

**THE UNIVERSITY OF THE WESTERN CAPE**

**DEPARTMENT OF ECONOMICS**

***A STUDY OF THE FACTORS DETERMINING THE CHOICE OF EXCHANGE***

***RATE REGIME: with specific reference to China***



Research Report submitted in partial fulfilment of the requirement for the degree Masters  
in Economics

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***TO MY PARENTS***  
***WITH LOVE***



UNIVERSITY *of the*  
WESTERN CAPE

## DECLARATION

I, the undersigned, hereby declare that the work contained in this assignment is my original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

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Date \_\_\_\_\_



## ACKNOWLEDGEMENTS

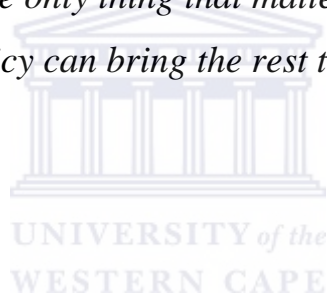
I would like to extend my special thanks and appreciation towards the following people and institutions:

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*“Whether a country should choose a fixed or flexible exchange rate, or some intermediate regime, is one of the oldest policy questions in economics. Many countries have encountered crises that interrupted their growth because they made bad choices. Others have never got growth going because of misguide decisions. Obviously this is not to say that exchange rate policy is the only thing that matters, but it is to claim that a flawed exchange rate policy can bring the rest to naught.”*

(Williamson )



## ABSTRACT

### **A STUDY OF THE FACTORS DETERMINING THE CHOICE OF EXCHANGE RATE REGIME: with specific reference to China**


Since the 1980s China had different exchange rate regimes. For example, in 1981, a dual-exchange rate system was introduced, with the official exchange rate applying to non-trade-related foreign exchange transactions and the depreciated internal settlement rate (ISR) applying to trade related transactions. This system was discontinued in 1985, but after the establishment of special economic zones to boost the country's export performance, the dual-exchange rate system was reintroduced in 1986. In 1994 the country informed the IMF that it will be switching to a managed floating exchange rate system and this was the official policy for almost ten years. However, *de facto*, the country chose to peg its currency to the USD during all these years (whilst Japan was the most important trading partner).

The report provides a descriptive analytical overview of how China in this era of globalization and with the importance of the World Trade Agreement, managed to keep its currency pegged to the USD over such a long period of time. The most important factors explaining this choice were identified as the desire to stimulate export-led economic growth, the risk related to capital mobility, financial sector liberalization, relative price level stability, dollarization and politics.

A case study analysis compares the Chinese choice to that of Malaysia, Korea and Thailand and explains that because of stringent exchange controls China was not affected as the other Asian economies by the Asian crises of 1997 although they had similar exchange rate systems. What is clear from the study is that China has no option but to change to a free floating system in the near future.

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<sup>1</sup> Consumer Price Index

## **ABBREVIATIONS**

ASEAN-4: ASEAN-4 members are Thailand, Malaysia, Indonesia and Philippines

BATH: Thailand's Currency

BIBF: Bangkok International Banking Facility

CFETS: China Foreign Exchange Trading System

CSRC: China Securities Regulatory Commission

CPI: Consumer Price Index

East Asia-15: East Asia-15 including Japan and East Asia. Emerging East Asia-14 includes Hong Kong, Korea, Singapore, Taiwan, Cambodia, Brunei, Laos, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vietnam, and China

EC: European Community

EMS: European Monetary System

EMU: European Monetary Union

FDI: Foreign Direct Investment

FTC: Foreign Trade Corporation

FEAC: Foreign Exchange Adjustment Centre

FEMA: Foreign Exchange Management Act

FESRP: Foreign Exchange System Reform Plan

FETL: Foreign Exchange Transitions Law

GKO: Short Term Zero Coupon Russian Government Treasury Bond

ISR: Internal Settlement Rate

NPLs: Non performing Loans

NIEs: The East Asian NIEs includes South Korea, Taiwan, Hong Kong and Singapore

OFZ: coupon Bearing Federal Loan Bond

PNEs: Production Export Networks

RMB: Chinese Currency

Ringgit: Malaysian's Currency

SSF: Social Security Fund

SAFE: State Administration of Foreign Exchange

SEZ: Special Economic Zone

SOE: State-owned Enterprises

SDPC: State Development and Planning Commission

WTO: World Trade Organization

WON: Korean's Currency

YUAN: Chinese Currency Name

YEN: Japanese Currency



## CHAPTER ONE: INTRODUCTION

### 1.1 STATEMENT OF THE PROBLEM

*“Few issues are more controversial in international economics than the choice of the exchange rate regime”*(Carmignani, Colombo and Tirelli, 2005). After 1971, although the majority of countries chose to float their exchange rates, some countries suffered from a phenomenon called “fear of floating”. After having been affected by the financial crises, countries seemed to choose one of the “bipolar” views, either a free floating or a firmly fixed exchange rate.

China also adopted different exchange rate regimes during different phases of its economic development. From 1945 to 1979, the exchange rate was controlled by the central government. Under this exchange rate system, only foreign trade corporations (FTC) could enter into contracts for import and export (Zhang, 1999).

Following the “reform and opening up”<sup>1</sup> policy in 1978 (Qian, 2000), the centrally controlled exchange rate system was abolished and the government started to reform the system. From 1979 to 1985, the country had a dual exchange rate system. One rate was the official exchange rate for non-trade transactions, and the other rate the internal settlement rate (ISR) which was used for international trade transactions. By the end of 1985 the ISR rate was abolished. However, from 1986 to 1993, a dual exchange rate system was re-instituted in China. One rate was the official exchange rate and the other was the swap exchange rate which was determined by the forces of market demand and supply.

Huang and Wang (2004) explain that after China decided to reform the exchange rate in 1994, the government started to adopt a managed floating exchange rate with a narrow band. Although the government announced to the IMF that the country will have a managed floating exchange rate system in future, the exchange rate remained in practice, *de facto*, pegged to the USD since 1994.

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<sup>1</sup> Under this policy, China wanted to reform the economic structure and system to improve living standards in general. Policy makers did not have a clear picture of how to reform and the process of the reform was therefore described as: “crossing the river by groping stones”( Qian, 2000:379).

Since 2004 some developed countries, especially the United States, complained that the Chinese government manipulated the exchange rate system to make the Chinese goods more competitive in world markets. The trade between China and United States resulted in a great current account deficit for the United States. There were also strong voices from developing countries that China should make the exchange rate more flexible.

Some economists such as Ma and Sang (2005: 229) claim that China should change to a more flexible exchange rate regime because, due to the openness of the capital account, the pegged exchange rate could result in a financial crisis. However, other economists such as Prasad, Rumbaugh and Wang (2005) claim that at this stage the country should not float its exchange rate, because export growth was still important for economic growth and job creation. They are of the opinion that a floating exchange rate regime would hurt China's export performance and growth of foreign direct investment (FDI) flows.

This study focuses on China's choice of exchange rate regime since 1991 and especially on the main determinants of the various policy choices.



## **1.2 OBJECTIVES OF RESEARCH PAPER**

The research paper has the following objectives:

- To provide a theoretical overview of different exchange rate regimes and the major determining factors;
- To provide a descriptive overview of China's policy choices since the 1970's;
- To investigate how specific determinants affected China's choice of exchange rate regime;
- To provide a comparative analysis between China's choices versus that of other Asian economies;
- To develop an informed opinion on future policy choices.

### **1.3 METHODOLOGY AND STRUCTURE**

The study uses secondary data from different sources which include: International Financial Statistics, Direction of Trade Statistics, World Development Indicator. The study uses a descriptive, analytical and qualitative methodology. The study also provides a comparative study on three Asian economies which are Thailand, Malaysia and Korea.

The paper is structured as follows. Chapter two provides the theoretical framework, and distinguishes between different exchange rate regimes. Chapter three presents an historical overview of the Chinese story and also investigates different factors affecting the country's choice of exchange rate regime. Chapter four presents a comparative case study analysis of three other Asian economies. Chapter five concludes.



## **CHAPTER TWO: THEORETICAL FRAMEWORK**

### **2.1 INTRODUCTION**

This chapter provides the theoretical background for the study. Section 2.2 examines different kinds of exchange rate regimes, Section 2.3 focuses on different policies since the gold standard, Section 2.4 investigates the major determinants of different choices of exchange rate regimes and Section 2.5 concludes.

### **2.2 DIFFERENT KINDS OF EXCHANGE RATE REGIMES**

According to the International Monetary Fund's (IMF) Exchange Arrangements and Exchange Restrictions (2000) exchange rate systems are grouped into three categories:

- a) Firmly fixed exchange rate regimes; currency board, dollarization and monetary unions;
- b) Floating exchange rate regimes; free floating and managed floating;
- c) Intermediate exchange rate regimes; conventional fixed peg arrangements, crawling peg, basket peg and band exchange rate system.

#### **2.2.1 Firmly Fixed Exchange Rate Regimes**

##### *2.2.1.1 Currency Board*

Burda and Wyplosz (2001: 527) explain that a currency board was broadly used in a country which suffered from high inflation. Under the currency board, the exchange rate was firmly fixed (Miles and Scott; 2005:574). The exchange rate was pegged against the anchor currency and the local currency could be converted into the anchor currency at that exchange rate. The issue of the domestic currency depends on the amount of the foreign reserves. The Central Bank promised to supply its currency at a fixed exchange rate. For instance, Hong Kong adopted a currency board exchange rate regime. The anchor currency for Hong Kong dollar to peg was the USD. One USD was equal to 7.8 Hong Kong dollar. If Hong Kong Monetary Authority (HKMA) had USD reserves of 100 billion, then it could issue Hong Kong dollar 780 billion (100 billion \* 7.8 = 780 billion).



### *2.2.1.2 dollarization*

In this instance the country eliminates its own currency and uses another country's currency which could for example be USD or Euro. San Marino is an example of a country that adopted dollarization as its exchange regime ((Mile and Scott, 2005:577).The effect is that the country then needs to accept the other country's monetary policy (Corden, 2002: 23). Miles and Scott (2005) indicate that under dollarization, a country could still issue currency, but the amount of the domestic currency supplied could not be decided upon independently by the domestic Central Bank.

### *2.2.1.3 Monetary Union*

With a monetary union, such as the European Monetary union, the Central Bank of the union controls the overall supply of money. The countries in the monetary union have the same interest rate. Money supply expansion did not need the requirement of a trade surplus. The expansion of the money could be achieved by private capital inflows. Countries who join a monetary union give up their independent monetary policy (Burda and Wyplosz, 2001: 525).

Both dollarization and Monetary Union are pegged exchange rate systems (Otker and Bubula, 2000).

## **2.2.2 Intermediate Exchange Rate Regimes**

### *2.2.2.1 Conventional Fixed Peg Arrangement*

Under this system, a country pegs the exchange rate to a single currency or a basket of currencies. The currencies in the basket generally are the currencies of the specific country's main trading partners and its financial partners. The band under the conventional fixed peg exchange rate was within  $\pm 0,1\%$ . The Central Bank indirectly intervenes in the foreign exchange market by selling and buying foreign exchange. The central bank can only directly intervene in the foreign exchange market through adjusting the interest rate (Bubula and Otker-Robe, 2002). After the Asian crises, Malaysia changed to a conventionally pegged system (See Section 4.2.3).

#### *2.2.2.2 Crawling peg*

With a crawling peg system, there can be a continuous change of the exchange rate, but each time with small amounts (Chacholiades, 1990: 483). In this case, the par value can be adjusted. Countries experiencing high inflation usually peg their currencies to low inflation countries to avoid a real appreciation. Among the choices of fixed exchange rate regimes, it has the least restrictions, but lacks credibility. The nominal exchange rate could be adjusted from time to time according to some indicators such as the inflation differential between the country and its major trading partners (Edwards and Savastano, 1999). Miles and Scott (2005) mention Tunisia as example of a country which adopted this exchange rate regime.

#### *2.2.2.3 Band (Target Zone)*

Miles and Scott (2005: 574) explain that an exchange rate could fluctuate within a certain band according the target zone system. In 1992, shortly after the change over from a socialist system, the Russian government changed the exchange rate system to a target zone. The band around the central parity was  $\pm 7.5$  percent. According to Williamson (2005) a target zone regime can be designed to take care of the dangers of an exchange rate that is overvalued.

### **2.2.3 Floating Exchange Rate Regimes**

#### *2.2.3.1 Managed Floating*

Miles and Scott (2005: 573) explain that with a managed floating exchange rate system, the Central Bank does not set any exchange rate targets, but in stead intervenes to moderate the exchange rate fluctuations by selling and buying foreign exchange. McCarthy (2000: 308-314) explained that from 1985<sup>2</sup> onwards, South Africa adopted a dual exchange rate. One rate was the commercial rand and it was a managed floating system. The other rate was of the free floating financial rand.

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<sup>2</sup> 1985 is a very important turning point in the history of South Africa. It is the year in which President P.W Botha had his Rubicon speech which triggered the period of sanctions and disinvestment. Between 1985 and 1994 the financial account had been in deficit (UNISA, 2006).

### 2.2.3.2 Free Floating

In this instance, there is no intervention by the Central Bank in the foreign exchange market. The interaction of supply and demand determines the exchange rate. The demand side exists because the domestic firms and households want to import goods and services or purchase foreign assets. The supply side exists because domestic firms and households want to export goods or services or sell financial assets to foreigners (Montiel, 2002). However, the exchange rate can still be influenced by monetary policy to reach special exchange rate targets (Corden, 2002: 23).

### 2.2.4 *de jure* and *de facto* exchange rate regimes

Each country every year reports their specific exchange rate regimes to the IMF's Annual Report on Exchange Arrangements and Exchange Rate Restrictions. This exchange rate regimes which the countries are reporting to the IMF, are what they say they are pursuing. This is the *de jure* classification. However, sometimes countries in reality (*de facto*) use an exchange rate system which is different from what they announce to the IMF.

Economists use different methods and try to determine which exchange rate system was used by each country. This kind of classification is called the *de facto* classification. Levy-Yeyaty & Federico (2005) use data from 1974 to 2000 of various countries which reported their exchange rate regimes to the IMF and use the cluster analysis method<sup>3</sup> to determine the actual exchange rate which the respective countries were using. This is the *de facto* classification.

Calvo and Reinhart (2000: 2-28) analyse 154 country's exchange rate arrangements to determine whether they practice the exchange rate as they reported it to the IMF. What they find is that except for the United States and Japan, fear of floating is common among countries even in the case of some developed countries. They are of the opinion that the importance of a good trade performance could be the reason for this fear of floating.

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<sup>3</sup> Cluster is a method to construct groups according to similarity between the observations.

## **2.3 INTERNATIONAL EXPERIENCE**

Since the gold standard emerged from 1870, the international monetary system experienced different stages, which were the gold standard era, the Bretton Woods era and the floating exchange rate era after 1971 (Levich, 2002: 26). The following paragraphs highlight some facts on each of these stages.

### **2.3.1 The International Gold Standard: 1879-1913**

Under the gold standard, each country needed to peg its currency's price to gold, which was the international official reserve asset. Under the gold standard, there were  $N$  prices of gold and  $N$  currencies so that there were no countries that really had the dominant power. Gold was allowed to be imported and exported across borders (Krugman, 2001: 514).

The central point of the gold standard is "mint parity". The meaning of "mint parity" is that if the dollar price of gold was \$35 per ounce, and the price of pound was £14.58 so that per pound equalled 2.4 USD (Levich, 2000: 514, Krugman, 2001: 514). McCarthy (2000: 292) also explains that under the gold standard, each country's money supply depended on the stock of gold. If the stock of gold changed, the money supply also needed to change. Under this system exchange rates actually remained stable. The prices of tradable goods were equal across countries. Under the gold standard, the average inflation rate was relatively low, whilst the volatility of inflation was high (Levich, 2000: 27, Krugman, 2001: 515).

### **2.3.2 The Interwar Period: 1914-1943**

Chacholiades (1990: 490) indicated that from 1914 to 1923, each country's exchange rate fluctuated sharply because it was affected by the World War I. Countries would actually have preferred to continue under the gold standard, but because the gold value did not change, whilst there was huge inflation, the countries were short of gold. Burda and Wyplosz (2001: 503) explain that the United States and the United Kingdom dominated the world monetary scene in this period. In 1926 the exchange rate system returned to the gold standard. The main financial centres in London and New York converted their currencies into gold and other countries converted their

currencies into “gold exchange,” such as sterling.

Chacholiades (1990: 490) explained that in 1931, the gold exchange standard collapsed because of the large devaluation of the British pound. From 1931 to 1935, the world monetary systems were divided into three blocks, the dollar block, sterling block and gold block. In 1936, France, Britain and the United States signed the Tripartite Agreement<sup>4</sup>, but this agreement was terminated by World War II.

### **2.3.3 The Bretton Wood Era: 1944-1971**

In 1944, 44 countries were represented at a conference in Bretton Woods. At this conference, the IMF was created.<sup>5</sup> If countries had balance of payment problems, they could borrow from the IMF (Burda and Wyplosz, 2001: 503).

Under the Bretton Woods era, each country pegged its currency either to gold or USD. In the short run, the currencies fluctuated within a narrow band of one percent. The USD was pegged to gold at \$35 per ounce. The USD became the key international currency. Countries could change the official parity in case of fundamental current account disequilibrium (Levich, 2000: 31). Chacholiades (1990: 493) explained that the Bretton Woods system was actually an adjustable-peg system. He claimed that if compared to the gold standard, this system lacked stability and certainty. It also lacked flexibility when compared to a flexible exchange rate regime.

Levich (2000: 31) claims that there was a redundancy problem for the United States under this system. For example: there were N country and N-1 country. The United States (US) was the N redundancy country and the N-1 other countries pegged their currencies to the USD and the dollar price was fixed to the price of gold. If there were only two countries in the world, there would only be one exchange rate. If there were three countries, there would be two exchange rates. Under this pegged exchange rate system, the US used its independent monetary policy to provide stable world trade prices and because of the fixed exchange the United States always maintained a passive position.<sup>6</sup>

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<sup>4</sup> Under this Tripartite agreement, the overvalued Franc was permitted to devalue.

<sup>5</sup> The IMF supplies loans to its members according to specific short, medium and long term programmes. Each member is responsible for a certain quota and the extent of the quota determines the amount of money that can be borrowed (Mohr and Fourie, 2004:465)

<sup>6</sup> Because the price of USD was fixed to gold, so the USD price could not change.

Also, this Bretton system created the problem called “triffin dilemma”. During the 60’s, the United States’ gold stock was larger than its dollar liabilities to foreign central banks. The USD would redeem at \$35 per ounce, if the other N-1 countries continued to convert their dollar reserves into gold, the US holdings of gold would not be enough to redeem the dollar. The N-1 countries lost confidence in the USD, and would rather decrease their holding of dollar assets and used the dollar for cash. The only way to solve this problem was to raise the price of the gold (Krugman, 2001: 557).

Chacholiades (1990: 496) claimed that the extent of speculation under the adjustable peg system of the Bretton Wood Era, was destabilising and forced countries to devalue their currencies. This speculation happened as follows: When the speculators expected the currency to devalue (in case of huge deficits of a country), then they would sell the currency and buy it back when the price was down. The speculators made profits if the currency really devaluated. Even if the currencies did not devalue, because of the narrow band, the currencies would not appreciate much and the loss for speculators would not be large.

#### **2.3.4 Floating Exchange Rate: 1971-**

Since 1971, some major currencies started to float but some nations were not ready to free float their exchange rates. Ten big countries <sup>7</sup> signed the Smithsonian Agreement in Washington D.C., and tried to solve the shortcomings of the Bretton Wood system. The ten nations reached the following agreement: The United States would raise the gold price from \$35 per ounce to \$38 per ounce, and other nations would devalue their overvalued dollars by 12 percent, and the exchange rates were allowed to fluctuate within a wider band (Chacholiades, 1990: 500). Chacholiades (1990: 501) however explains that The Smithsonian Agreement could not stop the collapse of the Bretton system. From 1973 onward, currencies around the world started to float again.

The countries of the European Community (EC) adopted an exchange rate system which was called “snake in the tunnel” (Levich, 2002: 38). The movement between

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<sup>7</sup> Belgium, France, Canada, Germany, Japan, Italy, Sweden, the Netherlands, the United States and the United Kingdom

EC countries was similar to that of a snake and the movement between EC countries and United State was like a tunnel. During the Jamaica meeting in 1976, the IMF declared the floating exchange rate system as legal and also confirmed that countries may choose an exchange rate regime suitable to their needs (Chacholiades, 1990:50).

For example, in 1979, the European Monetary System (EMS) was established and seven countries of the European Community joined this new system. There was central parity and the fluctuation between the central parity currencies occurred within a band of  $\pm 0.25$  percent. Changing of the parity of each country had to be agreed upon by every member of the EMS. In 1999, the EMS was transformed to the European Monetary Union (EMU). There was one Central Bank in the EMU and individual members of the EMU could not have there own independent monetary policies.

### **2.3.5. Exchange Rate Systems Today**

Rogoff et al. (2003) indicate that according to *de jure* classification of exchange rate regime, there is a bipolar view, which means that most of the emerging and developing countries prefer to choose one of the bipolar exchange rate regimes, either firmly fixed or free floating. The reason is that most of the them experienced serious financial crises and capital account liberalization make them choose one of the bipolar regimes ( Miles and Scott, 2005: 578).

Rogoff. et al. (2003) claim that although some of the developing and emerging markets announced to have a *de jure* floating exchange rate, actually (*de facto*) the intermediate exchange rate regime was still prevalent. (See 2.2.4) Rogoff et al. (2003) explains that the free floating is rare even among the developed countries.

Rogoff. et al. (2003) indicated that countries change their exchange rate regime frequently today, the same as 50 years again. In the 80s, central and eastern European countries changed from command system to market system which was accompanied by the change of their exchange rate regimes. In the 90s, many emerging market economies were affected by the financial crises and changed there exchange rate

system. During the 90s, 11 European countries <sup>8</sup> withdrawn their traditional currencies and adopted a single currency, the Euro (Mile and Scott, 2005: 581).

As conclusion on this overview: "...there is a major lesson that we need to draw from the historical record, and that the main response has in fact taken the form of floating rates" (Williamson, 2005:5).

## **2.4 DETERMINANTS OF THE CHOICE OF EXCHANGE RATE REGIME**

The following paragraphs discuss the major determinants of the choice.

### **2.4.1. Export-led Growth Strategy**

Calvo and Mishkin (2003) claim that if a country would fix its exchange rate to the USD, then the trade between this country and the U.S. will increase. They also claim that not only will the trade with the U.S. increase, but if there are other countries with an exchange rate pegged to the USD, then the trade between these countries would also increase.

Fink (2001) explains that in case of a depreciation of domestic currency, export goods would be cheaper in global markets. For instance, should the domestic price of a product be 4 Yuan, if 1 USD is equal to 8 Yuan<sup>9</sup>, then price of the product will be 0.5 USD in the world market. But when the Yuan depreciates, 1 USD equals 10 Yuan, then the price of the product will be 0.25 USD in the world market. A depreciation would therefore result in more competitive market prices.

Nilsson and Nisson (2000) explain that the fact that the pegged exchange rate regime can boost a country's export performance could be explained in three ways:

- i) Firstly, most of the developing countries prefer pegged systems where currencies could be both over- or under-valuated. Only under-valuated

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<sup>8</sup> The eleven countries include Austria, Belgium, France, Finland, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain. Greece subsequently joined in.

<sup>9</sup> Chinese Currency



kinds of real exchange rate misalignment, could boost export performance;<sup>10</sup>

- ii) Secondly, a pegged exchange rate can reduce exchange rate volatility and reduce transaction costs;
- iii) Thirdly, most of the developing countries' exports are invoiced in terms of USD and pegging the currency to the USD could reduce exchange rate volatility and increase exports.

Nilsson and Nilsson (2000) explain that the real exchange rate could measure a country's competitiveness in world markets. They define the real exchange rate as the nominal exchange rate multiplied by the value of the tradable goods in foreign currency, over the rate of the non-tradable goods in domestic currency. McCarthy (2000, 187) defines the real exchange rate as the nominal exchange rate multiplied by the general price index of foreign goods over the general price index of domestic goods. McCarthy (2000, 187) also defines the real effective exchange rate as real exchange rate between trade partner multiplied the weight of each bilateral exchange rate.

Sekkat and Varoudakis (2002) use the real effective exchange rate and the volatility of the real effective exchange rate as explanatory variables in a regression function to investigate the influence of these factors on export performance between 1970 and 1994 in three sectors: textile, chemical and food. The sample countries were Egypt, Morocco, and Tunisia. They determine that the coefficients of real exchange rate devaluation affected the export performance positively. However, the coefficient of exchange rate volatility had a significantly negative effect on manufacturing exports.

Fang and Miller (2004) use a GARCH-M<sup>11</sup> model to investigate the effect of real exchange rate and real exchange volatility on Singapore's bilateral trade with the United States between 1979 and 2002. They also find that real exchange rate depreciation boosts export performance and that exchange rate volatility is harmful to

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<sup>10</sup> Undervalued means that the official exchange rate was lower than the value determined by market forces (Abel and Bernanke, 2005:499).

<sup>11</sup> This model is used to determine exchange rate movements on the bilateral export performance. The model used the following variables: real exchange rate, exchange rate risk, real income and the value of exports.

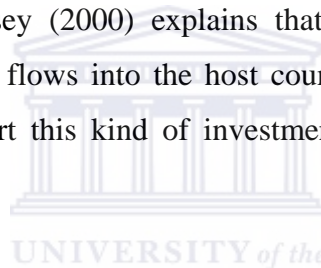
bilateral trade between Singapore and the US. Vergil (2004) examines exchange rate volatility and its effect on export flows between Turkey and its trade partners (the U.S and three of the countries in the European Union) between 1990 to 2000, using a multi-variant error-correction model. He confirms that exchange rate volatility has a negative and significant effect on real exports.

#### **2.4.2 Capital Mobility**

According to Fane (2001) capital inflows could be divided into three main forms: foreign direct investment (FDI), bank-financed capital flows (external-debt) and portfolio investment. Each of them will affect the choice of exchange rate regime.

##### *FDI and the choice of exchange rate*

Athukorala (2003) states that FDI kinds of capital inflows are less volatile when compared to other kinds, such as portfolio investment. Lipsey (2001) agrees with Athukorala's statement. Lipsey (2000) explains that the reason why FDI is less volatile is because once FDI flows into the host country and the factory plants are built, it is difficult to convert this kind of investment and take it out of the host country.



Athukorala (2003) indicates that Foreign Fund Enterprises (FFE) are both domestic oriented and export oriented, but the latter is more important. He explains that because FFE's could access world markets much easier than domestic companies, FFE's export potential could benefit more from a depreciated and fixed exchange rate system.

##### *External debt and portfolio investment and the choice of exchange rate regime*

Levy-Yeyati, Sturenegger and Reggio (2006) explain that foreign currency liabilities, such as debt in domestic banks make a country reluctant to float its exchange rate, despite the fact that it might have announced a policy change towards a floating exchange rate system. The reason why countries are reluctant to float their currencies is because a devaluation of the currency may cause currency mismatch problems. Miles and Scott (2005: 564) indicate that almost all emerging countries have an "original sin" problem which means they would like to borrow in foreign currency, instead of domestic currency. The moment a speculator doubts the credibility of the

Central Bank to pay back the loan, they will suddenly withdraw their capital and cause a financial crisis in these economies.

Helmut (2000) finds that short-term external debt instruments which are issued in foreign currency, especially USD, can cause financial crisis in emerging markets. When large external debt flows into a country are invested in the real estate industry, because the real estate industry does not produce goods for export, the current account deteriorates. The speculator then becomes doubtful of the credibility of the Central Bank to pay back the debt. Large capital outflows cause self-fulfilling crises.

Yagic (2001) investigates the choice of exchange rate regime for a group of developing countries over the period 1990 to 2000. He uses foreign currency liabilities in the banking system divided by the GDP and external debt divided by GDP, as two of the explanatory variables. He finds that in the case of countries with fewer liabilities in the commercial banking system and less external debt, the probability of floating is greater.

Governments should regulate foreign liabilities and foreign assets and should not let the two of them mismatch and cause financial crises (Calvo and Mishkin, 2003). They also claim that even if foreign assets and foreign liabilities were matched by the financial intermediary, should a bank give its assets as a loan to the company and the loan is not hedged, the bank would not be immune to currency devaluation.

According to the impossible trinity theory (Burda and Wyplosz, 2001: 510; Miles and Scott, 2005: 574) exchange rate stability, free capital mobility and independent monetary policy are not possible to have at the same time.<sup>12</sup> The only way out is to choose one of the two sets of the trinity:

- (a) either free capital mobility together with independent monetary policy, but then give up the stable exchange rate regime;
- (b) or a stable exchange rate system, but then give up the independent monetary policy.

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<sup>12</sup> See Appendix 2(a), p 21 for an graphical explanation why in the case of capital mobility independent monetary policy is not possible in the case of a fixed exchange rate.

According to this theory, a country should choose either a floating exchange rate or a firmly fixed exchange rate regime. If there is capital control regulations, the country could keep an intermediate exchange rate regime.

Yagic (2001) indicates that in the case of most of the developing countries, should they apply capital control, the original pegged exchange rate system could be sustained. Miles and Scott (2005: 575) agree that it is possible to have a fixed exchange and independent monetary policy, if there are effective capital control regulations.

Short-term portfolio investment can also cause financial crises. Governments use short term portfolio inflows for financial account and fiscal account deficits. Because of the contagion effect, countries may be affected by the financial crises in other countries. Once large capital outflows occur, it may result in financial crises (Corden, 2002: 212). For example, in the case of Russia, Matthews and Golov (1999) determined that portfolio investment that flowed into the country which was invested into the GKO<sup>13</sup> and OFZ<sup>14</sup> markets caused the financial crisis. Russia thereafter switched to a floating exchange rate regime.

#### **2.4.3 Financial Sector Development**

Hagen and Zhou (2002) claim that financial sector development can affect a country's choice of exchange rate regime. A country with a poorly developed financial system, generally prefer to choose a fixed exchange rate regime, because the financial institutions lack the ability to operate in the domestic open market. Francisco and Bleaney (2005) agree that countries would have chosen a floating exchange rate regime, should they have had an efficient sound financial sector.

Zhang (2001) mentions that in the case of efficiently functioning financial intermediaries and markets, allowing for quick arbitrage, countries have opted for flexible exchange rate systems. He claims that the availability of financial instruments influences a country's choice. In developing countries, the instruments offered by the financial sector are generally limited. For example, they very seldom have stock

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<sup>13</sup> GKO is a short term zero coupon Russian government treasury bond

<sup>14</sup> OFZ is coupon bearing Federal loan bond

exchange markets. Limited financial instruments make these countries reluctant to float their currencies. Bleaney and Francisco (2005) investigate the effect of the ratio of quasi money to money as a financial sector development variable on the choice of 102 developing countries between 1990 and 2000. They determine that in the case of a high ratio of quasi money to money, countries opt for a floating exchange rate regime.

#### **2.4.4 dollarization** <sup>15</sup>

Berg and Borenszein (2000) explain that foreign currency is required for two reasons:

- (a) asset substitution, which relates to the demand for assets denominated in foreign currency to cover for risks.
- (b) currency substitution, which relates to the use of foreign currency for money payment transactions. Countries with a long history of inflation prefer to use foreign currency for money transactions.

Berg and Borensztein (2000) explain that if a county has a high level of currency substitution, it would prefer to choose a fixed exchange rate regime, where foreign and domestic currencies are used as money. For asset substitution, sterilization is difficult to achieve, if there are large flows of foreign currency deposits. Countries would prefer a floating exchange rate in this case. (If the shock started from the money markets, the countries would prefer to choose a fixed exchange rate to stabilize national output.)

Poirson (2001) uses the ratio of FCDs over the broad money supply as a dollarization variable to determine the effect on the choice of exchange rate regime for 93 countries between 1990 and 1998. He finds that the higher the ratio of foreign currency deposit holdings, the more likely the country would prefer to have a firmly fixed exchange rate system.

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<sup>15</sup> dollarizaition in Section 2.4.4. and Section 3.3.4. define as the holding by residents of foreign currency and foreign currency denominated deposits at domestic banks. In Section 2.2.1.2, dollarization means the establishment of a foreign currency such as dollar as legal tender in lieu of a distinct currency, as in San Marino.

### **2.4.5 Rate of Inflation**

Corden (2002: 23-25) claims that the rate of inflation influences a country's choice of exchange rate regime. He explains that if country has a history of high inflation, it would choose to peg its exchange rate regime to a strong currency. A country with a strong currency usually has a long history of a relatively low inflation rate and of efficient financial institutions. The USD and Euro are two common strong currencies. In the extreme case a country could also choose a firmly fixed exchange rate, such as joining the European Monetary Union.

Agbola and Kunanopparat (2003) explain that if the inflation differential between a country and its major trading partner is small, the country would prefer to peg its exchange rate. Schnabl and Mckinnon (2003) explain that the rationale is that the price of the tradable goods will be stable.

Mohr, Siebrits and Calitz (2005: 101-106) agree that countries that can successfully target inflation with a flexible exchange rate system<sup>16</sup>. They explain that inflation targeting can increase the transparency of the Central Bank and influence expectations.

Koen and Meyermans (1995) mention the example of Russia, who suffered from a serious inflation problem after changing from a socialist to a market system. The Russian government then kept the exchange rate at a target zone against the USD to take care of the inflation rate. Mckinnon (1999) found that the inflation differential between most of the Asian economies and the U.S. was very small and most of these countries chose to peg their exchange rate at some stage.

### **2.4.6 Political Factors**

Edwards (1996) indicates that political instability also affects a country's choice of exchange rate regime. He used the frequency of government changes to investigate the effect on the choice of exchange rate. He found that the more frequent the government changed, the more countries preferred a fixed exchange rate.

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<sup>16</sup> Inflation targeting means the Central Bank sets the inflation range for a time period (Mile and Scott; 2005: 393). The inflation range is determined according to Central Bank's forecasts. The Central Bank needs to adjust the interest rate if the inflation rate exceeds the range.

Poirson (2001) used the rate of unemployment as one of the political variables to examine the effect on the choice of exchange rate for 93 countries between 1990 and 1998. The result was that the higher the unemployment rate, the more likely that the government would like to float their exchange rate.

#### **2.4.7 Regional Exchange Rate Arrangements**

Yagci (2001) claims that when countries integrate with one another in the form of trade, investment and labour mobility, they may want to join an optimum currency area. The member countries of the optimum currency area benefit from lower transaction costs and less exchange rate volatility. Bayoumi and Mauro (1999) agree that if the intra regional trade level is high, the country would like to achieve a common currency because of the lower transaction costs.

Yagci (2001) explains that there are three forms of regional exchange rate agreements.

- a) Firstly, a regional exchange rate agreement was mutual pegging arrangement, such as in the case of the EMS (See Section 2.3.4);
- b) Secondly, another form of a regional exchange rate agreement is a monetary union, in which all members of the union use the same common currency and give up their own monetary policy, such as in CFA franc zone. There are two monetary unions in CFA franc zone in Sub-Saharan Africa. There are eight countries <sup>17</sup> in the first union and six countries <sup>18</sup> in the second union.
- c) Pegging to a common outside currency is another form of regional exchange rate agreement. For instance, the Asian economies all pegged to the common outside currency USD, they formed the “dollar standard” in Asia (McKinnon, 1999; McKinnon, 2000).

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<sup>17</sup> Benin, Cote Divoire, Mali, Niger, Togo, Senegal , Guinea-Bissau and Burkina Fasa.

<sup>18</sup> Cameroon, Chad, Congo, Gabon, equatorial Guinea and the central Africa Republic

## 2.5 CONCLUSION

The chapter distinguishes between floating (managed and free floating), intermediate (conventional fixed or crawling peg and target zone) and firmly fixed (currency board, dollarization and monetary union) exchange rate regimes according to the IMF's Exchange Arrangements and Exchange Restrictions. It also makes a distinction between the *de jure* and *de facto* choices, because countries behave differently from what they announced to the IMF.

Chapter 2 also summarises the international experience with various exchange rate systems from the gold standard through the Bretton Woods era to the era of free floating after 1970. At present, according to *de facto* classification, the intermediate exchange rate regimes are still prevalent among developing and emerging market economies. Also, free floating is rare even in the case of developed countries.

Because of export-led growth strategy, countries opt for an intermediate exchange rate regime. Less volatility of the exchange rate will boost the international trade. Also when there are export-led FDI forms of capital inflows, countries choose an intermediate exchange rate to stimulate exports. Countries experiencing large short term volatile capital inflows such as external debt, prefer pegged exchange rate systems, but this easily ignites speculator's doubt about credibility of the Central Bank. Countries in this instance need to choose one of the corner solutions, either firmly fixed or free floating, but if country has capital control, a pegged exchange rate can stay. Short term portfolio investment can also cause financial crises. Countries need to choose one of the bipolar exchange rate regimes, either firmly fixed or floating, unless they have capital control.

Countries that have well developed financial intermediaries, a large range of financial instruments and well-functioning financial markets aim to have flexible exchange rate regimes. Countries with a successful policy of inflation targeting will also choose free floating exchange rate system. Without that, high inflation causes countries to choose either firmly fixed exchange rate or intermediate exchange rate. The smaller the inflation differential between a country and its main trading partner, the more likely the country will prefer to peg its currency. Political instability and high



unemployment make politicians choose a fixed exchange rate system. Because of the integration of trade and investment factor, regional currency agreements can be formed.



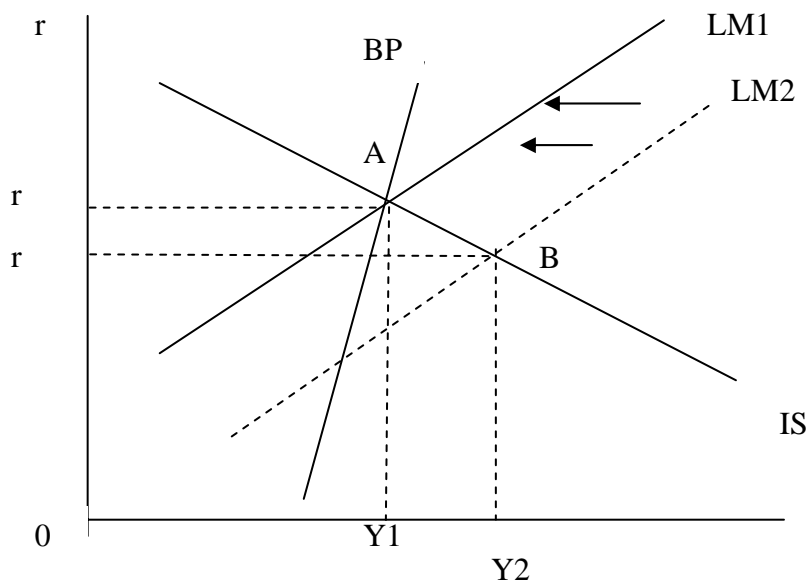
## APPENDIX 2(a)

Central Banks tried to use monetary policy to avoid the devaluation of currencies but they failed because independent functioning of a Central Bank could not be achieved in a pegged exchange rate system (Fратиanni, Salvatore and Hagen, 1997: 266).

Figure 2.1 explains why if there was capital mobility the independent money policy could not be achieved in case of fixed exchange rate. For instance, if there are a large amount of capital inflow which will cause revaluation of the currency. Should the central government not want the currency to revalue, the central bank used monetary policy to lower the interest rate to reduce the capital inflow. The monetary policy they used was increase money supply. Figure 2.1 indicates that even if at the beginning the interest rate did decrease but because the central government needed to fix the exchange rate, the interest rate return to the original level. Independent monetary policy failed to decrease the interest rate.

Figure 2.1 illustrates the situation and explains why Central Banks may fail to stop the devaluation of the currency. Should the Central bank increase the supply of the money, the LM curve will shift to the right, from LM1 to LM2. The LM2 curve intercepts the IS curve at point B. Firstly, the current account goes into deficit. The reason is that when national income increases from  $Y_1$  to  $Y_2$ , the purchase of imported goods will increase and will push the balance of payment into deficit. Secondly, the capital account also becomes deficit because of the interest rate decrease from  $r_1$  to  $r_2$ , so that the capital starts to flow out. The Central Bank can then intervene in the foreign exchange market to purchase the domestic currency with its foreign reserve. This kinds of purchase push the LM curve back to the original position LM1, and the interest rate back into the original one. The central bank fails to use monetary policy to adjust the domestic interest rate.

**Figure 2.1 Monetary Policy under a Pegged Exchange Rate System**



Source: Frатиanni, *et al* (1997: 266)

## **CHAPTER THREE: CHINESE CHOICE OF EXCHANGE RATE REGIME**

### **3.1 INTRODUCTION**

The main purpose of this chapter is to present an overview of the various exchange rate regimes chosen by China since 1949. This chapter also investigates the different factors which affected the country's choice of exchange rate policy over the years.

Section 3.2 provides a descriptive overview over the various exchange rate regimes chosen by the country while Section 3.3 focuses on the different factors (export promotion, capital mobility, inflation, financial sector development and regional exchange rate arrangement) which affected China's choice of exchange rate regime between 1991 and 2003.

### **3.2. HISTORICAL OVERVIEW: 1949-2003**

#### **3.2.1. Centrally Controlled Exchange Rate System: 1949-1979**

Before 1979 the exchange rate system of China was centrally planned. The central government had the monopoly power to determine the value of the currency. The exchange rate regime only served as a central accounting device. Under this exchange rate system, only some state owned FTCs could sign export and import contracts (Zhang, 1999). Zhang (2000) explains that the exchange rate system could not affect the current account balance, because the amounts of imports and of exports were decided on by the central government.

Zhang (1999) claimed that, no matter how much profit the domestic exporters earned, they needed to hand this over to the central government. Should the domestic importers want to import goods, firstly the import goods must be approved by the central government and then they could buy foreign exchange (using the official exchange rate) from government. If the traders would make a loss in international trade transactions, the government would subsidise them. Under this exchange rate regime, the domestic importers and exporters did not have any incentives to maximize profits because they could not keep any profits which they earned, while on the other hand, they never suffered any real losses.

### 3.2.2 Dual exchange rate system: 1979-1985

In 1978, the Third Plenum of the Eleventh Congress of the Chinese Communist Party decided on a “reform and opening up” policy (Qian; 2000). The RMB started to reform from a centralized control system to a system according to which the exchange rate was decided by the market forces of demand and supply. Lin and Schram (2003) indicate that the number of FTC reached 400 in 1981 and exceeded 1000 in 1991. Zhang (1999) claims that with the reforms from 1979 policy makers tried to devalue the overvalued RMB in order to promote exports.

The Chinese government established the State Administration of Foreign Exchange (SAFE) to control the foreign exchange market in 1979. At the same time, a retention system was introduced to promote export performance. The principle of the retention system functioned as follows (Lin and Schram; 2003): the domestic exporters do not need to hand in all of the profits to the central government. Instead they could retain a certain amount of foreign exchange which they earned on the trade transaction. This specific amount of foreign exchange was in the form of a “quota”. Usually the quota was 25 percent of the total earnings in the previous year. The trader could buy back the foreign exchange at the official exchange rate. The maximum amount of foreign exchange which the company could buy back for importing depended on the amount of the quota. In 1980, there were four cities (Beijing, Guangzhou Tianjin and Shanghai) which opened Retention Quota Trading Centres.

Besides the retention system, the Chinese government introduced the dual exchange rate system in 1981 to promote the country’s export performance (Lardy; 2005). One exchange rate was the official exchange rate for non-trade transactions which was set at the price of 1.5 Yuan<sup>19</sup> per USD. At the same time, the government introduced an Internal Settlement Rate (ISR) for trade transactions which was set at the rate of 2.8 Yuan per USD.

Zhang (2000) explains that the adoption of the ISR is a real target approach used by the Chinese government. The Chinese government wanted to target *the cost of earning a unit of foreign exchange through exporting*. After having introduced the

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<sup>19</sup> Chinese currency

dual exchange rate system, the official exchange rate of RMB started to devalue from 1981. For example, in 1981, the currency devaluated 23 times, in 1982, the currency devaluated 28 times. In 1984, the currency devaluated 56 times. In 1985, the currency devaluated 80 times (Zhang; 2000).

Before the introduction of the ISR, in the central planning stage, it was not easy for the domestic exporter to make profit on exports because of the overvalued official exchange rate, but the domestic importer benefited from the overvalued RMB. After they introduced the ISR, although the import prices increased for the domestic importer, the exporters benefit from the ISR rate because the ISR was lower than the official exchange rate. But the ISR also had its own problems. One of the problems related to Foreign Fund Enterprises (FFE). The banks were always confused about which rate should be applied to the Foreign Fund Enterprises for importing, the official exchange rate or the ISR? In 1985, the Chinese government abolished the ISR, which ended the era of the dual exchange rate system. The official exchange rate devaluated to 2.8 Yuan per USD in 1985.

### **3.2.3. Swap exchange rate market: 1986-1993**

From 1980 onwards the Chinese government built Special Economic Zones (SEZ's) in the costal area. The SEZ's attracted a lot of FDI (Zhang; 1999). As the FFE's grew quickly, these companies needed a lot of foreign exchange. Huang and Wang (2004) state that in 1986 The Chinese government established Foreign Exchange Adjustment Centres (FEAC), also called swap centres. Foreign fund enterprises and domestic companies all were allowed to trade foreign exchange in the swap centre. The dual exchange rate system emerged again in China, one was the swap exchange and the other was the official exchange rate. Lin and Schram (2003) explain that companies can bid and ask in the swap centre. This was the first time in China that the exchange rate was determined by the forces of market supply and demand.

Zhang (2001) explains that the swap market was not the traditional swap market <sup>20</sup>like

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<sup>20</sup> A traditional **swap** “is a **derivative**, where two **counterparties** exchange one stream of cash flows against another stream. These streams are called the *legs* of the swap. The cash flows are calculated over a **notional** principal amount. Swaps are often used to **hedge** certain risks, for instance **interest rate risk**. Another use is **speculation** “(Wikipedia, On Line).

in the developed world. This swap market was a place where foreign fund enterprises and domestic companies sold their retained foreign exchange for domestic currency. Zhang (1999) indicates that because the official exchange rate was fixed at that period, the fluctuating swap market exchange rate became the effective exchange rate.

The first swap market opened in Shenzhen, which is one of the special economic zone areas. The swap market developed quickly (Zhang, 1999). In 1988 the Chinese government also adopted some policies to deepen the reform of the exchange rate system. The trader could then hold a higher portion of retention and the price were liberalised. By 1993 there were 110 swap centres altogether.

Zhang (2001) claims that although the swap market was a milestone in China's foreign exchange reform it had its own problems. He mentions that the swap market exchange rate was very volatile, because some large FTC gathered a lot of retention "quotas". This large amount of "quotas" in and out of the swap market resulted in large fluctuations which could result in serious problems and this problem clearly indicated the need for unification of the different exchange rates.

#### **3.2.4 Unification of the exchange rate: 1994-2003**

After the Third Plenum of the Fourteenth Party Congress in 1994, the Chinese government increased its speed of economic reform in preparation to become a member of the World Trade Organisation (WTO) in 2001(Lin and Schram; 2003).

The dual-exchange rate regime was unified into a single market-based official exchange rate (Zhang; 2000). The RMB devalued to 8.7 Yuan per USD. The Chinese government also allowed the current account to be fully convertible. The government abolished the retention system, established a foreign exchange surrender system and introduced an interbank, China Foreign Exchange Trading System (CFETS), which operates in Shanghai. The swap exchange centres were transferred to local branches of the CFETS.

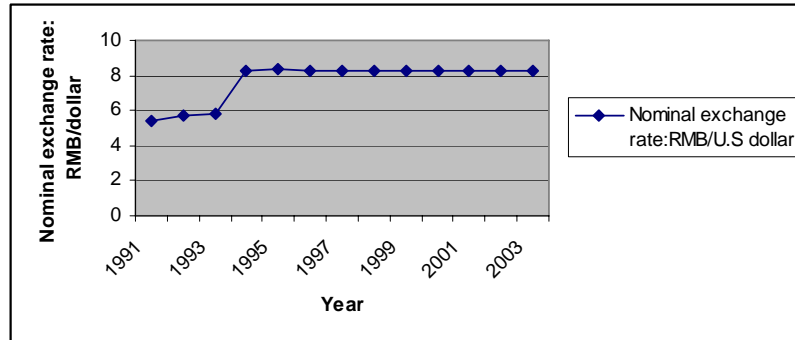
Non-bank financial institutions, foreign exchange banks and foreign fund banks were allowed to trade in the interbank transactions. Domestic companies could sell and buy foreign exchange through the banks. At the beginning, the FFE's were not allowed to use the interbank market and continued to use the swap market. In 1996, the SAFE permitted the FFE's to use the interbank market but they sold and bought through foreign exchange banks. The interbank market had bilateral monopoly characteristics, with the PBC accounted for around 70 percent of its total buying and the Bank of China (BOC) accounted for 70 percent of its total sales. All the companies trading in the interbank market needed to open a foreign exchange account. The requirement for the foreign exchange account was equal to 20 percent of the company previous year's current account balance (Lin and Schram, 2003). Zhang (1999) claimed that this kind of interbank exchange market gave the same opportunities to all the firms to enter into the foreign exchange market, which reduced the chances of corruption and rent seeking behaviour.

After China uniformed the exchange rate in 1994, the government started to adopt a managed floating exchange rate with a narrow band (Huang and Wang; 2004). In 1994, the RMB equalled to 8.7 Yuan per 1 USD and the value could be adjusted within in  $\pm 0.25$  percent of its previous market exchange. From 1995, the RMB started to have a little appreciation, in 1995, it reached 8.3 per USD and in 1995, it was 8.3 per USD.

During the Asian crises, although other Asian economies were affected by the financial crises and their exchange rate devaluated sharply, China was not affected by the financial crises and as promised to the other Asian economies, the RMB did not devalue. Although the government announced to the IMF to have a managed floating exchange rate system from the 1994, actually the exchange rate was *de facto* pegged to the USD since 1994.

Figure 3.1 indicates RMB's nominal exchange rate since 1991, the exchange rate pegged to the USD from 1994 till 2003.

**Figure 3.1 RMB's Nominal Exchange Rate against the USD: 1991-2003.**



Source: Compiled by researcher from International Financial Statistics (2004).

### 3.3 FACTORS INFLUENCING CHINA'S CHOICE OF EXCHANGE RATE REGIME

The relevance of the factors as derived from economic theory will be examined in the case of China.

#### 3.3.1 Export-led Growth Strategy

Canalog (1998) indicated that from 1979 onwards China started to change its trade policy to promote international trade. From 1979 to 1984, State Owned Enterprises (SOE's) were allowed to be involved in foreign exchange transactions and the government established the SEZ in the costal areas. Four costal cities, Shenzhen, Xiaomen, Shantou and Zhuhai, first opened their doors for FDI. The Chinese government set up the seventh five year plan for 1986 to 1990. In the five year plan, the government put emphasis on the provision of Production Networks for Exports (PNE's) to help the export industry and stimulate export led growth.

Canalog (1998) also indicated that in the 80s, the tariff rate on imported products was still high to protect the domestic infant industries. The average import duty rate reached 38.4 percent during the 80<sup>th</sup>, and some luxury goods such as television sets and air conditioners even had a tariff rate higher than the average level. Some goods like cars needed import licences and had a quota restriction on the imported number.



**Table 3.1 China's Export /GDP Percentage, Export Annual Growth Rate and Exchange Rate Regime: 1981-2003**

Year	Export/GDP Percentage	Export annual growth rate	Exchange rate regime
1981	12.7	17	Dual exchange rate system, one rate was official exchange rate, one rate was internal settlement rate. Internal settlement rate was used for trade transaction and this rate was lower than the official exchange rate. Internal settlement rate abolished in 1985
1982	12.3	2	
1983	10.9	-1	
1984	11.3	14	
1985	9.9	2	
1986	11.8	1	Dual exchange rate system, one rate was official exchange rate and one rate was swap market exchange rate. Swap market exchange rate was for trade transactions. The rate was determined by market demand and supply. Swap market much more volatile than the official exchange rate. Also, swap market exchange rate was lower than official exchange rate.
1987	16.4	8	
1988	17.1	8	
1989	16.7	2	
1990	19.2	5	
1991	20.9	13.1	
1992	22.5	11.2	
1993	23.3	13.6	
1994	24.6	25.2	
1995	23.2	6.4	
1996	20.1	-0.7	
1997	21.8	22.9	
*1998	20.3	7.2	
1999	20.4	15.2	
2000	23.3	30.6	
*2001	22.6	9.6	
2002	25.1	29.4	
2003	29.6	26.8	

Source: Compiled by researcher from World Development Indicator (University of the Western Cape library database online).

Table 3.1 indicates that from 1981 to 1985, the Chinese government adopted a dual exchange rate system. The internal settlement exchange rate was used for trade transaction. Although the internal settlement was lower than the official exchange rate, the effect to boost the export was not that significant and the reason could be the

trade policy. China had reformed the trade policy from import substitution to export promotion, however, at the first beginning years, import tariffs and export subsidies could have still been too high.

Table 3.1 illustrates that from 1986 to 1993 exports grew steadily. From 1990 onward, it grew much faster. The swap market exchange rate boosted the export performance in China. In 1994, after the unification of the exchange rate system, the official exchange rate devaluated to 8.27Yuan/Dollar and export growth rate was high in 1994. In 1998, the export annual growth rate decreased sharply because the Asian economies were affected by the financial crises. The affected countries imported much less from China which affected its export performance. From 1998 onward, exports started to increase again, except for 2001. The reason could be that because after the Asian financial crises, other Asia economies' exchange rate devaluated but China promised that the RMB would not devalue. After the devaluation of the currencies of the other Asian economies, they became China's strongest competition.

According to Section 2.4.1, countries opted to have pegged exchange rate regime in case where they had export-led growth strategies to boost exports. Zhang (2000) claims that China's export-led growth policy affected China's choice of exchange rate system. Since the country started to reform its exchange rate system, the Chinese government used a real target approach. Corden (2001: 26) explains that the country used this approach to reach internal and external balance. Zhang (2000) states that the ISR exchange rate, swap market exchange rate and interbank exchange rate (See 3.2 ) all expressed the government's real objective: to boost the export performance. As explained earlier (Section 3.2.2) the exchange rate was targeted at "*the cost of earning a unit of foreign exchange through exporting*".

Zhang (1999) used the RMB real exchange rate volatility and RMB unification in 1994 as dummy variable to run an augmented –Dickey-Fuller test<sup>21</sup> to examine the effect on the trade balance. He used the official nominal exchange rate to calculate the real effective exchange rate and the data area was from January 1991 to May 1996. The difference between export and import was defined as the trade balance. He found


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<sup>21</sup> This is a test that is used to test the levels and differences of the variables.

that exchange rate unification improved the trade balance. The finding from his research was that the exchange rate devaluation boosted the trade balance, but the result was not very significant. He found that if the real effective exchange rate would be devaluated by 10 percent, the trade balance would only improve with 0.2 percent.

Goldstein (2004) uses an underlying balance approach<sup>22</sup> and a global balance of payment approach to investigate if the RMB was undervalued. What he states is that as China had current and capital account surplus and capital outflow control, in case of the global payment imbalance, the RMB devaluated about 15 to 25 percent. He also mentions that this manipulation of the RMB, which means that the government undervalues the exchange rate to make the goods competitive in world markets, causes a huge current deficit with the United States. Goldstein mentions that China accumulated huge amount of foreign reserves from export earnings. Table 3.3 indicates China's foreign exchange reserves and current account surplus.

**Table 3.2 China's Foreign Exchange Reserve and Current Account balance: 1991-2003**



Year	Foreign exchange reserves		current account balance billions of dollar
	Billions of dollar	% of GDP	
1991	43.7	10.8	13.1
1992	20.6	4.3	6.2
1993	22.4	3.7	-11.7
1994	52.9	9.8	6.5
1995	75.4	10.8	1.3
1996	107	13.1	5.6
1997	142.8	15.9	32.5
1998	149.2	15.8	31.2
1999	157.7	15.9	21.1
2000	168.3	15.6	20.5
2001	215.6	18.1	17.5
2002	291.1	23.5	35.4
2003	403.3	28.1	31.4

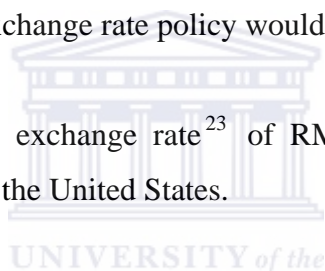
Source: Compiled by the researcher from International Financial Statistics, 2004

<sup>22</sup> The underlying balance approach is a method to check whether the net capital flows are equal to the current ac. If not, the exchange rate either depreciated or appreciated.

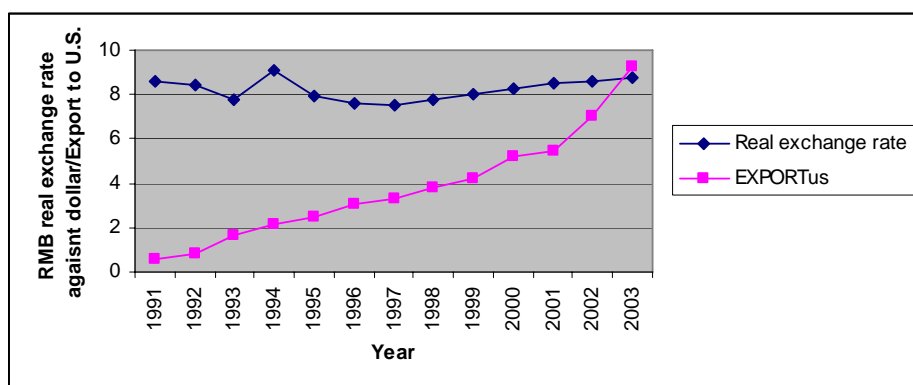
Morrison (2005) also agrees that if the RMB were undervalued under the fixed exchange rate regime, the Chinese export goods would be very competitive in the United States and cause a large deficit in the current account. Bown, et al.(2005) claim that United State trade deficit of merchandise goods with China accounts for one quarter of the total trade deficit.

The US policy makers were unhappy with China because they accused China of undervaluing its currency RMB vis-à-vis the USD to market export goods cheaper (Morrison; 2006). Morrison (2006) confirmed that China undervalued the currency to boost the exports which meant the country did not adopt a managed floating system as announced. He mentions that the main goods exported to the United States are textiles and clothes, plastics, furniture and machined tools. The Chinese government claimed that the exchange rate was not used to boost exports, but was used to stabilise the economy. But changing the exchange rate policy would definitely have hurt the export sector.

Figure 3.2 indicates the real exchange rate<sup>23</sup> of RMB against the USD and the bilateral export from China to the United States.



**Figure 3.2 China’s real exchange rate against U.S and its bilateral export: 1991-2003**



Source: Compiled by researcher from World Development Indicator and Direction of Trade Statistics, 2004<sup>24</sup>

<sup>23</sup> The real exchange rate was calculated according to McCarthy (2000: 187) as explained in Section 2.4.1.

Figure 3.2 indicates the changing value of the RMB's real exchange rate against USD. From 1991 to 1993, there is a revaluation of the real exchange rate, from 1993 to 1994, a large devaluation as the Chinese government changed from a uniform system of the exchange rate in 1994. From 1994 the real exchange rate revaluated up to 1997. From 1997 onwards, the real exchange rate continues to devalue up to 2003. Also, from 1997 onwards, the changes of the real exchange rate were stable and the devaluation increased exports to the US quite dramatically from 1997.

Morrison and Laboute (2005) is of the opinion that keeping the Chinese currency pegged to the USD reduces the uncertainty and risk in the international trade and financial markets and to some extent, it increased the trade performance between China and the United States. However, because of pegging the exchange rate to the USD, the Chinese policy makers no longer have any flexibility to offset the business cycle. China and the United States do not experience the same business cycle. With a pegged exchange rate system, the government could not lower the interest rate in a recessionary period. The capital would flow out of the country until the interest rates are raised again. Morrison and Laboute (2005) also explain that another drawback of the pegged exchange rate system is that speculators could doubt the credibility of the currency, which could fuel financial crises.

Williamson (2005) writes that the Chinese exchange rate regime would continue to cause a current account surplus with the US. Given the huge foreign exchange reserves, China continued to buy US Treasury bills. He (2004) explains that this investment is not an efficient solution because China could rather have used this resource for increasing domestic consumption which would yield higher returns than the US treasury bills.

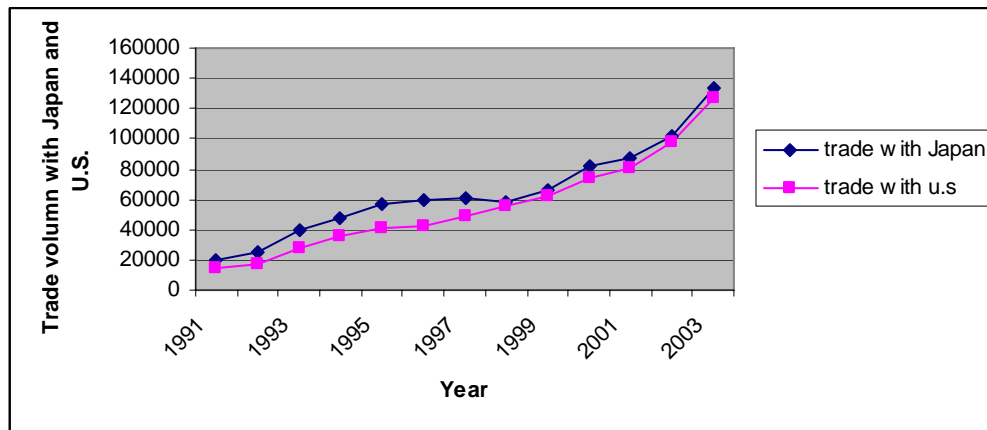
It is interesting that although pegging to the USD increased the amount of exports between China and Japan, actually Japan was China's biggest trading partner. Figure

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<sup>24</sup> \*The real exchange rate amount is within 10 but all the export amount which express in the Y axis need to times  $10^{10}$ .

3.3 indicates China's trade with Japan and with the US. The trade volumes with Japan were higher than with the United States.

**Figure 3.3 China's trade with Japan and U.S.: 1991-2003**



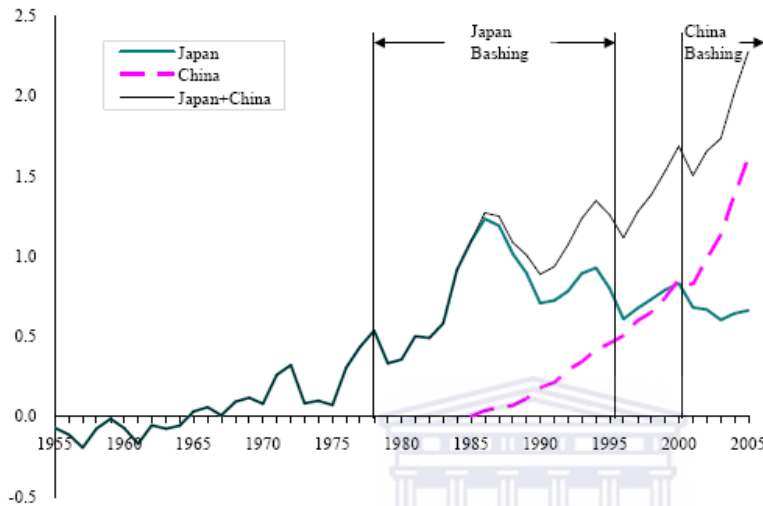
Source: Compiled by the researcher from International financial statistics. 2004

However, the reason why China pegged its currency to the USD instead of the Yen, was because most of the international trade were invoiced in USD (McKinnon; 2000). Sato (1998) claimed that the main reason why Yen were not be used as the invoiced currency for international trade was because of the relatively underdeveloped financial markets. Although Japan started to liberalize its financial markets from the mid 1970s, the Yen transactions in domestic short term capital markets were still constrained. Also the underdevelopment of the Treasury Bill (TB) and the Bankers' Acceptance (BA) markets rendered it problematic to invoice international trade transactions in Yen.

Bown et al. (2005) claims that China's export led growth and its relevant pegged exchange rate can be compared to what happened between Japan and the United States. Japan also pegged its exchange rate from 1950 to 1970 to promote its export performance. History repeats itself (McKinnon, 2006). The bilateral trade deficit between China and United States was similar to what happened between Japan and United States between 1970 and 1985. It was called the Japanese bashing era as Japan

had the largest trade surplus with the United States. After 2000, because of China's peg and devaluated currency, China took over the bashing stage.

**Figure 3.4 Bilateral Trade Surpluses of Japan and China with the United States: 1995-2005 (Proportion of U.S. GDP)**



Source: Kenichi Ohno, IMF

(2006)

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Although China's currency was pegged to the USD since the 90's, the Yuan/Yen<sup>25</sup> rate fluctuated. Figure 3.5 indicates the Yen/RMB exchange rate. Iwatsubo and Karikomi (2001) examine the impact of the real exchange rate on trade volumes between Japan and China between 1988 and 2005. What they find is that in the case

<sup>25</sup> Yen: Japan's currency

of inter-industry trade, change of the real exchange rate affects some industries, whilst in the case of intra-industry trade, such Japanese fund foreign firm, the change of real exchange rate has no effect in trade volumes between Japan and China.

**Figure 3.5 Yen/RMB exchange rate: 1988-2005**



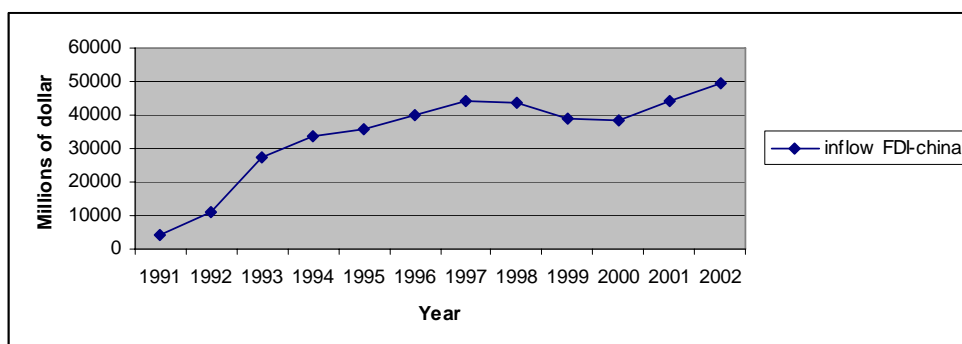
Source: International Financial Statistics, 2005.

### 3.3.2 Capital Mobility

China started to receive large capital inflows from the 80s (Chen; 1998). Since the 90s the capital inflows increased dramatically, with also a large inflow of FDI. Chen (1998) claims that the components of the capital inflows were different from that of the 80s. In the 80s, external debt accounted for 80 percent of the capital inflow, amongst the four types of capital inflow (external debt, foreign direct investment, portfolio investment and other investments). After 1992, FDI was the dominant type of all capital inflows. Figure 3.6 demonstrated China's FDI from 1991.

**Figure 3.6 Inflow of FDI to China: 1991-2003**





Source: Compiled by the researcher from International Financial Statistics, 2004.

### *Foreign Direct Investment Flows*

The inflow of FDI could be divided into two stages, with the first stage from 1979 to 1991 and the second stage from 1991 till 2003. As stated earlier (Section 3.2.3) in 1979, the Chinese government established SEZ's in the costal cities to attract FDI. Most of the costal cities are concentrated in the Guang Dong and Fu Jian Provinces. In 1984, Hainan province and other fourteen costal cities were also opened for FDI. This means that the entire costal areas were open for FDI. The second stage of FDI flows started from 1992, after Mr Deng Xiaopin's tour to the costal areas, when the Chinese government agreed to allow more FDI into the country (Chen, 1998).

Lum and Nanto (2006) show that China's FDI mostly is from Hong Kong and Japan, but the United States also invests a lot in China. Table 3.4 indicates China's FDI inflows and the Top Foreign Investors: 2000-2004

**Table 3.3 China's Foreign Direct Investment inflow, Top Foreign Investors: 2000-2004 (Billions of dollars)**

Country or Region	2000	2001	2002	2003	2004
Hong Kong	15.5	16.7	17.8	17.7	18.9
Virgin Islands	3.84	5	6.1	5.7	6.7
South Korea	1.49	2.1	2.7	4.5	6.2
Japan	2.91	4.3	4.2	5	5.4
United States	4.38	4.4	5.4	4.2	3.9
Taiwan	2.29	2.9	3.9	3.4	3.1
Singapore	2.17	2.1	2.3	2	2
Germany	1.04	1.2	0.9	0.8	1

All sources            40.71            46.9            52.7            53.5            64

Source: U.S. Department of State, 2005 Investment Climate Statement-China: U.S.-China Business council.

Zhang and Song (2000) explain that in the special economic zones, the government gives tax holidays and allows duty free import to attract FDI. Most of the FDI has an export processing production cycle called process trade, which means that the component parts of the product are imported from other countries to the duty free special economic zone and afterwards installed in China and then re-exported to the whole world. The products which are produced for export are mostly textile and final manufacture goods, in which China has a comparative labour advantage. Initially the FDI companies formed joint ventures with the host company in China, but later other forms of business enterprises were allowed.

Chen (1998) concluded that “*FFE contributed to the expansion of China’s foreign trade and helped the development of export-oriented economy*”. Table 3.9 indicates export by FFE in China: 1991-2003

According to Section 2.4.2, export-led FDI capital inflows encouraged a country to choose a pegged exchange rate to boost export performance. As stated by Section 3.2.4, China had a de facto pegged exchange rate system from 1994.

**Table 3.4 Export by FFE in China: 1991-2003**

Year	Export by FFE	
	Billions of dollar	% of total export
1991	12	16.8
1992	17.4	20.4
1993	25.2	27.5
1994	34.7	31.5
1995	46.9	40.7
1996	61.5	41
1997	74.9	44.1
1998	81	45.5
1999	88.6	47.9

2000	119.4	50
2001	133.2	52.2
2002	169.9	54.8
2003	240.3	57

Source: China's Customs Statistics and U.S. International Trade Commission Data web

### *Foreign Debt Flows*

From 1980, China also borrowed externally for economic development. The external debt was the main part of capital inflows in the 80s. Most of the external debt were long term instead of short term, which is indicated in Table 3.6.

**Table 3.5 China's short term and long term debt: 1991-1996**

Year	short term debt billions of dollars	Long term debt
1991	10.304	50.257
1992	10.846	58.475
1993	13.546	70.027
1994	10.415	82.391
1995	11.916	94.674
1996	14.108	102.167

Source: China statistical Yearbook. Beijing

The Chinese government managed strict control over all external debt borrowing (Zhang, 2002). Domestic companies were not allowed to borrow from outside unless approved by the relevant government authorities, but the foreign fund companies were allowed to borrow long term or short term. The government laid down strict rules for domestic financial institutions. Only those that were approved by the authorities could borrow, whilst non-financial institutions were not allowed to borrow abroad. As explained in Section 2.4.2, large amounts of foreign debt make governments scared of floating because devaluation of the currency could cause a currency mismatch and also trigger financial crises. The Chinese currency therefore remained pegged to the USD from 1994.

### *Portfolio flows:*

The amount of portfolio investment was small if compared to that of other Asian economies. China only started to operate its stock market from the early 90s. A foreigner could not buy any A share or bonds which were denominated in RMB, but they could buy domestic B shares or H shares and bonds in offshore markets which were denominated in foreign currency (Lin and Schramm, 2003).

Some of the emerging market economies which had external debt and portfolio investment inflows, and changed their original exchange rate regimes were affected by the financial crises. Prasad, *et al* (2005) explain that “...*the experiences of numerous emerging market countries have shown the risks associated with maintaining a fixed exchange rate in tandem with a capital account that is open in either de jure or de facto terms*”.

There are a few reasons why China could keep the *de facto* pegged exchange rate during the 90s without being affected by the financial crises:

- i. Firstly, most of the loans to China are long-term loans instead of short term, which are volatile and more easily defaulted.
- ii. Second, because of the export boom China had a current account surplus for a long time and saved a lot of foreign reserves which were sufficient to pay back the loans and the interest so that the speculators would not doubt the credibility of the Central Bank.
- iii. Lastly, China had a strong capital control regulations to prevent large capital outflows that could cause financial crises (Huang and Wang, 2004).

Zhang (2003) mentions the department which control the capital movement: these are the PBC, the State Development and Planning Commission (SDPC) and the China Securities Regulatory Commission (CSRC). The Chinese government allowed FDI forms of capital inflows but did not allow outflows of FDI.

However, Zhang (2003) warns that as China has joined the WTO, it is compulsory that the capital account be liberalised. The Chinese government realizes that it is important for the country to do this as the Chinese economy becomes integrated into the global world, but whilst in the process of capital account liberalization, the

Chinese government still needs to be alert regarding the short term financial inflows. This kind of capital is regarded as 'hot' money because it is extremely volatile and it could cause financial crises.

With the appreciation pressures for the RMB since 2003, the Chinese government imposed some measures trying to lower the appreciation effect (Lu; 2004). For example, they relaxed the restrictions for Chinese travellers to buy foreign exchange. However, a flexible exchange rate regime is a necessary requirement before complete capital account liberalization (Prasad *et al.* 2005).

### **3.3.3 Financial Sector Development**

There are four kinds of banks in China: wholly state-owned banks, commercial banks, credit co-operatives and foreign banks (Hansakul; 2004). He refers to two serious challenges:

- i. Firstly there are large amounts of Non Performing Loans (NPL's) in the banking sector. Most of these loans originated with the SOEs, which have not performed well and could not repay the loans.
- ii. The second problem was how to transform the banks into independent and sound financial intermediaries.

Qian (1999: 391) agrees that the rate of NPL's was high in China. In 1993, the NPL rate was 17 to 25 percent, while in 1997; it was 25 to 35 percent. Naughto (1998) gave two reasons for the NPL's:

- i. Ownership was a problem because the banks were owned by the government, with the effect that there was no incentive to maintain a low default rate.
- ii. The loan officers also lacked the necessary skills to manage loan finance.

Qian (1999: 391) explains that a fixed exchange rate regime under a poorly developed banking sector was a secure way to start a financial crisis, similar to what happened in the other Asian economies (See section 4.2.1.2). There were two reasons why China was not affected by the financial crises:

- i. Firstly, the banks in China were state owned. The NPL represented government debt instead of private debt. For instance, in 1998 the government debt was 10 percent of the GDP and if NPL's from the banking sector are

added, the ratio to GDP is still less than 30 percent. This percentage is low if compared to other economies (the external government debt of the US was 70 percent of GDP).

- ii. China was not affected by the crises because of the control measures for capital flows (see Section 2.4.2).

China established a stock market<sup>26</sup> in Shenzhen and Shanghai in the early 90s, but the stock market has not played an important role in corporate finance (Hansakul; 2004). The stock market size was smaller than total external debt. If comparing the market capitalisation, the stock market only makes up plus-minus 45.2 percent of the GDP, while debt took up 123 percent of the GDP. Although the stock market has grown strongly since the 90s, there are still various institutional and structural constraints. For example, most of the companies listed on the stock market are still controlled by the Chinese government.

Bai (2006) found that the size of government bonds in China was bigger than corporate bonds. From 1998 to 2005, the value of corporate bonds increased three times. SSF<sup>27</sup> and insurance companies are the main investors on the bond market. Zhang (2001) indicates that most of the bonds are still controlled by the government.

However, since Mr Deng Xiaoping's southern tour in 1992 and the 14<sup>th</sup> Congress, the Chinese government increased its pace of trade reform and financial reform. For example, in 1993, the government reduced the number of goods which required import or export licences. In 1996, the average tariff was reduced to 23 percent and the proportion of export goods which had quota control reduced by 50 percent. In 1997, the Chinese government announced new anti-subsidy and anti-dumping policy (Canalog, 1998). Fung, Iizaka and Tong (2002) state that upon China's entrance to the

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<sup>26</sup> Chinese firms issue A shares in domestic currency and B shares in foreign currency. The A share market is divided into three categories, i.e. legal person shares, start owned shares and tradable shares. The separation of the various kinds of shares hinders the efficiency of the stock market to allocate capital. The government reversed the non-tradable stock to tradable stock and by the end of 2005, 21.7 percent of the listed companies changed to tradable shares. At the same time, the investment in the stock market by foreigners also increased. Foreigners can now invest in B shares and H shares, which are issued on the Hong Kong market. From 2002, foreign investors are also allowed to invest in A shares as well, but the China Securities Regulatory Commission (CSRC) has specific restrictions in this regard.

<sup>27</sup> Social Security Fund

WTO<sup>28</sup> in 2001, the country promised to reduce the tariff and non-tariff barriers to trade and to open its banking and telecommunications sector to foreign competition.

According to Section 2.4.3, countries with undeveloped financial sectors aimed to choose fixed exchange rate system. Zhang (2001) explains that given the current situation of China's banking sector, the Chinese government has to peg the exchange rate to avoid the risk. Moreover, the financial sector was far from sufficiently developed so that a flexible exchange rate regime was not suitable for China yet. From 1991 to 2003, China accordingly had a *de facto* pegged exchange rate regime.

### 3.3.4 dollarization

Although China set control measures for capital control, as the country enters into the WTO and becomes integrated into world economy, foreign currency bank deposits increase sharply (Ma and McCauley; 2002). Prasad *et al.* (2005) indicate the increase in foreign assets since 2000 and state that net foreign assets are equal to 6 percent of GDP and 3 percent of board. Table 3.7 indicates the foreign currency bank deposits of non-banks in China: 1992-2001. These deposits grew rapidly since 1992.

**Table 3.6 Foreign Currency Bank Deposits of non-banks in Mainland China: 1992-2001 (Billions of USD)**

	1992	1995	1997	2000	2001
Total	60.7	69.7	83.5	145.6	154.5
In mainland China (onshore)	57.9	66.7	79.7	134.8	142.6
Locally owned banks	56.1	63.6	75.2	128.3	134.9
Individuals	9.4	15.9	29.2	73	81.6
Firms	26.7	29.3	33.7	46	45.3
Others	20.1	18.4	12.3	9.3	8
Foreign Banks	1.8	3.1	4.5	6.5	7.8
Offshore	2.8	2.9	3.8	10.9	11.9

Source: Ma and McCauley (2002)<sup>29</sup>

<sup>28</sup> World Trade Organization

<sup>29</sup> Data from the People's Bank of China, BIS

Ma and McCauley (2002) analyse the reasons why foreign currency deposits increased so sharply. They mention the following: interest rate differential between Yuan deposit and USD deposit; the expectation of RMB's devaluation and B share liberalization for domestic investors.

According to Section 2.4.4, higher degrees of foreign asset holdings cause countries to choose one of the corner solutions, either firmly fixed or flexible exchange rates. Morrison (2006) writes that in 2005, the Chinese government announced that the currency would become adjustable and determined by supply and demand (market forces). Since then China allowed its currency to reevaluate and the system changed to a peg against a basket of currencies. The basket of currencies consisted of the currencies of China's trading partner, which were USD, Yen, Euro and Won. In 2006, PBC also announced publicly that the Chinese exchange rate regime needs to be reformed and become more flexible in future (Xin Hua News, 2006).

### 3.3.5 Inflation rate

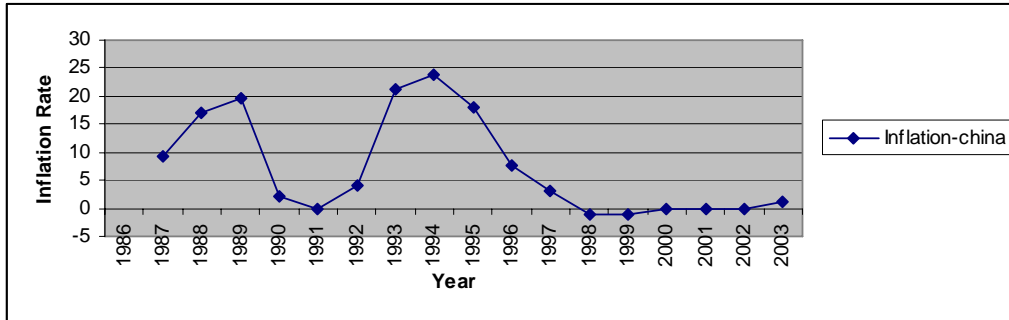
Since China started to reform its exchange rate regime from the 80s, the official exchange rate devaluated (See Section 3.2.2 and section 3.2.3), which resulted in a high inflation rate in late 80s and the reform of the exchange rate system in 1994 resulted in another climax for the inflation rate. Zhang (1999) used the nominal exchange rate as one of the variables to investigate its effect on the inflation from 1991 to 1996. He found a positive relationship between exchange rate devaluation and the inflation rate. If the exchange rate devaluated by 10 percent, the price index increased by 2.4 percent. Figure 3.7 presents China's exchange rate between 1986-2003.

**Figure 3.7 China's CPI<sup>30</sup> base inflation rate: 1986-2003.**

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<sup>30</sup> Consumer Price Index



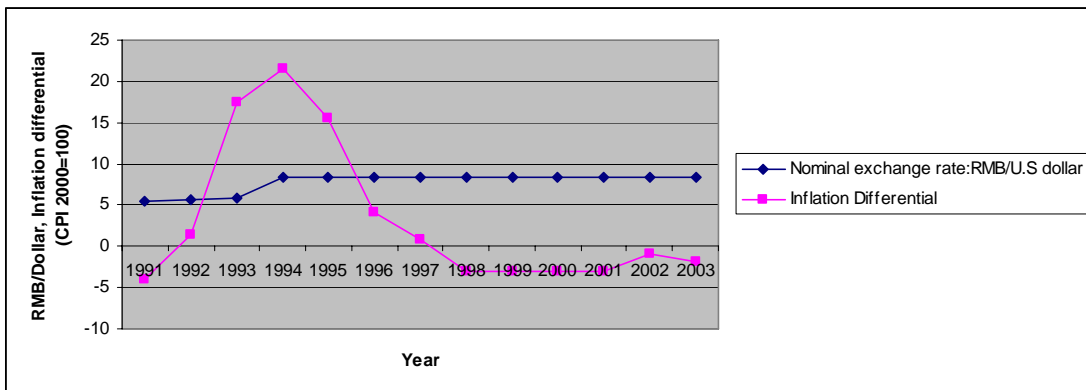


Source: Compiled by researcher from World Development Indicator (University of the Western Cape Library Database online).

Because of the high inflation, the Chinese government started to anchor its currency to that of its trading partner United States and in this way tried to lower the inflation rate (McKinnon; 2005). Although there was some small change of the exchange rate, the exchange rate was pegged to the USD at 8.27 Yuan/dollar since 1994 and the inflation rate did become stable after 1997. According to Section 2.4.5, the closer the inflation differential is between its trading partners, the more likely that the country would try to adopt a fixed exchange rate regime.

Figure 3.8 indicated the CPI base inflation differential between U.S. and China and the exchange rate: between 1991 and 2003. Figure 3.8 indicates that the inflation differential between China and U.S. was small from 1997 so that the RMB pegged to the USD from 1997 to 2003.

**Figure 3.8 CPI base inflation differential between U.S. and China and the exchange rate: 1991-2003**



Source: Source: Compiled by researcher from World Development Indicator (University of the Western Cape library database online) and International Financial Statistics.

Although pegged to the nominal anchor currency helped the Chinese government to bring down the inflation rate, Zhang (2000) claims that the nominal anchor approach causes welfare losses. Because the exchange rate system in China was a *de facto* peg, the exchange rate would not provide the necessary credibility amongst speculators. Mckinnon (2006) agrees that the nominal anchor approach would cause inefficiency, should the inflation rate of the anchor country like the U.S. increase.

### **3.3.6 Macro – economic stability**

When China started to reform the SOE's in the 90s, these reforms resulted in many workers losing their jobs. Most of the SOE's are located in the rural province. The employment rate in the rural area was previously lower than the urban area. Kaplan (2006) explains that one of the reasons why the Chinese government do not want to change to a flexible exchange rate and keeps the exchange rate undervalued is because they want to protect the export-oriented manufacturing sector and the employment in this export sector.

Since the built up of SEZ's in the costal area, FDI flowed into the area and the manufacturing sector in the costal area was modernised. The export-orientated manufacturing sector received a lot of laid-off labour from the SOE's. The employment rate in urban area is high, but it improved in rural areas because rural labour moved into the manufacturing sector of the urban areas.

According to Section 2.4.6, a higher extent of unemployment in SOE's sector makes policy makers reluctant to float the exchange rate. Floating the exchange rate would hurt the export performance of the manufacturing sector, which offers many job opportunities for laid-off workers from SOE's. Floating the exchange rate would definitely worsen the unemployment position in SOE's sector.

### 3.3.7 Regional Currency Arrangement

Kawai and Motonishi (2001) explain that Asian economies have a high percentage of intra regional trade shares. In 2003, for instance, the intra regional trade share reached 54 percent between 15 East - Asia <sup>31</sup> countries. FDI is also integrated within Asian economies, because China, Hong Kong, Japan and Korea all invest in China (See Section 3.3.2.). Korea and Japan had high restrictions on labour mobility, whilst Malaysia, Thailand and Singapore have relatively high labour mobility. China's financial variables, such as the bilateral real exchange rate against the USD, positively correlate with that of other East economies. The currencies of the Asian economies all were at some point pegged to the common currency, the USD (McKinnon, 2000).

Zhang (2001) indicates that pegging to the USD would not be sustainable in the long run, because of too many differences regarding economic policies and culture. Williamson (2004) argues that China should not only peg the currency to the USD, because the United States is not the only trade partner of China. In 2005, China then changed to a peg against a basket of currencies, with the currencies in the basket being that of China's main trading partner (Morrison, 2006).

### 3.4 CONCLUSION

This chapter firstly presents a historical overview of China's choice of exchange rate regime from 1949 to 2003. From 1949 China's exchange rate system went through different stages, such as a centrally controlled system, a dual exchange rate system, a *de jure* managed floating, but *de facto* pegged up to the change in 2005 to pegging against a basket of currencies.

Secondly the chapter investigates the relevance of various factors determining the choice of exchange rate regime (as discussed in Section 2) in the case of China. Of all the factors, the export promotion strategy, the issue of the risk of capital mobility, the fact that the country still has capital control regulations and the liberalisation of the financial sector are the most important. But the inflation rate, dollarization and political factors all contributed to China's choice of exchange rate over the years.

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<sup>31</sup> East Asia-15 including Japan and East Asia. Emerging East Asia-14 includes Hong Kong, Korea, Singapore, Taiwan, Cambodia, Brunei, Laos, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vietnam, and China.

In the following chapter China's choice will be compared to that of other Asian economies.



## CHAPTER FOUR: INTERNATIONAL EXPERIENCE

### 4.1 INTRODUCTION

In this chapter, three Asian economies are chosen as case studies in order to do a comparative analysis. The three countries initially had similar exchange rate regimes as China, but they were all badly affected by the Asian financial crises between 1997 and 1998. After the crises, only Malaysia changed to a conventional pegged system, whilst Thailand and Korea changed to free floating exchange rate system.

An investigation into the main determinants that affected the choice of exchange rates in some other Asian economies may provide useful information to policy makers in China. In this chapter, only three factors will be investigated to determine their impact on the choice of exchange rate regime for three Asian economies, Thailand, Malaysia and Korea. These factors are export-led growth, capital mobility and financial sector liberalisation. The latter two will be discussed together. The researcher regards these factors as the most important, although all the other factors are also relevant, but to a lesser extent. For instance, inflation factors also encourage the three Asian economies to peg to the anchor currency, USD, with the purpose of stabilising the price level.

However, in the 90s, the three Asian economies all practised export-led growth policies, which resulted in rapid economic growth. Export-led growth is the main reason why countries announce *de jure* floating but have *de facto* pegged exchange rate systems. The reason why capital mobility is chosen as the other factor is because this is the factor which caused financial crises in these Asian economies in the 90s and forced them to change their original exchange rate regimes. It is also clear from the study that trade and financial liberalisation play a very important role in the relative choices.

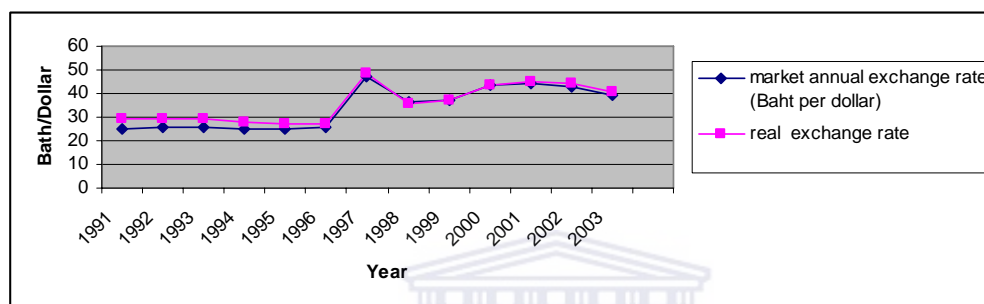
### 4.2 CASE STUDY ANALYSIS

The relevance of the experiences of Thailand, Malaysia and Korea is presented in the following sections.

### 4.2.1 Thailand

Before the financial crises, the Thai government announced to have a *de jure* basketed peg of exchange rate regime. The basket contained the currencies of the country's main trading partners, such as the U.S. and Japan but the government did not explain the relative weight of the currencies. According to McKinnon (2000) the USD still had the largest weight in the basket. After the financial crises, Thailand changed to a floating exchange rate system.

**Figure 4.1 Thailand's Market annual Exchange Rate and Real Exchange Rate against the USD: 1991-2003.**



Source: compiled by the researcher from International Financial Statistics (2004) and world Development Indicator UWC Library database: Online.)

#### 4.2.1.1 Export promotion

Athukorala and Suphachalasai (2004) indicate that Thailand enjoyed strong export-oriented growth before the Asian financial crisis. In the 90's, Thailand increased its participation in international trade. Before 1986, most of the commodities for export were food and light manufactured goods. During the 80's, a lot of machinery and transport equipment started to be assembled in Thailand. This is called an integrated vertical cross-border production process. Between 1986 and 1995, the annual growth rate of manufactured goods was 31.8 percent compared to a growth rate of 14 percent for primary goods. Manufactured goods represented 61.8 percent of the total value of exports.

Lauridsen (1998) indicates that before the Thailand's crises, the export performance of the country already worsened. He claims that the reason was the USD's

appreciation against the Yen. The resultant appreciation of the Bath<sup>32</sup> resulted in a worsening of the country's export performance.

Athukorala and Suphachalasai (2004) explain that Thailand changed to a floating exchange rate regime after the financial crisis. Then the devaluation of the real exchange rate boosted the country's export performance. He mentions that after the financial crises, Thailand's export volume to China increased significantly but China's export products also competed with Thailand in international markets.

Table 4.1 indicates the Bath's real exchange rate against dollar and its export to the US between 1991 and 2003.

**Table 4.1 Thailand's Export/GDP, Export Annual Growth Rate, and exchange rate regime: 1991-2003.**

Year	Export/GDP Percentage	Export annual growth rate	Exchange rate regime
1991	35.9	15.1	<i>De jure</i> managed floating, <i>De facto</i> Pegged to dollar
1992	36.9	13,8	
1993	37.9	12.9	
1994	38.9	14.3	
1995	41.8	15.4	
*1996	39.3	-5.24	
1997	48	7.2	
1998	58.8	8.2	Managed floating
1999	58.2	9	
2000	66.8	17.5	
2001	65.8	-4.2	
2002	64.2	11.9	
2003	65.6	7	

Source: Compiled by the author from International financial statistics (2004), World Development Indicator (University of the Western Cape library database online)

<sup>32</sup> Thailand's currency

#### 4. 2.1.2 Capital mobility and financial sector development

As one of the emerging markets and one member of the ASEAN-4<sup>33</sup>, Thailand received a lot of foreign direct investment in the 90s. Most of these FDI flows were from US, Japan and newly industrialization countries such as Hong Kong, Korea, and Singapore (Zainuddin, 1993: 80).

The foreign investors established companies and brought in new technology into Thailand. The new technology had spill-over effects so that the domestic companies also gained from that. Not only was there technology spill-over effects, but the FDI also increased Thailand's export performance (Jasen, 1995). Brimble (2002) states that the manufacturing sector received the largest share of FDI, from an average of 37% of total FDI into Thailand during 1970-1995 to 57% in 2001. Most of the products were electronic technology goods demanded for the export market and the FDI companies pushed the export performance of the country.

Sussangkarn (2006) claims that Thailand had a higher growth rate of around 8 to 12 percent per year before financial crisis in 1997. In 1993, foreign currency account liberalization and the establishment of the Bangkok International Banking Facility (BIBF) sped up the capital inflows. Interest rate ceilings were abolished in 1992 and \*the ratio of capital inflow to GDP increased from 8 percent in 1990 to 14 percent in 1995 (Lauridsen, 1998).

Amongst the capital inflows, external debt took the dominate part and most of the debt was short term<sup>34</sup>. From 1990 to 1995, the short term debt ratio increased from 35.5 to 55.6 percent. Corden (2002: 198) stated that most of the external loan in Thailand was dominated in foreign currency especially USD. Lauridsen (1998) indicated that the BIBF, Eurobond market and private sector could borrow abroad.

Thailand's financial sector was dominated by the commercial banks (Lauridsen; 1998). But, besides commercial banks, there were also security and finance companies. The market power was concentrated amongst the five commercial banks. There was a serious moral hazard problem in Thailand's banking sector. The banking

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<sup>33</sup> ASEAN-4 members are Thailand, Malaysia, Indonesia and Philippines

<sup>34</sup> Maturity of one year or less than one year



sector and financial companies invested the foreign debt finance in speculative investments. Most of the borrowed money was invested in real estate. The loan finance was not properly hedged against exchange rate risk, and the largest part of the short term debt was used for long term investments.

According to Sections 2.4.2 and 2.4.3, large un-hedged dollarization cause poor banking sector performance. Thereafter, Thailand pegged their currency against the USD, although it announced to the IMF (2000) that it used a basket peg of exchange rate system.

Corden (2002: 198-200) claims that there was no problem with the fiscal accounts, but the current account was problematic. Because most of the capital borrowed abroad was invested in the real estate industry, it did **not** produce the manufactured goods for export. The Thailand export decreases in 1996. The balance of the current account of payments showed a deficit in the 1996. When the foreign investor noticed the situation in Thailand, knowing that Thailand had a long history of basket pegging, they were afraid that the Central Bank of Thailand would not be able to act the lender of last resort. They therefore began to take there money out of the financial markets. In 1997, the huge capital outflow stimulated the financial crises in Thailand. Many economists call it a self-fulfilling crisis

Although Thailand had large amounts of foreign exchange reserves, the major part accumulated through short term capital inflows, especially debt borrowing (Sussangkarn; 2006). He indicates that the ratio of short term debt to foreign exchange rate reserve reached 100 percent in 1995. As a result, speculators lost confidence in Thailand's ability to repay the loan.

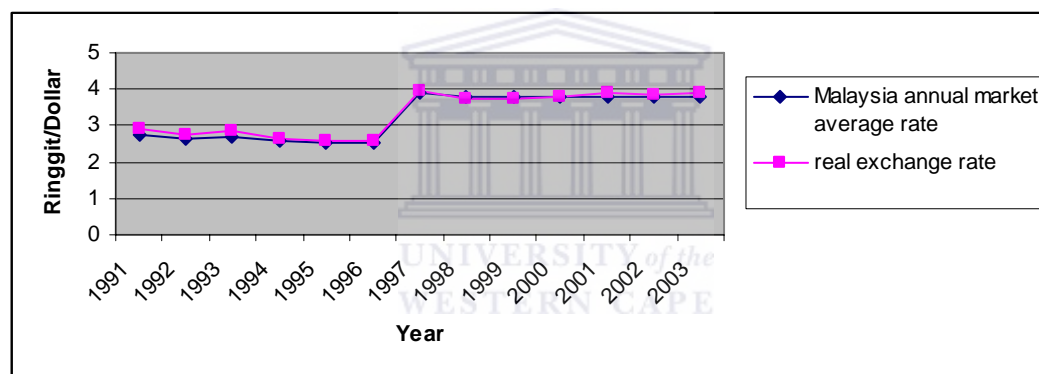
During the early 90s, Thailand abolished capital control and liberalized its capital account (Garcia and Madrid; 2001). Edison and Reinhart (2000) indicated that, confronted with the financial crisis, the Thailand government imposed short time capital outflow controls from 1997 to 1998. The foreigners who wanted to repatriate their equity could only repatriate in foreign currency instead of Bath. However, this control did not have any significant effect in preventing the Bath from devaluating.

The Thai currency depreciated during the financial crises and the government changed to a free floating exchange rate regime.

#### 4. 2.2 Malaysia

Between 1991 and 1992, Malaysia announced to the IMF (2000), that it intended to peg its currency against a basket of currencies. Between 1993 and 1998, the country changed to a managed floating exchange rate system. After the financial crises, the exchange rate was to be pegged against the USD. Although the government announced to have a *de dure* managed floating exchange rate system, it actually was *de facto* pegged to the USD. Figure 4.2 indicated the Ringgit<sup>35</sup>'s annual market average rate and real exchange rate against the USD.

**Figure 4.2 Ringgit's annual market average rate and real exchange rate against the USD**



Source: Compiled by the researcher from International financial statistics (2002) and World Development Indicator (UWC Library database. Online.)

##### 4.2.2.1 Export promotion

Zainddin (1993: 86) found that as one of the ASEAN-4 countries, Malaysia began to support an export promotion policy in the early 1970. (Before that Malaysia adopted an import substitution trade policy to protect the domestic infant industries.) The Malaysian government provided tax relief for export oriented industries and if there were no substitutes in the domestic market, the imported material could be imported tax free. The government also enacted the Free Trade Zone Act in 1971<sup>36</sup>.

<sup>35</sup> Malaysia's currency

Malaysia exports rubber, timber based products and liquefied natural gas. At present, Malaysia was one of the biggest semiconductor exporters (Oskoose and Harvey; 2006). They also examined that effect of real bilateral exchange rate in terms of Malaysia's trading partner on its nominal export value from 1973 to 2004. They determine that the real exchange rate depreciation increased its export volumes to its trading partner. Table 4.2 illustrates the Ringgit's real exchange rate against the USD and its export to the US between 1991 and 2003.

**Table 4.2 Ringgit's Real Exchange Rate against Dollar and Its Export to the US: 1991-2003**

Year	real exchange rate	Export-us (billions of dollar )
1991	73.29032432	5.808
1992	67.57277922	7.594
1993	67.30111875	9.58
1994	61.50168675	12.448
1995	58.96848837	15.313
1996	56.71779775	14.251
1997	85.40795934	14.553
1998	79.0875	15.885
1999	77.5122449	18.533
2000	76	20.162
2001	75.28514851	17.816
2002	73.86019417	18.826
2003	73.18653846	20.54

Source: compiled by the researcher from International financial statistics (2002) and World Development Indicator (University of the Western Cape library database online)

Doraisami (2004) uses the Yen/ Dollar exchange as one variable to examine the effect on Malaysia's export to US from 1991 to 1996. He finds that the Yen/Dollar depreciation was one of the main reasons for Malaysia's export deterioration during that period as in the case of Thailand. Because the Yen appreciated, the ringgit also

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<sup>36</sup> The objective of this Act was simplify customs procedures to import raw materials and export final goods.

appreciated as it was pegged to the USD. This reduces the competitiveness of Malaysia in the US.

#### **4.2.2.2 Capital mobility and financial sector liberalisation**

Zainuddin (1993) mentioned that from 1968 onwards, the Malaysian government started to encourage foreigners to invest into the country. The government imposed the Investment Incentive Act. According to the provisions of this Act, foreign enterprises are exempted from paying company tax and can also import goods duty free. Dror (1984) indicated that the Malaysian government also excluded the labour union from the provisions of the labour law, so that the foreign enterprises would not have too many conflicts with local labour. This attracted more FDI into Malaysia.

Athukorala and Menon (2001) indicate that most of the FDI were from Taiwan, Korea and Hong Kong. The major part of the goods destined for exports were electrical and mutual technology final goods. They explain that: *“Multinational enterprises are exempted to play a major role in the process of export- oriented industrialization by providing easy access to foreign market.”*

From the 90's, large amounts of volatile capital flowed into Malaysia (Garcia and Madrid; 2002). Portfolio investment flows also increased dramatically. From 1994 to 1996, the ratio of short term loans, dominated in foreign currency increased from 47 percent to 59 percent. The volatile capital inflows were invested in real estate or securities market which did not generated foreign currency and caused price bubbles<sup>37</sup>.

Corden (2002: 212) mentions that at the start of the crises in Thailand, the foreign investors in the Malaysian stock market, were affected through a contagion effect and started to worry about the Malaysian economy, the profitability of the investment and the value of the currency. Large capital started to flow out of the country which caused the currency to depreciate.

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<sup>37</sup> The price of real estate was inflated and therefore not a true reflection of the earnings capacity of the people. This is called a price bubble.

Garcia and Madrid (2002) explain that Malaysia started to control capital inflows in 1994 in order to slow down the volatile capital inflow, but all these capital inflow regulations were abolished in 1995. The capital restrictions included: non residents could not buy monetary instrument which had maturity less than one year. Edison and Reinhart (2000) indicate that the Malaysia government immediately introduced capital control to maintain the value of the currency from 1998 onwards. The capital outflow regulations included that non residents could not repatriate their portfolio investment for a period of twelve months. In 1999, the government cancelled the twelve-month control. However, instead they impressed levies on the non-resident portfolio profit earnings, while any interest or dividend earnings from FDI or current account transaction were exempted from that.

According to Section 2.4.2, although Malaysia affected by the financial crisis, because of the capital control, even after the crises, the country keeps its currency pegged to the USD (IMF: 2000).

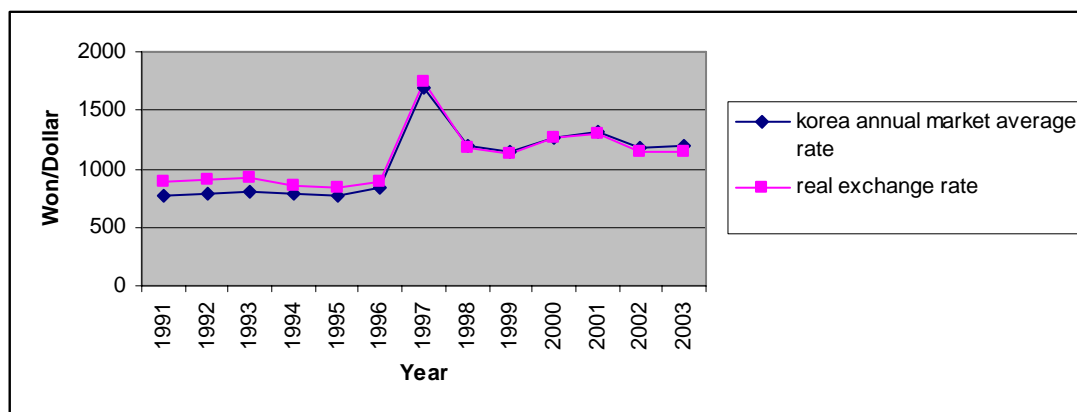
#### 4.2.3 Korea

Before the financial crises, Korea officially announced a *de jure* managed floating exchange rate (IMF, 2000), but *de facto* the exchange rate was pegged against the USD. Figure 4.3 indicated Won<sup>38</sup>'s market annual exchange rate and real exchange rate against the USD: 1991-2003. Figure 4.3 indicated that Before financial crises, although Korea announced to have a *de jure* managed floating exchange rate but actually *de facto* pegged to dollar. In 1997 there was a big depreciation because of financial crises and after that from 1998, the exchange rate was more flexible.

#### **Figure 4.3 Won's Annual Market Average Rate and Real Exchange Rate against the USD: 1991-2003**

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<sup>38</sup> Korea's currency



Source: Compiled by researcher from International Financial Statistics (2004) and the World Development Indicator (UWC. Library Database Online.)

#### 4.2.3.1 Export Promotion

As one of member of NIEs<sup>39</sup>, since the 60's, Korea started to adopt an export orientated trade policy. Import tariffs and quotas were decreased to promote free international trade. In the 70's, the export goods of Korea changed from labour intensive goods to heavy and chemical industrial products. This was because the developed countries imposed high barriers to Korea's labour- intensive goods. Because of trade openness and the policy of export promotion, Korea became one of the Asian Tigers in the 80's. From 1991 up to the financial crises, international trade still played important role in the stimulation of economic growth in the country (Wang, 2002).

In 2003 the export amount to Asian area was double the amount of 1991 and the United States remained Korea's largest trading partner, before and after the Asian crises. Most of Korea's international trade goods were invoiced in USD. In 1990, 88 percent of exports were invoiced in USD and in 2000 it still was 84.8 percent (Mikinnon and Schnabl, 2003).

Fang and Lai (2005) used the GARCH model to examine the effect of exchange rate depreciation and exchange rate volatility on Korea's export performance from 1979 to 2003. According to the results of the model the exchange rate depreciation increased

<sup>39</sup> The East Asian NIE's includes South Korea, Taiwan, Hong Kong and Singapore

Korea export performance but exchange rate volatility did not affect Korea's export performance.

Table 4.3 indicated Korea's real exchange rate against the USD and its exports to the US: 1991-2003.

**Table 4.3 Korea's real exchange rate against USD and its export to the U.S.: 1991-2003**

Year	real exchange rate	Export-us (millions of dollar)
1991	897.0626866	18608
1992	899.4422535	18090
1993	917.3027027	18138
1994	858.5848101	20553
1995	831.0634146	24173
1996	893.2813953	21765
1997	1751.5	21850
1998	1179.175258	23076
1999	1126.387755	29600
2000	1264.5	37806
2001	1300.870192	31358
2002	1152.942056	32943
2003	1149.623423	34369

Source: compiled by the researcher from International financial statistics (2002) and World Development Indicator (University of the Western Cape library database online)

#### **4.2.3.2. Capital mobility and financial sector liberalisation**

In the 80's, FDI started to flow into Korea and most of the products of the new firms were destined for export. The business form of the foreign fund enterprise was a minority –stake joint venture. The country became one of the Asian tigers in the 80's and in the 90's, Korea started to invest in other Asian countries. The outflow of FDI increased dramatically in the 90's. There was no regulated limit for FDI outflows it had to be approved by the bank (Noland, 2005).

Lim and Moon (2001) determine that outward FDI from Korea to less developed countries had a positive effect on the home country's export performance. Besides that, they also stated that the positive effect for home country's export would be bigger in a declining stage industry such as textile than growing stage industry like computer parts.

Cho and Koh (1999) state that Korea gradually liberalized its capital account. At the beginning of 80s, the Korean government imposed controls on capital outflow. Near the end of 80s, the large current account surplus forced the government to deregulate the capital outflows.

Wang (2002) indicates after the enactment the Foreign Exchange Management Act (FEMA) in 1991, the pace of liberalisation of the capital account increased. In 1993, the Korean government announced a plan for further capital account liberalization. At the same time, the financial sector was opened. In 1994, the Foreign Exchange System Reform Plan (FESRP) was enacted. This plan aimed to fully liberalize the capital account in three stages. Although Korea was affected by the financial crises in 1997, the government continued to liberalize its capital account. In 1999, the Korea government enacted the new Foreign Exchange Transitions Law (FETL) and the capital account became fully convertible after that.

Noland (2005) states that in the 90's, unlike other Asian countries, the Korean government did not have strict capital control measures for these short-term foreign currency dominated inflow. The banking sector and the non-bank financial sector borrowed from abroad. Most of the foreign debt finance went to the conglomerates in the manufacturing industrial sector.

Japan was Korea's biggest export market. Since the Yen and Won were both pegged to the USD, the depreciation of the Yen made the Won became appreciated and the country lost its price competitive in the Japanese market. Korea's current account deteriorated significantly before the financial crises.



The current account went into deficit in the mid 90<sup>th</sup>, which was a very bad signal to the speculators. Affecting by the contagion effect from other Asian economy, short-term capital inflow started to flow out (Corden, 2002: 212).

According to Section 2.4.2, since Korea did not have capital control regulations, the exchange rate started to float till 2003.

#### **4.3 LESSONS TO BE LEARNT FROM THE EXPERIENCES OF OTHER ASIAN COUNTRIES**

Before the Asian financial crises, export-led growth made the three Asian economies announce *de jure* managed floating exchange rate regimes but performed *de facto* peg to dollar. From the 1980, China also adopted an export-led growth policy. Pegging to the dollar from 1994 boosted China's export performance.

Thailand completely liberalized its capital account at 1993. Korea wholly liberalized its capital account at 1998. Although Malaysia still had a capital control, it also had a long history of capital account liberalization. Compared to these Asian economies, although China liberalized its current account in 1994, but the capital account still strictly control.

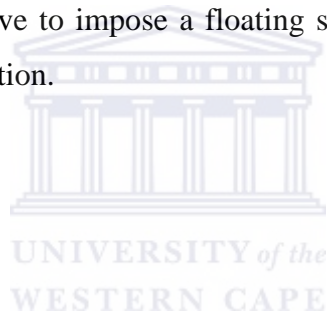
Volatile capital mobility caused Thailand and Korea changed to free floating exchange rate. For Malaysia, capital control made it choose a conventional peg exchange rate after the crises. Because of China's capital control, China did not affect by the financial crises.

As China entered into the WTO, it was committable for China to open its capital account. China could not control the capital account forever. Pegging the exchange rate to the U.S. dollar boosted the export performance. Asian country's experience told us that it was import to have a more flexible exchange rate before fully liberalized the capital account. Otherwise, it caused financial crises. China needed to float its exchange rate in the future.

#### 4.4 CONCLUSION

It is clear from the case studies that the same factors are relevant given the choices of Thailand, Malaysia and Korea. But these countries experienced the Asian crises differently from China. Before the Asian financial crises, export-led growth made three Asian economies announce *de jure* managed floating exchange rate regimes, but in practice the currencies were pegged to the USD for many years.

An important factor in the case of Thailand and Korea is the liberalisation of their respective financial accounts. Thailand completely liberalized its capital account by 1993 and Korea by 1998. Although Malaysia still had capital control measures, it also has a long history of capital account liberalization. Volatile capital mobility caused Thailand and Korea to change to free floating exchange rates after the Asian crises. For Malaysia, capital control regulations made it choose a intermediate system, a conventional pegged exchange rate. From the experience of these economies it is clear that China will eventually have to impose a floating system, but financial liberation seems to be a necessary condition.



## 5. GENERAL CONCLUSION

The main focus of this report is on China's choice of exchange rate regime. The various types of systems, ranging from firmly fixed, to intermediate to free floating, were discussed according to the classification of IMF's Exchange Arrangements and Exchange Restrictions. Firmly fixed exchange rate systems include currency board, dollarization and monetary union, whilst the intermediate range includes the conventional fixed peg, crawling peg and target zone. Floating regimes includes managed floating and free floating exchange. What is very interesting is the fact that there is a difference between *de jure* and *de facto* classifications and that it is quite an exercise to determine which exchange rate regime actually applies.

These exchange rate systems developed through the gold standard, the inter-war period, the Bretton Woods era to the era of floating regimes. At present, according to *de facto* classification of exchange rate, the intermediate exchange rate regime is still prevalent amongst developing and emerging economies. Despite the impact of globalisation and the importance of the World Trade Organisation and the pressure for trade and financial liberalisation, free floating exchange rate systems are still rare, even in the developed countries.

The Chinese reform of their exchange rate system started in 1979 and developed over the years from a government controlled system through two dual systems (the official rate and the internal settlement rate; and after a short unified rate to the dual official and swap market rate) to a system pegged to the USD. Despite reporting to the IMF the intention to use a managed floating system, *de facto* the system remained firmly pegged between 1994 and 2004. In 2005, China changed to peg against a basket of currencies (from the trading partners, but dominated by USD) since 2005.

The following factors were identified from the literature as factors impacting on the policy choices of countries: export-led growth strategies, the risk associated with capital mobility, financial sector development, dollarization, price level stability, political factors and regional exchange arrangements.

Because of China's capital control regulations, volatile capital mobility did not affect China as much as it did the other Asian economies. Dollarization encouraged China to choose a more flexible exchange rate.

Three experiences of the other Asian countries proved that a liberalised capital account before having a flexible exchange rate was dangerous. Becoming a member of the WTO made it imperative that China should choose a more flexible exchange rate regime in future. But before this can happen, the domestic financial sector especially the banking sector needs to be liberalized. The country recently announced the intention to switch to a free floating system and indicated that financial liberalization now is a policy priority.



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