part of capital flow was short-term loan. Thai liability increased every year and reached 50.14% of gross national income in 1996. Actually when liability is approximately 40% of gross national income, it is considered a danger to the economic system.

Thai lost competitiveness in export due to high domestic inflation and the appreciation of the US dollar (the main currency in the basket). This is the critical point where Thai economic growth was reversed. Actually, after liberalization the Bank of Thailand had to maintain Baht under basket of currencies by selling Baht and buying foreign currencies in the basket. This increased foreign reserves. The amount of reserve, which may safe from speculative attack, in open

market that speculators would be able to buy Baht freely from both internal and external country should equal to money that circulates in the domestic system. This is impossible in reality. The measurement that the Bank of Thailand selected to manage foreign reserves is bond and swap.

The swap\* transactions to maintain international reserves greatly made information asymmetric between speculators and firms. The actual information on swap transactions in foreign reserves suggested that the Baht should be more flexible, rather than pushing interest rates higher. It is natural and proper for interest rates to rise in response to high-risk premium related to the monetary contraction.

The IMF also agreed with this point as you can see from the Thailand -1997 Article IV Consultation below.

“...as we have discussed on prerevious missions, we continue to believe that the introduction of a more flexible exchange rate arrangement is a policy priority, both to increase monetary policy autonomy and to improve the composition of the capital account by reducing the incentives for short-term inter inflows...In addition, the present system can hinder adjustment to external shocks; in particular the heavy weight of the U.S. dollar in the basket has clearly been unhelpful in present circumstances. During our discussions you have indicated that you intend to introduce greater exchange rate

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\* Swaps is the forward contracts that are made in conjunction with another contract (spot or forward). This is designed to limit the parties' exposure to risk from exchange rate changes.

flexibility at the appropriate time; we encourage you to do promptly, while at the same time changing the present basket to more closely reflect the pattern of Thailand's foreign trade."

Source: International Monetary Fund, Thailand-1997 Article IV Consultation, Concluding Statement of the Mission, March 28, 1997

Poor assessment and management of financial risk, and the relatively fixed exchange rates under the basket of currencies for a pretty long period of time implied that the authorities were reluctant to float the exchange rate and still maintain high interest rate policy. Even after strong attacks from hedge funds. Unhedged foreign borrowing discouraged the authority from giving up the fight to defend the currency. As the derivatives market in Thailand is still far from developed, only a small group of user knew what it is and what it is for as well as used them as a tool to prevent their risk. One of the main reason is because the exchange rate that Thai corporations were familiar with was under the fixed exchange rate, which indicate that there is no risk from the fluctuation of the currency so that no one pay attention to hedge his position against exchange rate risk.

Speculators and hedge funds attacked the Thai Baht for the same reason they previously attacked other currencies such as US dollar, because they can make one way bet profit from the devaluation of that currency. The Baht was first attacked in early 1995, but it was by no means vulnerable. However, pessimism and weaknesses in domestic fundamentals together with the rising US dollar, the Baht was severely attacked by professional speculators (referred to as "hedge funds") in December 1996, February and May 1997.

On May 1997, there had been a successful defence of the Baht, supported by other central banks in the region. But with foreign exchange losses that have been estimated to be as high as US\$ 15 billion<sup>2</sup>, the basket peg regime finally could not hold and had to give in to a floating regime.

On 2 July 1997, Thai monetary authorities announced they were weakening the Baht peg to the US dollar with only 2.8 billion million-dollar foreign reserve left. This announcement was tantamount to a devaluation of the currency since it had been steadily increasing since mid-1996. On that day, the Baht immediately lost about 16 per cent of its value, lost another 11 per cent in the next four weeks and a similar amount the following four weeks, losing a total of about third of its 2 July value. The Baht recorded its lowest rate at 56.50 Baht per dollar on January 12, 1998.

All of the above-mentioned shows that the primary causes of Thai crisis involve the weakness in financial system, inadequate financial sector supervision and poor assessment and management of financial risk, which created other problems. Because the financial system is the core of the system, if there is something wrong, it is easy to spread to other sectors. The impacts of those problems are serious lack of confidence and the deep domestic recession.

Serious lack of confidence in policy management, policy makers and politics relates to pessimism and market reaction that can instantaneously produce discrete changes in country risk. As can be seen from the sudden stop and pull back of capital of foreign investors, there was panic in asset and capital markets, when everyone knew that the asset to stand security had less value than its price. One who was able to pull back first is the one that would not

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<sup>2</sup> Wall Street Journal, 27 August 1997

lost money. Everyone scrambled for the way out. If the Thai authority had been responsible and handled the situation in a timely manner there would not have been so much panic and outflow of capital.

The deep domestic recession, an over supply in real estate and decrease in export cause commercial bank to have higher non-performing loan (NPL). This led banks and corporations to borrow large amount of international capital, much of it is short-term, denominated in foreign currency, and unhedged. Normally, banking loan system run by using multiplier method but when there is a shock it works opposite. Thus, it caused economic sanction in multiplier rate. The first corporation could not pay their liability. Bank had no money to lend for the second corporation. The second corporation lacking of liquidity could not pay for its production factors. The lack of liquidity spread to the owners of the second corporation's production factors and so on.

If Thailand was well prepared in the financial sector before the liberalization, Thailand would know how to protect itself from risk of the exchange rate fluctuation. Actually derivatives is a tool which is created to avoid several different type of risk. Including helping businesses engage in international trade to avoid the risk of exchange rate, which has been used for a long time in foreign countries. However the derivatives market in Thailand is just starting and it is still at the first stage. Only large banks and a small group of customers involve in the trading of derivatives market. Genuinely, there are large groups of businessmen who participate in international trade but do not have knowledge in derivatives. They still run their business, which follow conservative tradition. If Thailand was ready for financial liberalization, the government authority should be able to implement the policy, which is appropriate with the environment, for Thai foreign exchange market. Generally, the rate of exchange should be functioned within their role of parity, which is known as an

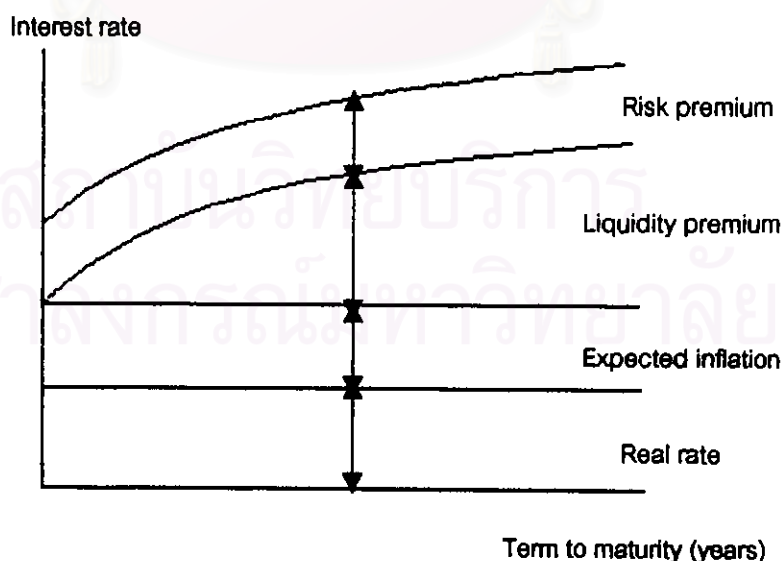
efficient foreign exchange market. But in Thai history, the representative variables in this study were stated different from where they should be as can be seen from the next section.

## 2.2 The Structure of Interest Rate, Exchange Rate And Forward Rate

### 2.2.1 Interest Rate

The interest rate is the rate of return on the investment. It compensates both time and risk from sacrificing certain current consumption for generally uncertain future consumption. The component of interest rate is expected real interest rate, expected inflation rate, expected liquidity premium, and expected risk premium. The first three components are time components, while the fourth is the risk component.

Figure 2.1 Interest Rate Component



### The expected real interest rate

The expected real interest rate is the rate that equates the supply of funds with the demand for funds from those willing to borrow. The supply of and demand for funds initiate from the different time preference of each individual. Individuals with high rates of time preference prefer current consumption and may borrow to finance current consumption, while other individuals with low rates of time preference prefer future consumption and may lend their funds today to gain extra funds in the future. The rate of time preference measures the willingness of individuals to transfer funds over time and the rate of interest measures the ability to transfer follow each individual's time preference.

### The expected inflation rate

If there is inflation in the economy, lenders will expect to be compensated for that inflation in their return. In reality, there is inflation in most countries. Hence, rational lenders expect to receive a return that will be able to buy the same bundle of goods when signing the contract and when the contract is mature plus some yield. In short, the return has to cover the same value of funds and some compensation.

### The expected liquidity premium

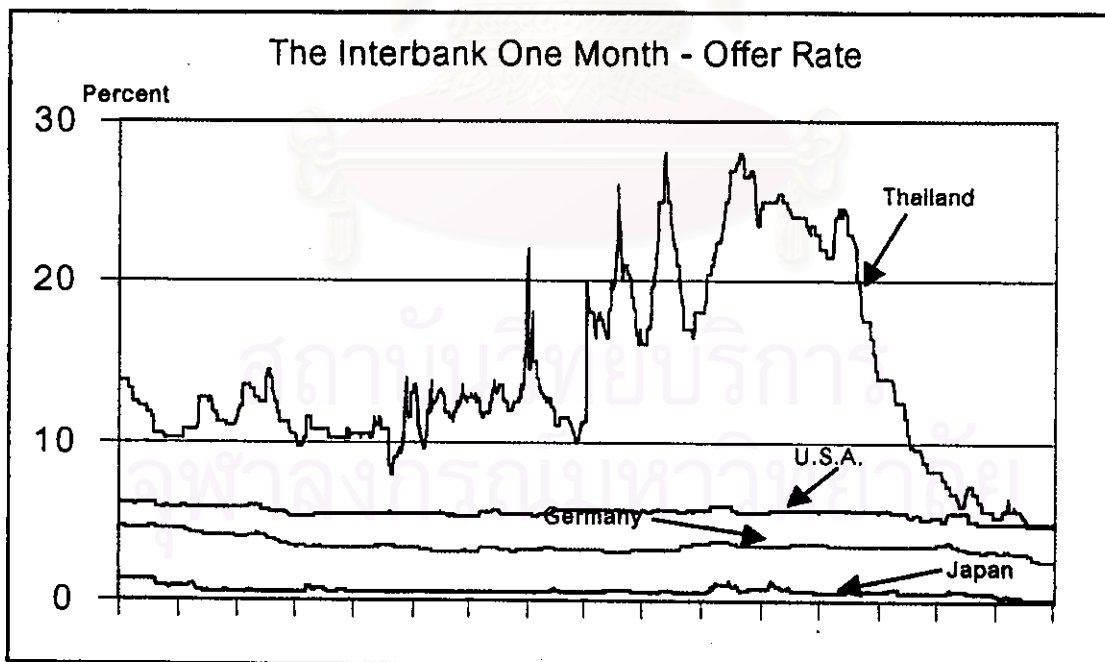
The lenders prefer to lend for short periods because in short period most securities are more liquid. The lenders will be able to convert to cash easily without the risk of losing capital value. The borrowers, however, prefer to borrow for long periods to prevent risk from rolling over short term loans. The interest rate generally increases with the term to maturity due to the lenders willingness to

accept lower yields for short-term loans, while the borrowers are willing to pay higher yields for long-term loan.

### The expected risk premium

The effect of market risk is to add a market risk premium to the required interest rate. There are two important types of risk. First, specific risk, risk that can be avoided by diversification, is the risk that the issuer of a particular security will become insolvent and default on his obligations. This risk is composed of management risk, business risk, financial risk, and collateral risk. Second, market risk results from dependence on market conditions, and cannot be eliminated through diversification.

**Figure 2.2** The Interbank One Month – Offer Rate from Quarter II 1995 until Quarter I 1999



Financial liberalization in Thailand made the interest rate lower than prior periods. This is due to the huge amount of capital inflow from 1992 until 1994. The interest rates fell from 10 percent to 5-7



percent and even lower than 5 percent in the last quarter of 1993. This liquidity raised domestic asset prices up including the price of real estate. Notice however that after 1994 the interest rate was again increased even though there was still large amounts of capital inflow as can be seen in Figure 1. This is due to the policy from the Bank of Thailand that wanted to absorb the liquidity out of the system. The higher interest rate differential between Thailand and foreign countries is another important factor that one should pay attention to as another potential indicator that forecast the devaluation of the Baht.

### **2.2.2 Exchange Rate**

There are two ways to quote foreign exchange rate or spot rate. First, price quotation that is quoted domestic currency in term of foreign currency. Second, volume quotation, which is quoted foreign currency in term of domestic currency. This study is based on price quotation. The exchange rate refers to the rate which use one currency to purchase another. In other words, "Spot" is the price of the country's currency that is traded in the spot market.

#### **The factors, which effect demand and supply of foreign currency**

In the long run, the factors, which effect demand and supply of foreign currency, are economic status and economic structure.

The economic status and economic structure depended upon Balance-of-payment, Foreign Reserve, and Fiscal and Monetary Policy.

- Balance-of-payment

Balance-of-payment consists of current account, capital account, and foreign reserve. If Balance-of-payment is surplus, the

demand for the currency is high. This high demand follows with the higher price of the currency. But if Balance-of-payment is deficit, the demand for the currency is low. Therefore, the currency has lower price. If calculate current account, capital account with out considering foreign reserve, the outcome will present the change in the country's foreign reserve.

- **Foreign Reserve**

Foreign Reserve is an important indicator, which indicates when the domestic exchange rate is not in balance. If the amount of foreign reserve is reduced to its limit, the government should devalue or issue other measurements. In the past, Thailand had deficit Balance-of-Payment from deficit in current account and capital account until financial liberalization. Then a huge amount of capital inflow came in to country, which turned the capital account from a deficit to a surplus. Surplus capital account was greater than deficit current account so the Balance-of-Payment was surplus.

- **Fiscal and Monetary Policy**

There are many policies the government issues, which might affect exchange rates such as control capital outflow, credit, tax, and liquidity. The Central Bank is another organization that supports government to achieve objectives of the policy. In a case of liquidity control, the Central Bank buys and sells government bonds following government policy in order to increase or decrease liquidity in the system.

In the short run, the factors that effects demand and supply of foreign currency are military and political stability, speculation, and the interest rate differential of between domestic and foreign country.

- Military and political stability

Both internal and external military and political instability affect domestic exchange rates. Internal military instability eliminates confidence of foreigners in the country's currency. While external military instability disrupts the confidence of foreigners and capital then flows to the country that has better military status. This increases demand for domestic currency. The lack of confidence of foreigner to domestic currency may also be caused by internal and external political instability in the same manner. Inefficient policy makers or frequent change of government teams is the major reason for unrelated management plan of each set of the government, which finally brings economic loss to the country.

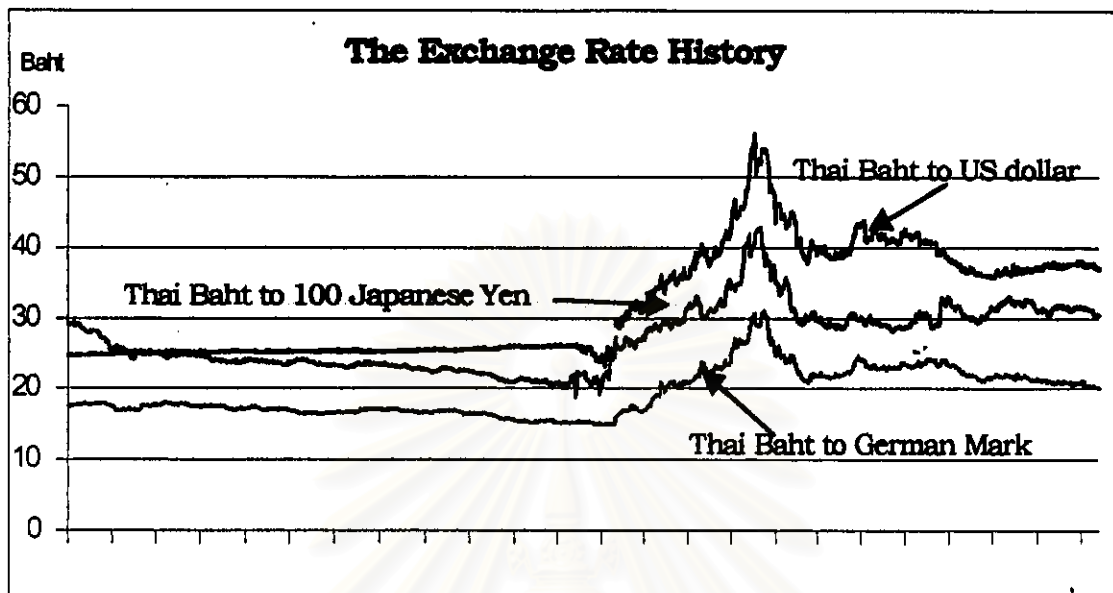
- Speculation

Approximately ninety percent of all currency trading is speculation. Therefore, the expectation trend of speculators has a strong influence on the exchange rate for every country.

- Differential of interest rate between domestic and foreign country.

Capital will flow to the country that has higher interest rate but if the amount of capital is more than the demand the interest rate of that country will decrease. When interest rate decreased investors do not want to prolong their investment in this country. This means they do not want to hold the country's currency and supply for this currency exceeds their demand thus the exchange rate is lower.

**Figure 2.3** The Exchange Rate History from Quarter II 1995 until Quarter I 1999



### Organizations in Spot Market

- **Commercial Bank**  
Commercial Banks work as the intermediate of the exporter and importer to exchange their currencies.
- **Central Bank**  
The Central Bank has to manage the exchange rate to establish economic growth.
- **Private Sector**  
Businessmen involved in the spot market are those who trade with or invest in foreign countries.

The Thai Baht is a freely convertible currency administered on a managed float basis against a basket of currencies of Thailand's major trading partners. Although the exact composition of the basket is not disclosed by the Bank of Thailand (BOT), most participants in the market estimate the portfolio by weight or amount of trade to be approximately 80% US dollar, 15% Yen, and 5% Deutschmarks.

Trading in the Thai Baht was active after the liberalization. There was high demand for Thai Baht from the relatively stability of the Baht and high interest rates attracting investors, to invest in Thailand. In order to be able to invest, the investors have to turn foreign currencies (underlying components of the basket) in to domestic currency first. This reason and the appreciation of US dollar caused the Baht to appreciate. Over valuing of the currency led to a loss of competitiveness in Thai products and was closely followed by economic weakness. Finally, the speculators attacked the Thai Baht. The effect from those situations can be seen from the movement of the exchange rate as shown in Figure 2.

### **2.2.3 Forward Rate**

A derivative security is a financial instrument, which does not have its own inherent value but its value is derived from another instrument. This instrument is known as the underlying asset or underlying interest. The price change of an underlying asset leads to the movement of the derivatives price. The derivative trading is a zero sum game. If one trader gains profit, the other trader will lose. The amount of the profit and lose of these two traders is equal, or the combination of profit and loss is zero.

Derivatives include forward, future, options, warrants, swaps, etc. Although derivative market covers many instruments, the Thai derivative market, which is still in the first stage of development, has only a few instruments that are now available. The derivative products in Thailand rank from gold and other physical commodity futures and options, to the Stock Exchange of Thailand's main index. Currently, a number of derivative instruments on Thai products are developing offshore due to the fact that the demand for those product increases from the world trade liberalization. However, the technical expertise and experience of Thai financial executives in derivatives trading is

limited. Only a few groups know how to utilize derivative instruments in risk management. First, the mutual fund managers who are knowledgeable about many of the hedge and portfolio management techniques. Second, the banking communities who have experiences in uses of foreign exchange and interest rate hedges. They provide a hedging service to their customers by participating in currency forward and swap markets. They also actively trade foreign exchange contracts for the purpose of seeking profits.

Thailand's only existing listed derivative exchange is the Stock Exchange of Thailand (SET). The derivatives that are now available are as follows:

**Table 2.3** The Available derivatives in Thailand

	Listed Futures and Options	Listed Warrants, Convertibles and Hybrids	Forwards, Swaps and Options
Equity		*	*
Fixed Income			*
Currency			*
Commodity			*

Source: Asia Pacific Derivative Markets, Erik Banks 1996

From the table above, Thailand has no currency instrument except in the category of forwards, swaps and options. there had grown rapidly over the past five years before the crisis because investors, importers and exporters sought to hedge liabilities, assets, and offshore currency receipts. In other words, the increasing derivative demand is to cope with the commercial and investment demands of the modern business community and the forward is the most popular instrument in Thailand due to the fact that futures are still not available. Therefore, this study concentrates on forwards.

Forward contract is an agreement between a buyer and a seller to make or take delivery of cash settlement based on actual or expected price level of one or more underlying assets. It specifies quantity, type, delivery place, and price of security. Each side must trust that the other will not default on the contract. Often one or both parties will perform a credit check on the other party before entering into the contract. Forward contract is different from the future contract in the way that it rely on trust of both party but the future contract have an intermediate organization which will act as intermediate between both parties.

General speaking, there have been no derivatives laws in Thailand up to now. However, this does not mean that there have no derivative transactions in Baht. Actually, there are transactions in offshore market and onshore markets. The domestic transactions are traded in financial institutions or even non-financial institutions that trade without supervision. This informal market is not only expensive but also fraudulent. The abuse of the informal market may make investors misunderstand what derivative actually is and also blur their image of useful financial instruments. This informal market exists because there is no law or formal market to provide the right choice for investors to gain benefits of hedging and price discovery. This problem is under the responsibility of the government authority, which realize that the fast and further development of the country's financial and capital markets is needed to cope with international trends towards financial liberalization. The government has tried to create a regulatory framework for derivatives markets as can be seen from a draft of the derivatives exchange act. The Thailand Securities and Exchange Commission (SEC) is planing to enact a Derivative Act and announced the launch of an over-the-counter (OTC) derivatives market, which will approve the securities companies to conduct derivatives transactions under the purpose of hedging risk, speculation, and client services.