Solutions for exchange rate policy of transition economy of Vietnam

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List of Acronyms

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of South East Nations
ASEM	Asia-Europe Meeting
CMEA	Council for Mutual Economic Assistance
CPI	Consumer Price Index
Doi moi	Vietnam's economic reform program launched in 1986
FCD	Foreign currency deposits
FCL	Foreign currency loans
GATS	General agreement on trade in services
GDP	Gross Domestic Product
GSO	General Statistical Office
IMF	International Monetary Fund
NEER	Nominal Effective Exchange Rate
NFA	Net Foreign Assets
NPL	Nonperforming loans
OMO	Open Market Operations
REER	Real Effective Exchange Rate
SOCBs	State-owned Commercial Banks
SOEs	State-owned Enterprises
SBV	State Bank of Vietnam
USD	U.S. dollar
VIBOR	Vietnam Interbank Offer Rate
VND (or dong)	Vietnamese dong
WB	World Bank
WTO	World Trade Organization

Chapter I

INTRODUCTION

I.1. Overview and issues to be addressed

I.1.1. Overview

The choice of exchange rate regime is probably one of the most important macroeconomic policy decisions. It can strongly affect the independence of monetary authorities, the effectiveness of macroeconomic policies, and the stability of financial system. Discussions of the appropriate exchange rate regimes have mushroomed, especially in the aftermath of the financial crises in the 1990s, which include a great deal of interest in classifying exchange rate regime, bipolar hypothesis and fear of floating.

Before 1999, most studies of exchange rate regimes relied on the official IMF's exchange rate regime classification (de jure classification), which was based on members' official notifications to the IMF. The de jure classification had a serious drawback, that is its failure to capture inconsistencies between what the countries officially announced and what they were doing in practice. To address this problem, a number of new de facto classification systems have been introduced by IMF and researchers (Bubula and Otker-Robe, 2002, Dubas et al., 2005, Frankel, 2003, Ghosh et al., 2002, Husain et al., 2004, Kuttner and Posen, 2001, Levy-Yeyati and Sturzenegger, 2002a, Nitithanprapas and Willett, 2002, Rogoff et al., 2004), Reinhart and Rogoff, 2004, and Stone et al., 2004). Among this babel of classification schemes, I use the IMF de facto classification scheme which classifies exchange rate regime into 8 categories based on combining information on exchange rate and monetary policy framework, and authorities' formal or informal policy intentions with data on actual exchange rate and reserve movements (or based on the degree of commitment to a given exchange rate path).

Bipolar hypothesis has arisen when there has been a trend toward the two polars of the spectrum of exchange rate regimes of either truly peg or freely floating since early 1990s (Bubula and Otker-Robe, 2002 and IMF, 2004b). Some observers, Eichengreen (1994, 2002),

Obstfeld and Rogoff (1995), Summers (2000) have predicted that emerging market countries would over time move to the polar extremes of exchange rate flexibility. Fischer (2001) concludes that "In the last decade, there has been a hollowing out of the middle of the distribution of exchange rate regimes in a bipolar direction, with the share of both hard pegs and floating gaining at the expense of soft pegs".

The validity of the bipolar view has been challenged because some have argued that a number of countries declare officially floating but maintain informal exchange rate targets, or many countries say that they have intermediate regime but in fact have de facto peg. The tendency of countries to allow less exchange rate flexibility in practice than in policy statements is consistent with the "fear of floating" of Calvo and Reinhart (2000). Some arguing against the bipolar hypothesis examine this view and find that though the proportion of countries adopting intermediate regimes has been shrinking in favour of either greater flexibility or greater fixity, there is no strong evidence to suggest that the intermediate regime will disappear (Bubula and Otker-Robe, 2002 and Masson (2000); intermediate regime is likely more appropriate than corner solutions (Frankel, 1999); and there has been no "hollowing out of the middle" and there are many transitions from freely floating to intermediate regimes Rogoff et al. (2004).

In summary, no compromise seemed to have developed in the debate whether freely floating or hard pegs are more attractive for developing countries. Intermediate regimes are unlikely to disappear and remain appropriate in many developing countries. There is no one right answer for all countries or at all time (Frankel, 1999). The choice of exchange rate regime must depend on characteristics of the country in question and the disturbances the country faces.

However, the tendency toward greater flexibility continues and predominates over the counter direction. Countries' experiences show that the exits from the fixed peg have occurred under disorderly or orderly conditions. Therefore, the IMF recommends four factors guiding for a successful, orderly transition to flexible exchange rate regimes for emerging countries: (i) a deep and liquid foreign exchange market, (ii) a coherent intervention policy, (iii) an appropriate alternative nominal anchor, and (iv) adequate systems to review and manage public and private sector exchange rate risks (IMF, 2004c). However, the IMF (2005a) agrees that, "these four factors constitute an ideal framework only …, every ingredients does not necessarily need to be fully met before moving to greater flexibility", as shown by countries'

experiences. Countries should compare the cost of delaying a transition to more flexible exchange rate regime in order to meet all ingredients with the benefit of early transition. The IMF also emphasizes that the most important factors for a success of any exchange rate regime are "prudent policies, a stable macroeconomic environment, and an effective communication strategy".

I.1.2. Issues to be addressed in Vietnam

The theme of this study is the exchange rate arrangement in Vietnam. Vietnam is a developing country, which has carried out the economic reform (*doi moi*) since 1986 and now being in the stage of increasing integration into trade and financial world market (joining the ASEAN Free Trade Agreement, AFTA, in 1996, membership of the WTO in 2006, and opening field of financial services in 2007). At present, the exchange rate of the Vietnamese currency (Dong) is de facto pegged to the U.S. dollar (fixed peg).

However, from author's point of view, maintaining fixed exchange rate regime in the context of increasingly international capital transactions and underdeveloped domestic financial system would expose the Vietnamese economy to some risks, for example, speculative attacks due to incredibility of exchange rate policy.

Progressively capital account liberalization as well as problems of the current exchange rate regime lays the issue in choice of an appropriate exchange rate regime for Vietnam. Criteria in choice of exchange rate regime for Vietnam are maintaining low price level, stabilizing financial system, promoting external trade, and ensuring economic growth.

Starting with these criteria, the author suggests that an appropriate exchange rate regime for Vietnam should meet four following elements:

- Transit to a flexible exchange rate, which should be made gradually and sequenced in coordination with liberalizing capital account, reforming financial sector, developing foreign exchange market, and building exchange rate risk management system;
- Establish a credible nominal anchor to control inflation rate (inflation targeting);
- Give the central bank more independence to conduct monetary policy; and
- Sustain the economy against different shocks.

As for literature review, I do not find many studies on the choice of the appropriate exchange rate policy for Vietnam. Vo et al. (2000) conducted an empirical study on the exchange rate policy in Vietnam, which gives an overall picture of the exchange rate arrangement in Vietnam and examines the exchange rate's interrelationship with and its impacts on the main macroeconomic variables in the context of economic reforms in Vietnam during the 1990s. They also find an appropriate option for the State Bank of Vietnam (SBV) to have a smooth shift to a more flexible and rational exchange rate arrangement and conclude that band-basket-crawl scheme (intermediate regime) seems to be the most rational option for Vietnam's current process of further reforms and financial liberalization. A smooth exit to a new band-basket-crawl regime would depend very much on the determination of a new central parity, the coordination with other macroeconomic policies and structural reforms, and the establishment of policy credibility.

I.2. Objectives and scope of study

The study has the following objectives:

- Give an overview of the transition process of the exchange rate regime, thereby providing the reader a background of the transition process of the exchange rate regime in Vietnam since *doi moi* program (1986).
- Find out main problems of current pegged exchange rate policy.
- Provide a review of the main issues in choice of an exchange rate regime, which lays a foundation for approaching methods for choosing an appropriate exchange rate in case of Vietnam.
- Build theoretical models on the credibility and the central bank independence to prove advantages of flexible exchange rate over fixed exchange rate, when the sustainability of the fixed exchange rate faces the problem of credibility and the State Bank of Vietnam (SBV) loses its independence in implementing the monetary policy.
- Build a theoretical model on the role of the exchange rate in enabling the Vietnamese economy to sustain output and price against various kinds of shocks under fixed and flexible exchange rate regime, thereby concluding about appropriate exchange rate regime for Vietnam.

- Analyse the relationships between exchange rate regimes and macroeconomic volatility to find out potential consequences that flexible exchange rate would bring about.
- Address some questions supporting for moving toward greater exchange rate flexibility in Vietnam.
- Base on four necessary ingredients supporting a successful, orderly transition to a float recommended by the IMF to assess how far Vietnam meets these ingredients.
- Suggest an appropriate exit strategy for Vietnam in the event of free capital flows.
- Suggest some solutions and policy implications for the SBV and credit institutions to prepare for an orderly exit from the peg based on developing four necessary ingredients in combination with progressive capital account liberalization and financial sector reform.

I.3. Study methodology

The statistical data for Vietnam have been obtained from a variety of sources including General Statistical Office (GSO), Annual Report of the SBV (various issues), SBV website, IMF International Financial Statistics, Asian Development Bank (ADB), Vietnam country report of IMF (various issues), Financial and Banking Reviews of Vietnam, and some books. The data are limited in period of 1986-2007:3 (March).

The main method of this study is using theoretical economic model (algebraic methods) and theoretical economic foundations to explain the issues. Adopting and building theoretical models to analyse problems are based on knowledge obtained from monetary economics lectures. Model on credibility of the exchange rate regime is developed from models of Svensson (1990), Obstfeld and Rogoff (1996), and Rogoff (1998). Model on central bank independence is based on models of Rogoff (1985). Building the macro-economic model for open economy of Vietnam, which consider the role of exchange rate in sustaining the economy in face of various kinds of shocks, is based on Mundell-Fleming model and Rødseth (2000).

In addition, methods of analytical analysis, synthesis, statistics, and evaluation are used in analyzing and assessing results of other researchers with regard to developing and emerging countries to apply in case of Vietnam.

I.4. Study structure

The study is organized as follows:

Chapter 1: Introduction

This chapter introduces main contents of this study.

Chapter 2: Characterizing Vietnam's exchange rate arrangement since 1999

This chapter describes the exchange rate policy and monetary policy framework of Vietnam since 1999. It also assesses existing problems of the current fixed peg exchange rate regime, thereby laying the issue in choice of the exchange rate regime in Vietnam in a world of increasing capital mobility, especially when the banking sector is weak and inadequately regulated and supervised.

Chapter 3: Choosing an exchange rate regime for Vietnam

This chapter discusses the choice of an appropriate exchange rate regime for Vietnam, which is under the way of economic reform and accelerating its integration into the world market. It raises the main issues in choice of an exchange rate regime, which lays a foundation for approaching methods for choosing an appropriate exchange rate in case of Vietnam. It provides theoretical economic models for Vietnam in choice of an exchange rate regime. It analyses the relationships between exchange rate regimes and macroeconomic volatility to find out potential consequences that flexible exchange rate would bring about. It concludes that Vietnam should move toward greater exchange rate flexibility and addresses some questions supporting for this finding.

Chapter 4: Building a strategy for a successful transition to greater exchange rate flexibility

This chapter suggests an appropriate strategy for a transition to more flexible exchange rate regime for Vietnam in an increasingly integrated global economy. It summarizes ingredients for an orderly exit from the exchange rate peg recommended by the IMF and assesses existing

issues of Vietnam in the transition towards a more flexible exchange rate regime based on these ingredients, which are fundamentals for proposing solutions to prepare for an orderly exit discussed in the next chapter. Then, it suggests when and how it should be appropriate for Vietnam to move toward greater exchange rate flexibility.

Chapter 5: Preparing for an orderly exit from the peg and further steps of reforms

This chapter brings about some solutions and policy implications for the SBV and credit institutions to prepare for an orderly exit from the peg based on ingredients recommended by the IMF and sequencing and coordinating capital account liberalization with financial sector reform to support for the transition toward greater exchange rate flexibility.

Chapter 6: Conclusions

This chapter brings together major findings of the study.

Chapter II

CHARACTERING VIETNAM'S EXCHANGE RATE ARRANGEMENT SINCE 1999

Since 1986, the Vietnamese Government has embarked on a comprehensive program of economic renovation (*doi moi*) to transform the socio-economic system from a centrally planned economy towards a market-based system under the regulation of the Government. The *doi moi* program, among other things, has aimed at opening and integrating the economy with regional and global economies, in particular liberalizing trade and foreign direct investment. As a result, the Vietnamese economy has recorded remarkable achievements, particularly in economic growth. Now, Vietnam is Asia's strongest performing economy after China. However, the economy of Vietnam still faces difficulties and challenges, above all, inefficient allocation and use of capital, inertial economic structural transformation, low competitiveness, underdeveloped infrastructure (i.e. transportation and electricity power) and financial sector, low quality of human resources, corruption, and deep-rooted bureaucracy.

In line with the economic renovation, reforms in the financial sector have also taken place. The role of the exchange rate, at the first time, was taken into consideration in 1989 by unifying official exchange rates, which were the consequence of the centrally planned economy for a long time from 1979 to 1989. Since then, exchange rate management has been continuously reformed in accordance with economic performance and with the extent of involvement in international trade and finance. A floating exchange rate regime (1989-91) aimed to devalue the Vietnamese dong that was overvalued in previous years. The long episode of a fixed exchange rate regime (1992-98) aimed to regain the stability of the Vietnamese dong after currency crisis in 1990-91. Since 1999, Vietnam has officially maintained a managed floating exchange rate regime although the currency has been de facto pegged to the U.S. dollar. Since 2005, the exchange rate system has been classified as a conventional fixed peg according to the IMF's de facto exchange rate arrangement classification. Exchange rates of the Vietnamese dong against non-USD currencies are floated.

The first part of this chapter gives a brief look at the transition process of the exchange rate regime, aiming at providing the reader a background of the transition process of the exchange rate regime in Vietnam since *doi moi* program, thereby understanding why the SBV has chosen the managed floating exchange rate regime since 1999. The second part describes about the exchange rate regime since 1999, including institutional framework of the exchange rate regime and monetary policy. This part also assesses existing problems of the current exchange rate regime, thereby laying the issue in choice of the exchange rate regime in Vietnam in a world of increasing capital mobility, especially when the banking sector is weak and inadequately regulated and supervised.

II.1. Historical overview of the transition process of exchange rate regime since 1989

The transition process of the exchange rate regime in Vietnam has begun since 1989, after the abandonment of multilateral-exchange-rate regime. Since then, Vietnam has experienced many types of exchange rate regimes.[1]

The floating exchange rate episode (1989-91) started in March 1989 by unifying a variety of official exchange rates existing in period 1978-89 into a single official exchange rate at VND 4,500 per USD (Nguyen et al., 1998). The floating exchange rate regime aimed to devalue the Vietnamese dong that was overvalued in period of conducting the centrally planned economy.[2] During the episode of floating exchange rate, the nominal exchange rate depreciated by 50%. Continuous depreciation of the dong in nominal terms led to the speculation of the U.S dollar, which made the scarcity of the dollar more serious. [3] The depreciation of the exchange rate, among other things, resulted in an increase in imported

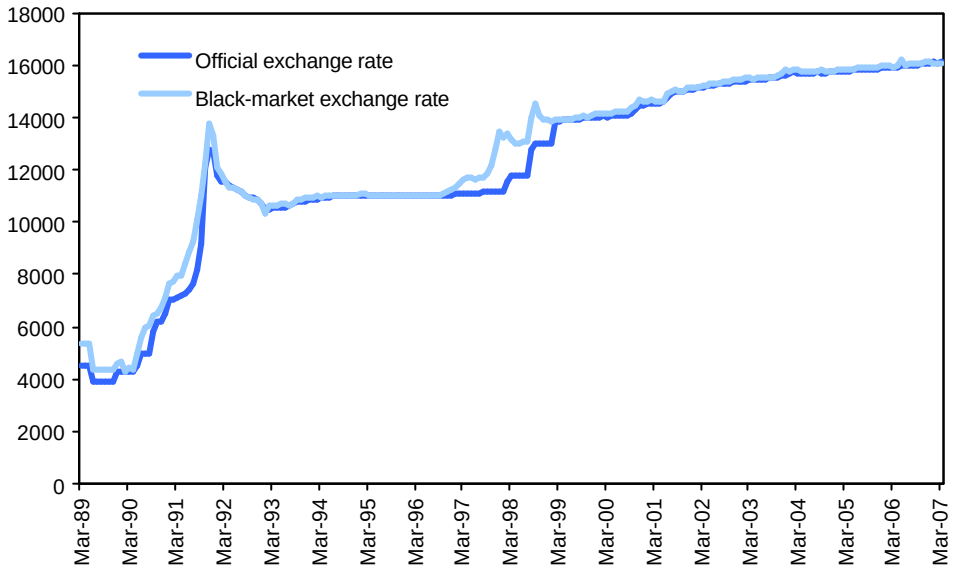
[1] See Appendix II.1.

[2] Up to now, there has not been yet calculation that proves the dong was overvalued before 1989, but very wide spread of hundreds percent in 1985-88 between the official and black market exchange rate, as well as continuous depreciation of the official exchange rate in the period of floating has shown that the exchange rate set discretionary by the SBV before 1989 did not reflect exactly purchasing power of the dong, or in other words, the dong was overvalued.

[3] The collapse of the Council for Mutual Economic Assistance (CMEA) placed Vietnam in situation of regular scarcity of foreign currencies because Vietnam's foreign currency receipts, at that time, were mainly from exports to and grants of the CMEA. Meanwhile, exports to non-CMEA had not yet extended and the demand for imports was very high. Therefore, the scarcity of foreign currencies always befell (Le and Nguyen, 1999 and Chinese University of Hongkong).

input prices, thus leading to increase in cost of production, and then inflation (inflation rose double from 34.7% in 1989 to 67.5% in 1991, see Appendix II.2). Hence, the government had to raise nominal deposit rate to 12% per month to ensure positive real interest rate. Being attracted by very high nominal interest rates, a great amount of the dong was deposited with credit institutions. Many People' Credit Funds leapt at this opportunity to defraud depositors of their money, thus leading credit crashes in 1990-91. As a result, the economy fell into crisis.

Figure II.1. Nominal and black-market exchange rate, VND/USD, 1989-2007:3



Note: Monthly average exchange rate. An upward trend means depreciation of the dong. The black-market exchange rate is selling exchange rate in Hanoi.

Source: SBV and Nguyen, Van Tien (2002).

The floating exchange rate regime contributed to narrow the spread between the official and black-market exchange rate. However, the nominal depreciation of the dong together with the credit crashes and increase in inflation caused disorders in the economy. To stabilize the economy and to create a nominal anchor to constrain inflation, in September 1991, the SBV began adopting a fixed exchange rate regime with horizontal band. The SBV intervened to revalue the nominal exchange rate from the peak of VND 14,000 at end-1991 to VND 12,000 per USD at early 1992, and then maintained fixed exchange rate around VND 10,000-11,000 per USD in 1993-96. Initially, the trading band was set at +/-0.5%. The stability of the exchange rate was considered as a nominal anchor to reduce inflation to very low level (from 67.5% in 1991 to 17.5 % in 1992, and 5.2% in 1993).

During the Asian financial crisis in 1997-98, the speculation of the U.S. dollar occurred again, leading to pressures on the demand for the U.S. dollar. As a result, the black-market exchange rate went up strongly that made spread between the official and black-market rate further larger (Figure II.1). The trading exchange rates of commercial banks were always set at upper margin. At the same time, in the aftermath of the Asian financial crisis, currencies of other countries in the region depreciated more than the dong in nominal terms (Table II.1), leading to real effective appreciation of the dong by 8% in 1998 compared to other currencies in the region such as China, Philippines, Malaysia, and Thailand (IMF, 2000b), which, among other things, was attributed to a fall in export in 1998 (from 26.6% in 1997 to 1.9% in 1998). Facing signals of recession of the economy in 1997-98 (slower export and economic growth, and pressure on the demand for foreign currency) as well as avoiding insufficient foreign currency reserves to intervene, the SBV had to devalue three times the dong by 16.3% from VND 11,040 per USD in December 1996 to VND 11,175 at end-1997, VND 11,800 in February 1998, and VND 12,998 in August 1998. Trading band was widened from +/-1% in December 1996 to +/-5% in February 1997 and +/-10% in October 1997. When the crisis was getting calm, the band was narrowed to 7% (one-side band) in August 1998 (Figure II.2). As a result, at early 1999, the official exchange rate moved closer to the black-market exchange rate.

Table II.1. Exchange rate depreciation during the Asian financial crisis 1997-98

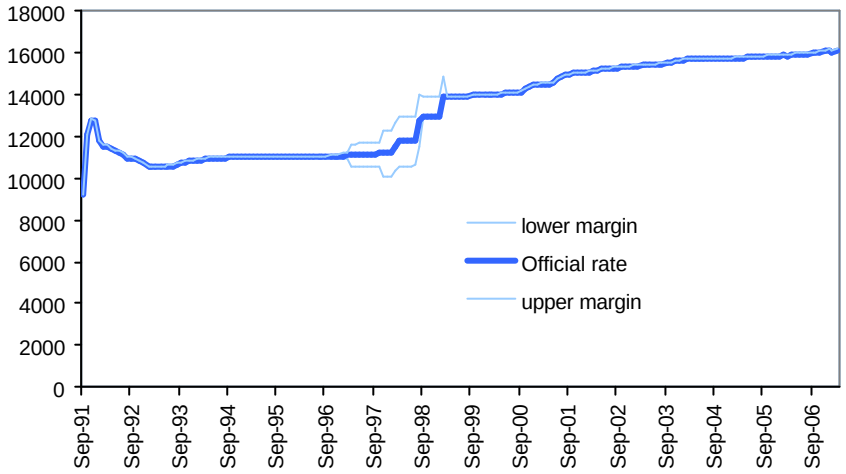
	National currency versus USD (%)		National Currency versus VND (%)	
	July 1997-May 1998	July 1997-March 99	July 1997-May 1998	July 1997-March 99
Dong	10	16	-	-
Baht	36	33	29	20
Ringgit	35	34	27	21
Won	37	28	30	14
Rupiah	77	73	74	67
Peso	30	32	25	20

Source: UNDP

Until early 1999, the SBV fulfilled two tasks in the management of fixed exchange rate. First, it had stabilized the exchange rate in 1992-96 contributing to stabilize macro economy and to control inflation. Second, it had adjusted the official exchange rate to be closer to the market value at early 1999. However, the SBV found that frequent adjustments of the official

exchange rate and its trading band induced the public's scepticism about the sustainability of the exchange rate regime. In addition, the SBV still announced the exchange rate in the interbank foreign exchange market in parallel with the management and announcement of the official exchange rate. Hence, on February 26, 1999, the SBV introduced a managed floating exchange rate regime. Under this regime, the SBV announces the official exchange rate in the interbank foreign exchange market (hereafter referred as interbank-foreign-exchange-market exchange rate), which is set as the average transaction exchange rates in the interbank foreign exchange market of the previous day. Based on the previous day's interbank-foreign-exchange-market exchange rate, credit institutions with foreign exchange license set the trading exchange rate within margin of +/-0.1% (+/-0.25% from July 2002 to December 2006, and +/-0.5% since January 2007).

Figure II.2. Official exchange rate and trading band, VND/USD, 1991-2007:3



Source: SBV

II.2. Characteristics of the exchange rate regime since 1999

II.2.1. Institutional framework of the exchange rate regime

In this section, I describe some stylized facts about the institutional framework of the exchange rate regime in Vietnam.

- Exchange rate of the Vietnamese dong against the U.S. dollar announced by the SBV is built in the interbank foreign exchange market, whose participants are the SBV and credit institutions with licence for foreign exchange;

- De facto fixed exchange rate of the Vietnamese dong against the U.S. dollar and floating exchange rates of the dong against non-USD currencies (the actual, de facto regime classified by the IMF may be different from what the country officially announces);
- The SBV has intervened in the interbank foreign exchange market to stabilize the exchange rate;
- Significant fluctuation of real exchange rate;
- Beside the interbank foreign exchange market, there is also a foreign exchange market between banks and their customers, whose trading exchange rate is allowed to fluctuate within a band determined by the SBV;
- The black foreign exchange market exits because the private sector is restricted to access foreign exchange;
- Current account transaction is liberalized, but capital account transaction is restricted; and
- Foreign exchange market is underdeveloped, modern transactions are still a few.

II.2.1.1. Exchange rate of the Vietnamese dong against the U.S. dollar announced by the SBV is built in the interbank foreign exchange market, whose participants are the SBV and credit institutions with licence for foreign exchange

Since February 1999, the SBV has announced daily the average transaction exchange rate against U.S. dollar in the interbank foreign exchange market. The daily interbank foreign exchange market exchange rate is a basis for credit institutions to set their trading exchange rates vis-à-vis the U.S. dollar for the next transaction day plus/minus a margin determined by the SBV. Participants of the interbank foreign exchange market include State-owned Commercial Banks (SOCBs) and private banks, which have foreign exchange license (see Appendix II.3).

II.2.1.2. De facto fixed exchange rate of the dong against the U.S. dollar and floating exchange rates of the dong against non-USD currencies

Although Vietnam has officially adopted a managed floating exchange rate regime since 1999, the Vietnamese dong has been de facto pegged to the U.S. dollar. The actual annual nominal exchange rate depreciation against the U.S. dollar was gradually reduced from around 8% at end-1999 (in comparison with that of end of previous year) to 4% in 2000-01, 2% in 2002-03, and around 1% in 2004-06 (see Appendix II.2).

According to the IMF de facto classification, a conventional fixed peg is defined as the exchange rate fluctuates within +/- 1% band around a central rate or the maximum and minimum value of the exchange rate falls within 2% for at least three months (IMF, 2005d). Based on the SBV's announcements in August 2004 and January 2005 about the limitation of the exchange rate depreciation within 1% and the actual nominal depreciation of the exchange rate performance (within 1% since 2004), the IMF has classified the exchange rate regime as a de facto conventional fixed peg since 2005.

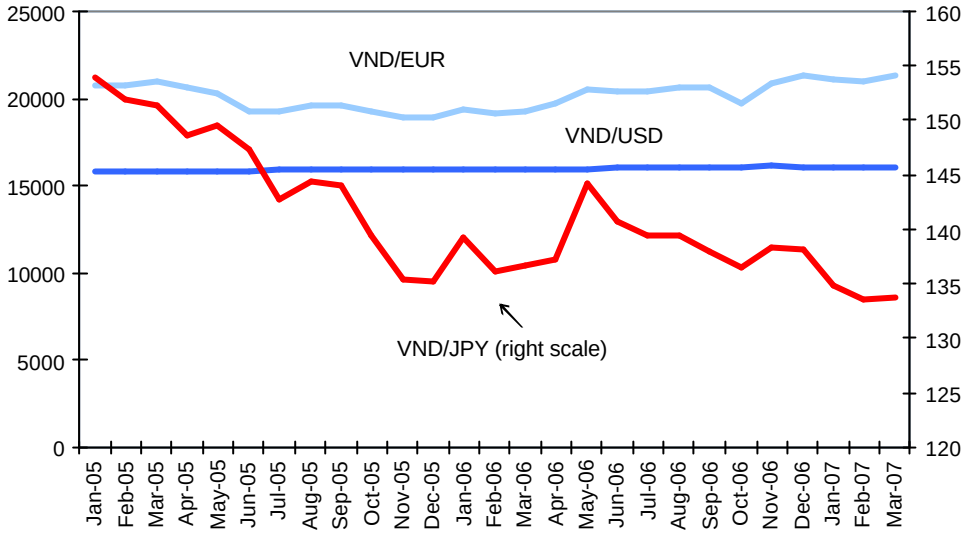
Klein and Shambaugh (2006) define a fixed peg as monthly exchange rate change falls within +/-2 % band at the end of each month and over the calendar year (January-December). Calvo and Reinhart (2000) compare the volatility of changes in exchange rate with the thresholds of 1% and 2.5%. The greater the probability of exchange rate change falls within the band, the less is the floating exchange rate. As my calculation, the probability of monthly percent change of the nominal exchange rate in Vietnam within +/-1% band is 97% and 100%, respectively, in two sub-periods (Table II.2). These shares are higher than the benchmark of the United States and Japan as pure float defined by Calvo and Reinhart (2000). Regarding 2% and 2.5% threshold, the probability is 100%. In both sub-periods, the number of observations is higher than that of the U.S and Japan and that of other Asian countries. The actual behaviour of the nominal exchange rate regime shows that the Vietnamese dong has been de facto pegged to the U.S. dollar. Exchange rates of the Vietnamese dong against non-USD currencies are floated (Figure II.3).

Table II.2. Exchange rate volatility in managed floating exchange rate regime

		Probability that the monthly percentage change in nominal exchange rate falls within	
		±1% band	±2.5% band
US	**February 1973 - April 1999**	**26.8%**	**58.7%**
Japan	**February 1973 - April 1999**	**33.8%**	**61.2%**
Indonesia	November 1978 - July 1997	96.4%	99.1%
Korea	March 1980 - October 1997	80.1%	97.6%
Malaysia	December 1992 - September 1998	59.4%	81.2%
Singapore	January 1988 - April 1999	61.5%	81.9%
Vietnam	January 1999 - July 2004	97.0%	100.0%
	August 2004 - March 2006	100.0%	100.0%

Source: Calvo and Reinhart (2000). Data for Vietnam is author's calculation based on data from the IFS and the SBV.

Figure II.3. Dong's bilateral exchange rates against USD, EURO and Japanese Yen



Note: Monthly average selling exchange rates of commercial banks. An upward trend means a depreciation of the Vietnamese dong.

Source: SBV

II.2.1.3. The SBV has intervened in the interbank foreign exchange market to stabilize the exchange rate

To stabilize the exchange rate, the central bank can use two policy instruments such as interest rate and foreign exchange reserves. In Vietnam, the SBV tends to intervene in the foreign exchange market to regulate the exchange rate regime. There is the evidence that in recent years the SBV has intervened in the foreign exchange market to limit the volatility of the exchange rate.

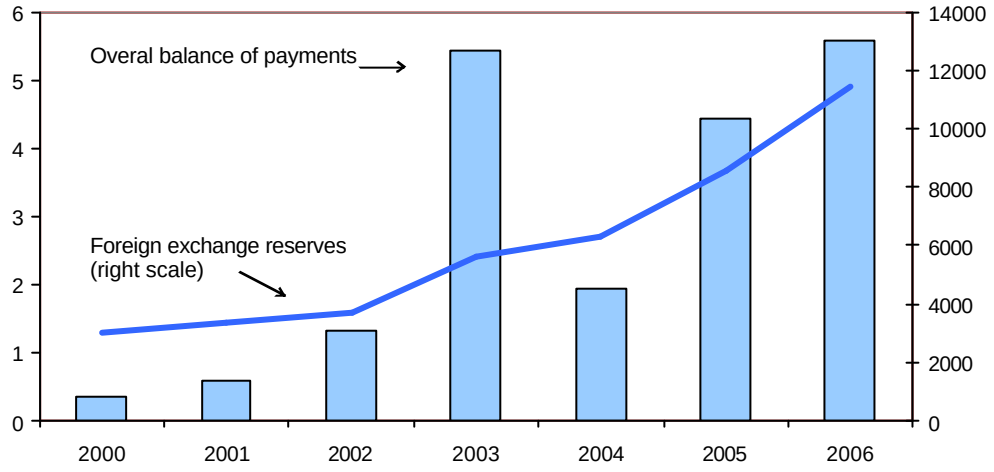
First, the SBV two times announced its limitation of the exchange rate volatility in 2004 and 2005. That means the SBV expressed in words that they would intervene to stabilize the exchange rate.

Second, let see the performance of balance of payments and foreign exchange reserves since 2004. In parallel with the increase in capital inflows, foreign exchange reserves have been also increased (Figure II.4). In theoretic speaking, increase in capital inflows leads to excess supply in the U.S. dollar, thereby an appreciation of the nominal exchange rate. However, in

fact, the nominal exchange rate and nominal effective exchange rate depreciated in this period (Figure II.5). That means the SBV has intervened to maintain the fixed exchange rate.

Third, let see the interest rate instrument. In 2005, the SBV three times raised the refinancing- and discount interest rate (Figure II.6). In theoretical speaking, an increase in interest rates will encourage capital flows pouring into Vietnam. Increase in capital inflows, in turn, will lead to the appreciation of the nominal exchange rate. In fact, the nominal exchange rate depreciated as mentioned above. Thus, the action of raising the interest rate did not aim at regulating the exchange rate, rather controlling inflation. Therefore, it is can be concluded that the SBV has intervened in the foreign exchange market by buying and selling foreign exchange reserves to stabilize the exchange rate.

Figure II.4. Vietnam: Balance of payments and foreign exchange reserves, 1999-2006



Note: Balance of payments in percent of GDP, foreign exchange reserves in millions of U.S. dollars, data for 2006 is projected.

Source: IMF (2003c and 2006c)

II.2.1.4. Significant fluctuation of real exchange rate

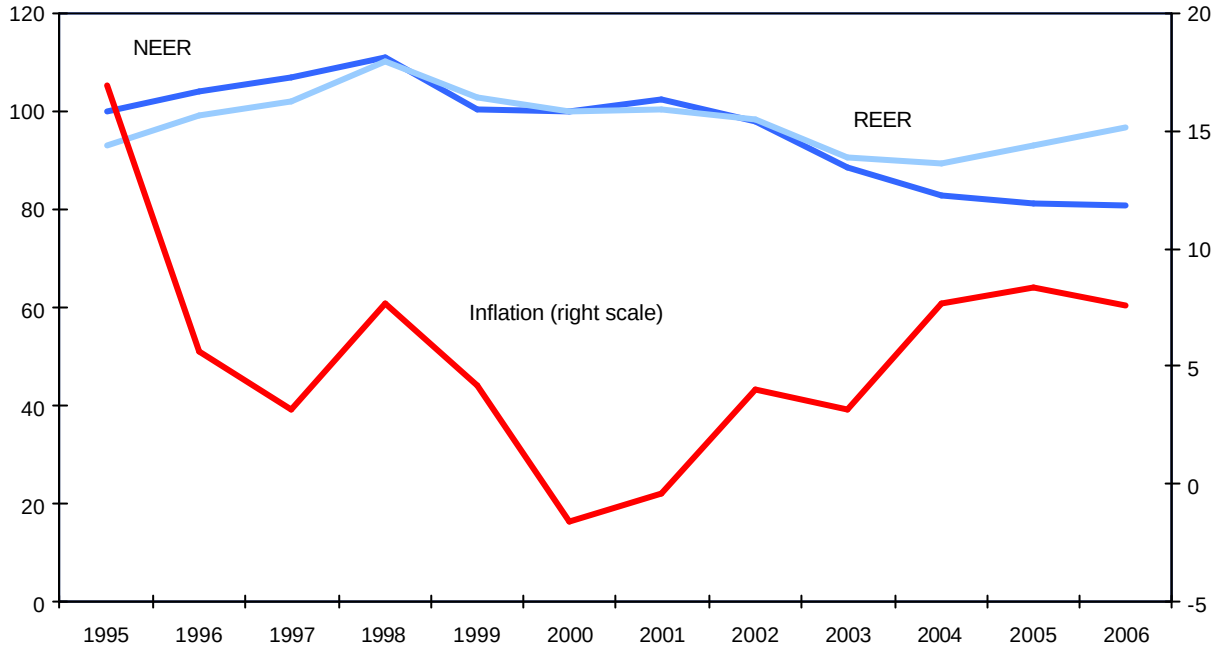
The appreciation of real effective exchange rate (REER) during 1995-98 (Figure II.5) resulted from high inflation rate and strong capital inflows including foreign direct investment (FDI) and export receipts (IMF, 2003b and 2006d). In the aftermath of Asian financial crisis, currencies of other countries in the region depreciated more than the Vietnamese dong in nominal terms, leading to real appreciation of the dong in 1998. In the wake of the Asian crisis, the Vietnamese dong was under downward pressure because the capital inflows

reversed (FDI and export growth decreased), which made the NEER and REER depreciated in 1999. The NEER and REER were relatively stable in deflation episode 2000-01 (deflation episode) when export recovered. In sum, the REER appreciated by more than 30% in 1992-2000 (IMF, 2006d).

The REER has moved greatly in recent years without attentional long-term trend. The REER depreciated largely by 11.5% in 2002-04. The REER has been reversed by the appreciation since end-2004 and now, it has returned close to the level of 2001 (Figure II.5 and Table II.3). The depreciation of the REER in 2002-04 was attributed to the depreciation of the U.S.dollar against other major currencies (IMF, 2005b, p.8). In addition, the opening up of the economy to international trade is also considered as a reason making the REER depreciated (IMF, 2006d, p.55). The appreciation of the REER has resulted from high inflation since end-2004. IMF (2006c, p.30) notes that the appreciation of REER has not affected external competitiveness (given a data limitation). This is reflected by increasing share of Vietnam in world and Asia export market since 1999, though exchange rate movements had have no noticeable long-term trend. One of the most important things to enhance external competitiveness is to foster structural reform and to improve infrastructure in order to reduce costs of production, including office rent, electricity, transportations, and telecommunications costs.

The current movements of REER are consistent with economic fundamentals. Empirical study of IMF (2006a, p.12 and 2006d, p.55) finds that the Vietnamese dong currently does not appear to be significantly misaligned. The movements of REER are consistent with the Purchasing Power Parity and with key fundamentals, which are considered as net foreign assets (NFA) of the banking system and the terms of trade. An increase in NFA of 1% of GDP leads to an appreciation of REER of 2%. Higher NFA means higher income from foreign assets. With more available income in hand, the domestic consumption will be stimulated, which in turn puts upward pressure on price level and real exchange rate. Similarly, a 1-percent increase in terms-of-trade shock results in 0.6-0.7-percent increase in the REER. A rise in the price of export leads to an increase in income and in production and labour of export sector, and stronger balance of payment, which makes the price level and the REER under upward pressure (order an increase in productivity in tradable sector brings about higher wages and higher prices of non-tradables).

Figure II.5. Vietnam: Effective exchange rate indices (2000=100) and inflation (%)



Source: IMF (2002a, 2002b, 2003a, 2003c, 2006c, and 2006e) and GSO.

Table II.3. Effective exchange rate, 1995-2006

	Period average				End of period	
	Annual percentage change		2000=1000		Annual percentage change	2000=100
	NEER	REER	NEER	REER	REER	REER
1995	-5.6	6.5	100.0	93.0	8.9	95.5
1996	4.0	6.6	104.0	99.1	3.7	99.0
1997	2.8	2.8	106.9	101.9	12.7	111.6
1998	3.7	8.0	110.9	110.0	-9.4	101.1
1999	-9.7	-6.5	100.1	102.9	-3.2	97.8
2000	-0.1	-2.8	100.0	100.0	2.2	100.0
2001	2.2	0.1	102.2	100.1	0.4	100.4
2002	-4.4	-1.8	97.7	98.3	-5.5	94.9
2003	-9.4	-7.9	88.5	90.6	-9.0	86.3
2004	-6.7	-1.4	82.6	89.3	1.1	87.3
2005	-1.8	4.3	81.1	93.1	13.0	98.6
2006	1.6	7.5	80.9	96.7	4.3	-

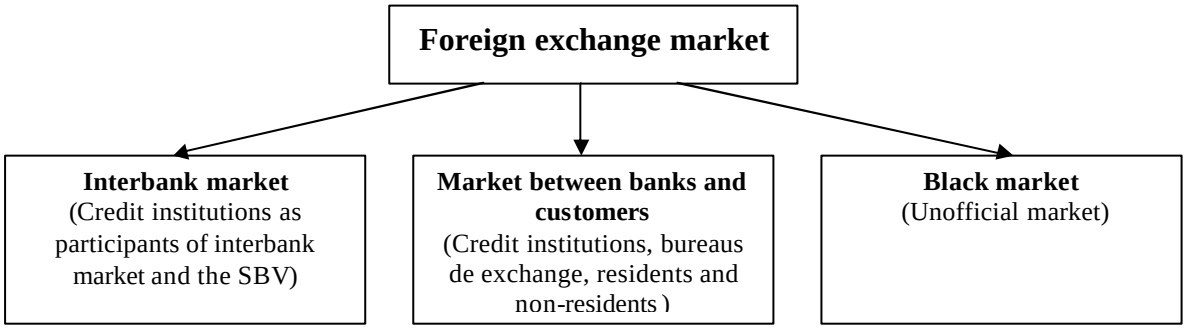
Note: "-": depreciation. Data of 2006 is as of end-June and compared with Jan-June 2005

Source: IMF (2002a, 2002b, 2003a, 2003c, 2006c, and 2006e).

II.2.1.5. Beside the interbank foreign exchange market, there is also a foreign exchange market between banks and their customers, whose trading exchange rate is allowed to fluctuate within a band determined by the SBV

Vietnam's official foreign exchange market consists of an interbank foreign exchange market, where authorized dealers (credit institutions with foreign exchange license and the SBV) trade among themselves, and a market where authorized dealers (credit institutions with foreign exchange licences) transact with customers (credit institutions with foreign exchange license, bureaus de exchange, residents, and non-residents). The structure of foreign exchange market is described in Chart II.1.

Chart II.1. Structure of foreign exchange market in Vietnam



Source: Ordinance on foreign exchange management No.13/2005/PL-UBTVQH 11 dated 13 December 2005.

The trading exchange rate against the U.S. dollar between banks and their customers is allowed to fluctuate with a band of +/-0.5% (from January 2007) from the previous day's interbank-foreign-exchange-market exchange rate. This band is stipulated by the SBV.

II.2.1.6. The black foreign exchange market exits because the private sector is restricted to access foreign exchange

In Vietnam, foreign exchange is only allowed to transact through banks (credit institutions) and bureaus de exchange with foreign exchange authorization. All transactions outside the official system mentioned above are considered as illegal. However, the black market still exists and accounts for 20% of total foreign exchange transaction volume (Nguyen, Van Tien, 2002). Market segmentation (the existence of the black market) can hamper monetary policy management because of difficulties in forecasting the money supply of the economy, reduce liquidity, and constrain financial sector development. Moreover, the operation of the black

market abets illegal economic activities e.g. smuggling, corruption, cross-border illegal remittances of foreign currency, and money laundering. Some factors make the parallel market exist:

- Resulting from the limitation for private sector to access foreign exchange of credit institution in the past, the official foreign exchange market has not met all demands for foreign exchange, especially demands of households and individuals, who want to study, cure, and travel abroad but were not legally allowed to access foreign exchange in banks. Recently, they have been allowed to buy foreign currency in banks for some purposes as regulated by the SBV, but rigid conditions make them hesitate to transact through banks, for example, submission of required documents, the obligation of opening an account with banks. Hence, households and individuals continue buying foreign currency in the black market, which favours the development of the black foreign exchange market.
- Large inward remittances from abroad, dollarization, illegal economic activities and incomes, and the preference for the dollar make foreign exchange transactions become common in the economy, which create favourable conditions for the black market to live and develop.

II.2.1.7. Current account transactions are liberalized, but capital account transactions are restricted

Current account transactions are liberalized by accepting the obligations of Article VIII, Sections 2, 3 and 4 of the IMF's Articles of Agreement, with effect from November 8, 2005. Vietnam continues to impose restrictions on capital account transactions. Main regulations are summarized in Appendix II.4. Vietnam also maintains exchange restrictions for security reasons and has notified the IMF on April 5, 2005 that those restrictions are pursuant to Executive Board Decision No. 144 (52/51). Those are, measures have been taken to impose restrictions on financial transactions and to freeze accounts belonging to individuals and entities associated with terrorism in accordance with UN Security Council resolutions, and the list of current terrorist organizations maintained by the U.S. Secretary of State (IMF, 2005d).

Capital account transactions are still limited (controls on capital account, see Appendix II.4). However, capital account liberalization is in progress. Vietnam will open progressively the capital account by 2010 in association with opening the financial market. The opening of the

financial market will be consistent with Vietnam-U.S. Bilateral Trade Agreement, ASEAN Framework Agreement on Services (AFAS), and Vietnam's commitments in conformity with WTO/GATS. [4] Accordingly, the first step of opening the financial market is that Vietnam will liberate foreign entry into banking system from April 2007 (allow foreign investors to establish 100% foreign-invested banks in Vietnam). By 2009, Vietnam has to open totally its financial market. The Vietnamese dong will be made full convertible by 2010. Current account liberalization in 2005, the opening of the financial market in 2007, full convertibility of the Vietnamese dong in 2010 and partial capital account liberalization in the coming years show the increasing integration of Vietnam into global financial market.

At present, Vietnam is assessed that the economy is most vulnerable to shocks to the current account (IMF, 2006d, p.49). However, in association with the progress of capital account liberalization, vulnerability to the capital account and the financial sector is increased. For example, the portfolio inflows by foreign investors are already largely liberalized. The main restrictions are (i) all portfolio transactions by foreign investors must go through accounts with banks in Vietnam and must be in the Vietnamese dong; (ii) foreign investors are allowed to hold up to 49% of an issuer's listed current shares (up to 30% of credit-institutions issuers). However, there is no restriction on portfolio outflows by foreign investors. That means the portfolio inflows could stop or flight out of the country at any time when there is a distress in the market, [5] which put pressures on the SBV to defend the fixed exchange rate regime. The stability of financial sector may expose to withdrawal of foreign-currency deposits from banks by domestic agents because of the liberalization of portfolio outflows, which thereby makes it more difficult to the SBV to respond to this shock.

In short, although the liberalization of current account and progressive liberalization of capital account in Vietnam may expose the economy to current- and capital account shocks and financial instability, this liberalization and its exposures are unavoidable trend in the desire of integration into international trade and financial markets by the economy.

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[4] Decision No112/2006/QD-TTg dated May 24, 2006 on ratifying project for developing Vietnamese banking sector to 2010 and orientation to 2020.

[5] Although there have been not yet restrictions on capital outflows, the flight of capital flows out of the country may be slowed down because foreign investors must buy foreign exchange from banks to bring them out of the country, but banks may have not enough foreign exchange to sell to foreign investors since banks are limited by foreign exchange positions stipulated by the SBV. Nevertheless, this circumstance would not prevent the reversals of capital flows.

II.2.1.8. Foreign exchange market is underdeveloped, modern transactions are still a few

Vietnamese foreign exchange market is underdeveloped in terms of volume transactions, modern transactions, the number of participants and orders, and banking payment system.

Transactions between banks in the interbank foreign exchange market and transactions between banks and their customers are still small. The annual transaction between banks averages USD 3.4 billion in 1999-2005.[6] In episode 1999-2002, transaction volume between banks in the interbank foreign exchange market increased slowly, even slightly decreased in two years 2001-02 (Table II.4). Since 2003, interbank transaction volume between banks has risen faster because the supply of foreign exchange has been abundant [7] and the SBV has improved the environment for foreign exchange transactions, for example abolishing the ceiling on forward transactions, expanding forward terms (3-365 days) [8] and allowing more eligible customers to conduct foreign exchange transactions with credit institutions (SBV, 2004). The annual average transaction volume between banks and customers in 2002-05 is USD 22.4 billion [9] and covers only 44% of total value of export and import. Small transaction volume arises from reasons as follows (for more details, see Chapter IV, IV.1.2.1):

- In period 1999-2002, there was excess demand for foreign exchange. Foreign currency's priority is given to SOCBs to meet the demand for strategic imports e.g. gasoline, fertilizer, and insecticide, whereas the supply of foreign currency was low and mainly relies upon export earnings, foreign exchange conversion of foreign currency holders (e.g.

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[6] For example, interbank transactions in Taiwan account for 62.7% of total transactions in Taipei foreign exchange market, about USD 10.7 billion daily (www.cbc.gov.tw).

[7] Excess supply of foreign exchange since 2003 has been attributable to a continuing depreciation of the U.S. dollar against other major currencies, lower USD deposit interest rate than that of VND, and the lowest depreciation rate of VND have encourages foreign currency holders to convert from foreign currency into Vietnamese dong. Furthermore, the supply of foreign currency rapidly has increased thanks to increase in export earnings and inflows of overseas remittances since 2003.

[8] Decision No.1452/2004/QD-NHNN dated 10 October 2004 of the SBV on foreign exchange transaction of authorized credit institutions.

[9] For example, transaction volume between banks and customers in Taiwan was USD 133.7 billion in December 2006 (www.cbc.gov.tw).

foreign investors, individuals having legal earnings in the U.S. dollar) into Vietnamese dong, foreign currency deposits of the public, and the SBV'S selling foreign currency to banks. Therefore, banks always held their foreign currency to meet their clients' demands and had not redundant foreign currency to trade in the interbank foreign exchange market. Foreign currency transaction in the interbank foreign exchange market was mainly the SBV's selling foreign currency to banks to meet demand for import payments, accounting for 60% of total transaction volume (SBV, 2000-2005).

Table II.4. Vietnam: Transaction volume of foreign exchange market, 1999-2005

	Interbank transaction volume between banks	Transaction volume between banks and customers	
	in billions of U.S dollars	in billions of U.S dollars	in % of export and import
1999	2.54	n.a	-
2000	2.77	n.a	-
2001	2.75	n.a	-
2002	2.57	18.54	53.8
2003	3.60	22.80	53.2
2004	4.10	25.08	42.9
2005	5.29	23.22	33.4

Note: in billions of U.S.dollars. Vietnam's official foreign exchange market consists of the interbank foreign exchange market and the foreign exchange market between banks and customers. Transactions in the interbank foreign exchange market include transactions between banks and transactions between the SBV and banks.
Source: Author's calculation based on SBV (2000-2005)

- Exchange rate rigidity hinders the development of the foreign exchange market. According Sarr and Lybek (2002), a liquid market tends to exhibit five characteristics: tightness (low transaction costs), immediacy (efficient trading, clearing, and settlement systems to facilitate the swift execution of orders), depth (existence of abundant orders), breadth (orders are both numerous and large in volume with minimal impact on price of individual trades), and resiliency (a wide range of active market participants to ensure that new orders flow quickly to correct order imbalances and misalignments). A fixed exchange rate hinders the development of a deep and efficient foreign exchange market because the intervention of the central bank to fix the exchange rate does not create an incentive for the public to participate in the market, to form views on the exchange rate trend, to take positions, or to manage the exchange rate risks. These may lead to scarce orders (transactions) and small market participants taking part in the foreign exchange market (more details, see Chapter IV, IV.1.2.1).

- Activities of intermediaries, who contribute to accelerate foreign exchange transactions and determine the exchange rate, in the interbank foreign exchange market do not bring into full play.

Derivative transactions play an important role in the exchange rate risk management because they are hedging instruments against exchange rate risks. Maintaining the fixed exchange rate leads to the underdevelopment of the derivative transactions because fixing exchange rate does not create perception for market participants to hedge them against exchange rate risk. This is a typical characteristic of the foreign exchange market under fixed exchange rate regime. Thus, modern transactions in Vietnam are still few and underdeveloped.

Modern transactions make up only a small share in the interbank foreign exchange market and in the foreign exchange market between banks and customers. Forward and swap transactions accounted for 7.5% of total transaction volume in the interbank foreign exchange market in period 2001-2003. Although derivatives transactions have developed fast since 2004, (forward transaction was doubles and swap transaction was six-fold in 2004; forward and swap transaction increased by 15% (SBV, 2000-2005)) derivatives products and derivatives transaction are limited. Some factors keep modern transactions underdeveloped as follows:

- Both credit institutions and enterprises are not yet familiar to modern transactions to hedge themselves against exchange rate risk. Therefore, personnel capacity, financial ability, and technological infrastructure to use these derivatives instruments are weak.
- There has not been a legal framework regulated on derivates market and instruments. Only one legal document creating favourable conditions to adopt derivatives transactions, has been just issued in November 2004 (Decree 1452). Modern transactions are firstly usually piloted in some credit institutions.
- Export-import value is still small and the U.S. dollar is mainly used in international payments (80%), whereas the exchange rate against dollar is relatively stable or depreciates at low level. This does not encourage exporters and importers to use hedging instruments.
- Strict regulations on procedures and ceilings on forward rate had discouraged the development of modern transactions (see Appendix II.5). This can be proved by a dramatic increase in forward and swap transactions in 2004 after abandoning the ceiling on forward rates and expanding forward terms (Decision No.648 on May 28, 2004).

The number of participants in the interbank foreign exchange market is small. By the end of 2005, there are about 59 participants of the interbank foreign exchange market.[10] The number of active participants is also small. The main actors are the SBV and four SOCBs. In many transaction sessions, there were only 5 banks taking part in the transaction session. Banks tend to transact in one way in the interbank foreign exchange market, that means some banks specialize in selling (Bank for Foreign Trade, Industrial and Commercial Bank), others in buying (Bank for Agriculture and Rural Development). The SBV is the important player in the market, buying and selling foreign exchange whether on its own behalf or on the behalf of the Government. The SBV participates in the market as a last resort lender to intervene for the purpose of the monetary policy. In 1999-2002, the amount of foreign currencies transacted between the SBV and members accounted for respectively 29%, 65%, 68%, and 60% of total transaction value in the interbank foreign exchange market, of which the SBV mainly sold foreign currencies to meet demand for import payments. Since 2003, the SBV has acquired a considerable amount of foreign currencies to accumulate its international reserves. This results from the strong capital inflows in Vietnam in recent years. In addition, the SBV met timely all foreign currency requirements for the importation of petroleum and other essential goods as well as foreign investors' needs for converting foreign currency into domestic currency (SBV, 1999-2002). However, if the SBV usually intervenes in the market, it would reduce incentives for market participants to use hedging measures to protect themselves against exchange rate exposures because they could think that the SBV would intervene to stabilize the exchange rate, thereby constraining the development of the foreign exchange market.

Payment systems, including electronic-based interbank payment system of the SBV and internal payment system of commercial banks, have been improved in recent years. Project of banking and payment system modernization, which has been funded by World Bank since 1994, has been contributed to strengthen the capacity of the payment system and will create conditions for the development of modern and multifunctional banking products and assist the SBV in conduct monetary policy. More concretely, this system allows SBV to oversee immediately the reserve funds through account balances of banks taking part in the system. It

[10] Vietnam's credit institutions system includes 6 SOCBs, 37 joint stock commercial banks, 31 branches of foreign banks, 5 joint venture banks, 6 financial companies, 10 financial leasing companies, 45 foreign representative offices, 1 central people's credit fund, and 926 local people's credit funds (www.sbv.gov.vn).

also assists the banking system to minimize flows of funds drifted in payment system and accelerates fund flows. Further, it provides timely and accurately the SBV with information on fund flows, balances of settlement accounts and settlement of capital transactions, thereby improving the efficiency of monetary policy performance. This project allows, now, participation of 52 banks (including 6 SOCBs and 46 banks) with almost 200 branches.[11] The daily number of transactions through electronic-based interbank system is 5,625 with daily average total value of USD 635 million (SBV, 2004 and 2005).

The banking payment services have developed impressively. The number of individual account was 5 million accounts at end 2005 as compared with 1.3 million accounts at end-2004. Card market has grown very fast with more than 2 million cards has been issued in 2005 in comparison with 21 thousand cards as of end 2002. Technological infrastructure for card market has been enlarged with 1,200 ATMs, 10,000 devices (EDS and POS) and more than 11 thousand card acceptance points as of end 2005. Banks have attained some achievements in providing electronic payment services such as home banking, mobile banking, phone banking, and internet banking.

However, the modernization in Vietnamese banking system has been still behind other Asian countries. The effectiveness of banking payment system not only depends on capacity of banks, but also on the level income of inhabitants, financial capacity and ability to adopt technological facilities in banking operations. For example, modern payment system focuses on large cities. Banks' legal capital is not large enough to equip and apply modern banking technologies, whereas banks are not allowed to equip fixed assets excess 50% of total their own capital as regulated in the Law on Credit Institutions. In banks that already have equipped modern banking technologies, ability to apply and make full use of modern features is also limited. Therefore, banking and payment modernization system has focused on SOCBs and joint stock commercial banks. In short, banking payment system has been modernizing and still not synchronizing in the whole system as well as not yet meeting all the requirements of the economy.

[11] Vietnam's credit institutions system includes 6 SOCBs, 37 joint stock commercial banks, 31 branches of foreign banks, 5 joint venture banks, 6 financial companies, 10 financial leasing companies, 45 foreign representative offices, 1 central people's credit fund, and 926 local people's credit funds.

II.2.2. Monetary policy framework

Some stylized facts of monetary policy are as follows:

- The central bank, SBV, is not yet an independent organ from the Government and required to finance the government deficit.
- The monetary policy objectives are all-embracing and conflicting (economic growth, competitiveness, price - , currency - and financial system stability).
- The SBV has recently used indirect instruments in implementing monetary policy, of which reserve requirements are given priority, OMO and central bank lending facilities have been used only gradually because of underdeveloped stock market.
- The ability of the SBV to control interest rate is limited because international interest rates have affected domestic interest rates under fixed exchange rate regime despite limited capital account liberalization.
- Some reasons impede the conduct of monetary policy in Vietnam are:
  - The SOCBs frequently operate on a non-commercial basis (with a culture of policy lending subject to direct government interference).
  - The stock market has developed still a little.
  - The relationship between monetary and economic variables is instable.
  - Statistic information has not yet been sufficient.

Some functions of the SBV in monetary and exchange rate management according to Decree No.86/2002/ND-CP dated November 5, 2002 on functions of the SBV and Decree No.52/ND-CP dated May 19, 2003 on functions of Ministries and Ministry-equivalent authorities, as follows:

- Making the monetary and exchange rate policy;
- Issuing and revoking the operation licence for credit institutions;
- Supervising banking and credit activities;
- Managing foreign debts, foreign exchange reserves, foreign exchange and gold;
- Building and supervising the balance of international payments;
- Organizing the monetary market, acting as a last resort lender to intervene for the purpose of the monetary policy;

- Buying and selling foreign exchange in order to support export and import of some strategic commodities such as crude oil, gasoline, steel, cement and so on;
- Refinancing, implementing Open Market Operations (OMO);
- Organizing banking payment and information system.

II.2.2.1. The central bank is not yet an independent organ from the Government and required to finance the government deficit

From the legal aspect, the SBV of Vietnam is not yet an independent organ from the Government. Law on the State Bank of Vietnam 1997 (Article 1) sets out the position, functions, and objectives of the SBV and says that the SBV is a government body, thus leading to the control of the Government over the structure, functions, budget, managements, and legal framework of the SBV. The Governor is always a member of the Government (a Minister), elected and dismissed by the National Assembly under the Government's proposal. Governor's term follows the term of the Government and the National Assembly.

The Constitution 1992 (Article 84) and the Law on the State Bank of Vietnam (Article 3) stipulate that the National Assembly regulates monetary policy and the annual inflation rate based on the Government's plan. In addition, the SBV also has to implement the output target stipulated by the National Assembly. That means in the formulation and execution of monetary policy, the SBV has not yet the right to define freely the goal of monetary policy. The SBV is only the body who develops plan for monetary policy on behalf of the Government to submit the National Assembly for approval (see Appendix II.6).

Additionally, the SBV is required to finance the government deficit arising from increase in government spending due to corruption and misspending, and other non-profit measures to improve well-being or aim at other targets. For example, the SBV extends non-warranted loans to the SOCBs to restructure these commercial banks, i.e. freezing, rescheduling, and writing off their debts, and providing liquidity for SOCBs' lending to policy purposes and state project etc. Thus, it can be said that the SBV losses its independence in all three areas: personnel independence, policy independence, and financial independence.

II.2.2.2. The monetary policy objectives are all-embracing and conflicting (economic growth, competitiveness, price - , currency - and financial system stability).

Monetary policy is guided by a number of all-embracing objectives, including currency-, price- and financial system stability, the safety of monetary and banking system, economic growth, and socio economic development (Law on the SBV 1997, Article II).[12] The exchange rate policy aims at promoting exports, limiting imports, attracting capital inflows and accumulating foreign exchange reserves. The SBV has always announced paid much attention to maintain a favourable exchange rate for exporters because the economic growth is led by export (to avoid exchange rate misalignment). These monetary and exchange rate objectives are conflicting. For example, a supply-side shock makes inflation increase. Increase in inflation also makes exchange rate depreciate. In order to implement the objective of stability, the government must maintain stability in the exchange rate. The SBV sells foreign exchange in the market, leading to an increase in the supply of foreign exchange, then a reduction in exchange rate (appreciation). SBV's intervention is to maintain exchange rate nearly fixed, while domestic inflation increases (higher than inflation in the United State), thus leading to real exchange rate appreciation. This, in turn, hampers export competitiveness and retards output growth. In addition, selling foreign exchange leads to a fall of money supply that means putting less money in the hands of customers, thus stifling spending, then reducing output. Moreover, due to increase in inflation, real interest rate decreases, and then deposit amount in banks decreases. Banks try to increase deposit rate in order to mobilize capital from the public and to acquire market share, thus affecting lending rate whereas the demand for capital from business firms does not increase. As a result, banks fall into interest rate "race" that affects business effectiveness of banks.

In conclusion, it can be said that it is very difficult to achieve simultaneously all objectives of monetary and exchange rate policy, especially when weak ability of the SBV to respond to shocks is further constrained by underdeveloped policy instruments (refinancing rate, discount rate, reserve requirements, and OMO) and the dominance of SOCBs that frequently operate based on non-commercial objectives.

[12] "… contribute to securing the safety of banking activities and the credit institutions system; enhance the socio-economic development in a manner consistent with socialist orientation" (Nguyen, Quang Thep, 2006).

Against this background, in response to increased inflation in Vietnam since early 2004, [13] the Government has combined monetary policy with other policies. The SBV has contracted monetary policy by raising required reserve ratio, prime, discount and refinancing interest rate, controlling credit growth and credit quality, guiding commercial banks to lend efficiently, issuing governmental bonds, and selling foreign exchange in the market to stabilize the exchange rate around VND 16,000 per USD. Besides, the Government also applied a range of administrative and fiscal measures to supplement the monetary policy. Those are lowering import tax on petroleum and steel products whose prices increase in international market, indemnifying gasoline import, applying saving measures, cutting down government expenditure and lending by SOCBs, restoring domestic fowls that were destroyed due to chicken flu epidemic, and tightening price control enforcement (Nguyen, Ngoc Tuan, 2005).

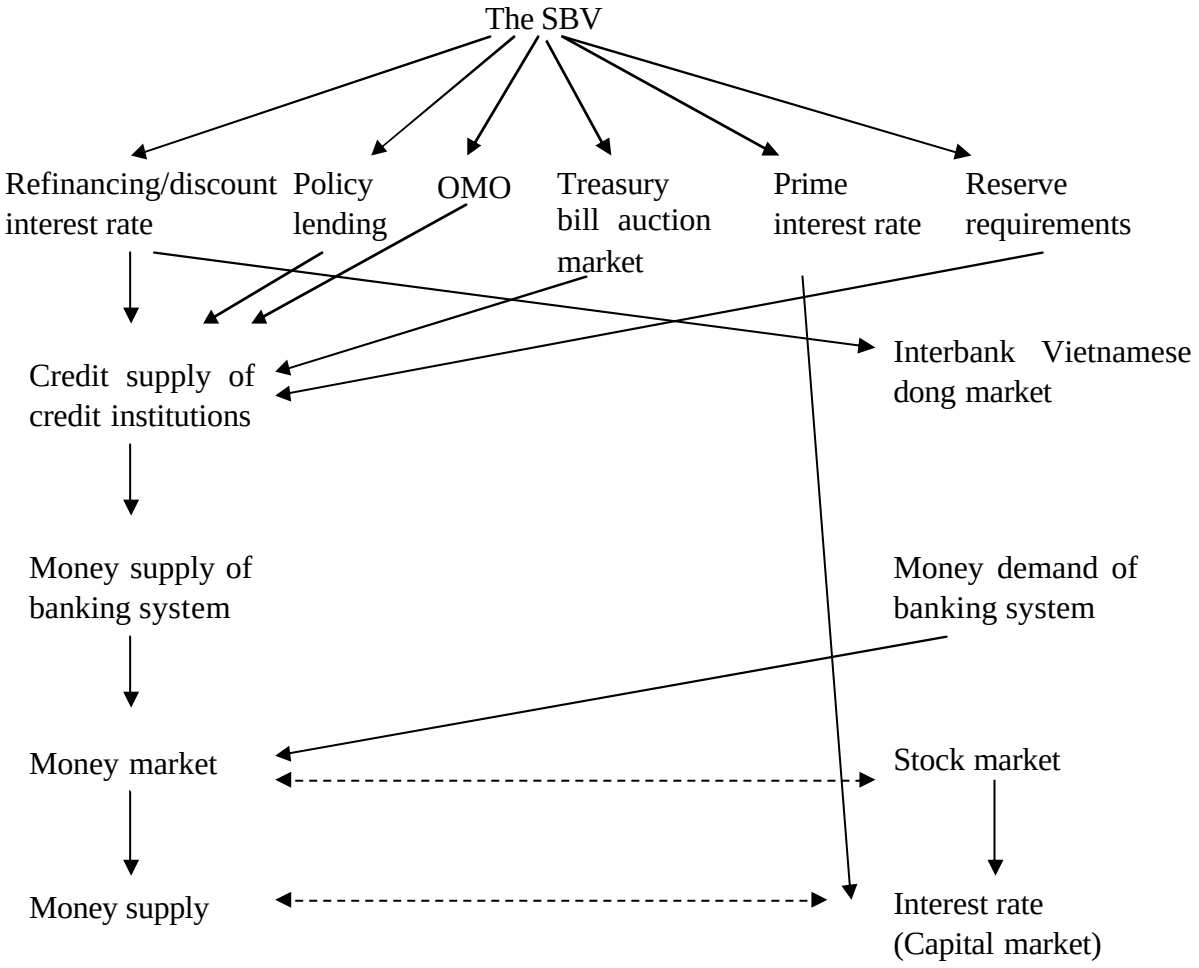
II.2.2.3. The SBV has recently used indirect instruments in implementing monetary policy, of which reserve requirements are given priority, OMO and central bank lending facilities have been used only gradually because of underdeveloped stock market

In implementing monetary policy, the central bank can use direct and indirect instruments. According to Alexander et al. (1996), the term "direct" refers to the one-to-one relationship between the instrument and the policy objective. Central banks, who use direct instruments, act directly in the market through setting regulations on prices (interest rate) or quantities (amount of credit outstanding), for example interest rate controls, credit ceilings, and directed/policy lending. In the transition process from a centrally planned economy to a market economy of developing countries, central banks shift from direct to indirect instruments (in many studies refer to market-based instruments), which are considered as more effective in increasingly open economy. By using indirect instruments, central banks as the issuer of reserve money act indirectly in the market by using their influence on money

[13] Increase in inflation rate has been attributable to: (i) increase in price of food and foodstuff due to increasing demand for consumption and export, whereas supply of food has been decreased because of avian influenza; (ii) export, investment and consumption have been increased continuously; (iii) increasing prices of input raw material and fuels (oil, petrol, iron, steel, fertilizer) lead to increase in cost of production and then goods prices; (iv) government's adjustment of petrol prices contributes to increasing cost of production; and (v) increase in wage for worker paid from State budget spilled over wage (by 5% to 10%) in private and FDI sector (SBV, 2005).

market, for example, adjusting the demand for and supply of bank reserves (Alexander et al., 1996). The three main types of indirect instrument are open market operations, reserve requirements, and central bank lending facilities, such as rediscount and refinancing.

Chart II.2. Vietnam: Monetary policy instruments



Source: Author

Although in Vietnam trading interest rates of credit institutions are liberalized and therefore influenced by foreign interest rate under fixed exchange rate, the SBV still uses direct and indirect monetary instrument to implement monetary policy, thereby regulating interest rate aiming at monetary policy objective (Chart II.2). At present, the SBV uses the prime interest rate and policy lending as direct monetary instruments. The prime interest rate was announced by the SBV since August 2000 to provide a reference rate for credit institutions and as an indicator for the market interest rate to regulate market interest rates (Figure II.6). However, this prime interest rate plays no role as the indicator for market interest rates because credit

institutions are freely to set their trading interest rates and always refer to interest rates in Singapore and London market to determine their trading interest rates. Therefore, many argue that the SBV should abandon the prime interest rate. Policy lending is lending at the mandate of the Government for national projects, projects implemented by State-owned Enterprises (SOEs), and projects for welfare reasons, rather than for commercial reasons. Policy lending affects negatively the effectiveness of monetary policy and banking system, thus it should be omitted.

The use of indirect instrument is association with the liberalization process of interest rate. Interest rate reforms towards liberalization began with the liberalization of interest rates on lending in foreign currency in June 2001. Interest rates on deposit and lending in Vietnamese dong have been liberalized since June 2002. Interest rates on foreign currency deposits of legal entities have been liberalized since March 2007. The indirect instruments of the SBV consist of reserve requirements, OMO and central bank lending facilities (refinancing and discount). Reserve requirements are prioritized. OMO and central bank lending facilities have been used gradually because of underdeveloped stock market. However, the effectiveness of reserve requirements, refinancing, and discount has not yet to be seen. Treasury bill auction market is not monetary policy instrument but this market provides goods for OMO and central bank lending facilities.

*** Reserve requirements**

Reserve requirements are differentiated by banks, currency and maturity.[14] The SBV paid interest (1.2%) on VND required reserve. Since 2004, the SBV has not paid interest for excess reserves to prevent credit institutions' liquidity surplus in SBV.[15]

The SBV always uses reserve requirements as the first instrument to implement monetary policy, when inflationary pressures are modest. Otherwise, the SBV would use other monetary instruments. Reasons are, first, one of the objectives of monetary policy is to stabilize the interest rate, thereby creating favourable business conditions for credit institutions, hence contributing to macroeconomic stability. Therefore, in response to modest inflationary pressures, the SBV raises ratios of reserve requirements in order to avoid negative

[14] Decision 796/2004/QD-NHNN on June 25, 2005 on reserve requirements with regard to credit institutions.

[15] Decision No.923/2004/QD-NHNN dated July 20, 2004.

effects of increase in interest rates that further raise inherent-high interest rates of commercial banks. Second, the stock market is underdeveloped; the scale of market is small; types of valuable papers in the market are a few. Thus, the transmission mechanism of policy rates (refinancing and discount rates) on variables (i.e. credit supply of credit institutions, money supply) is both slow and weak. Third, the SBV limits the access of credit institutions to refinancing and discount facility (see blow).

The effectiveness of reserve requirements has not yet to be seen. We can see it through the following examples. In 1999-2000, the U.S.-dollar interest rate in the international market was continuously increased.[16] Meanwhile, the U.S.-dollar deposit rate in Vietnam was lower than the international level (SBV, 2000). This made investment overseas become attractive. All banks simultaneously raised rate of foreign currency deposits (FCD) to deposit abroad (so-called interest rate "race"). To restrict credit institutions from depositing foreign currency with banks abroad, the SBV two times raised the reserve requirement ratio on short-term FCD from 5% to 8% in November 2000, and then to 12% in December 2000. These adjustments seemed to bring about no significant effects until the Fed cut down the interest rate [17] and the SBV raised the reserve requirement ratio to 15% in May 2001. Another example is an inflationary tendency since early 2004. In response to inflation, the SBV, at first, raised reserve requirement ratio in July 2004. After 6 months, because inflationary situation was not improved, the SBV had to raise rediscount and refinancing rate three times in 2005 and then the prime rate (Figure II.6). These, together with increasing in Federal funds rate, [18] triggered a new interest rate "race" between commercial banks through raising both the dong and foreign currency deposit rate.

*** Refinancing and discount interest rate**

Since March 2003, the SBV has reformed the mechanism of interest rate management by developing an interest rate corridor (Figure II.6). Accordingly, the refinancing interest rate is the ceiling rate (upper band of interest rate corridor), and the discount rate is the floor interest

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[16] Federal Funds rate increased by 28 % from 5.3% in December 1999 to 6.4% in December 2000 (www.federalreserve.gov), 3-Month US$ SIBOR rate rose from 6.06 to 6.39% during that period (www.singstat.gov.sg).

[17] Federal funds rate went down further from 5.98% per year in January 2001 to 1.82% at end-year.

[18] Federal funds rate increased from 1% in January 2004 to 2.79% in April 2005.

rate (lower band) in the interbank Vietnamese dong market (between banks). [19] OMO interest rate is set flexibility in between. The refinancing and discount rate have been stipulated flexibly according to market developments. Through the discount facility, credit institutions can access the SBV's funds subject to quota, and the maximum term of drawing is 91 days. The refinancing facility is a collateralized lending facility. The SBV limits collateralized lending and conducts the refinancing through quotas. In addition, the SBV launched and put into operation an overnight rate in October 2002, which has been used to meet temporary financing demand in electronic interbank settlements and set at 0.03% per night (or 10.8% per year) as a penalty rate. [20] The implementation of the overnight lending rate is based on the electronic payment system that was put into operation in 2002.

The refinancing is chosen as upper band because it is per se a borrowing with security of credit institutions from the SBV. Higher refinancing interest rate than other interest rates will encourage credit institutions to seek other cheaper sources. The discount rate is chosen as lower band, as it is per se the SBV's purchase of the valuable papers of credit institutions. The lower the discount rate, the fewer the SBV pays. In short, the SBV's limitations in assess to the SBV's fund (money) aim at raising the cost of the SBV's fund, thereby controlling the banking system's credit, hence money growth.

The financing and discount facility are underdeveloped because the following reasons. First, types of valuable papers for refinancing and discount facility are small. Second, the credit institutions, on the one hand, had not pay attention to these monetary instruments in seeking funds. On the other hand, the SBV limits the access to refinancing and discount facility, by which the refinancing rate must be higher than the market level and the discount rate must be lower than the market level. Third, only SOCBs are allowed to access the SBV's fund through refinancing and discount (in 2006, some joint-stock commercial banks are allowed). The reasons for limiting access to these two instruments are: (i) the SBV wants credit institutions to use refinancing and discount as last source after seeking funds from deposits, lending in the interbank Vietnamese dong market, and lending through OMO; (ii) the money supply of

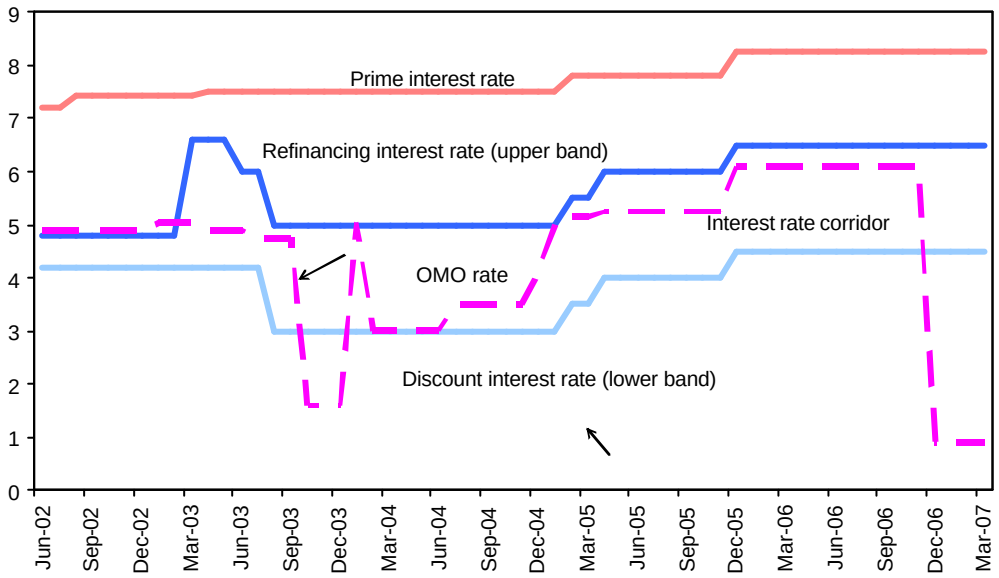
[19] Decision No.1452/2003/DQ-NHNN on November 3, 2003 on the Regulations on the SBV's loans secured by valuable papers for banks, Decision No.898/2003/DQ-NHNN on August 12, 2003 on the regulations on the SBV's discount and rediscount for banks.

[20] Decision No.1085/2002/QD-NHNN on October 7, 2002 on Regulations on overdraft and overnight lending in electronic interbank payment.

banking system, which is restricted and ratified annually by the National Assembly, also limits the SBV's ability to lending. In short, limitation in access to the SBV's fund through refinancing and discount has weakened the effectiveness of monetary policy on economic variables.

The SBV determines credit institutions' demand for refinancing through data on liquidity of credit institutions, which is supervised daily by the SBV and reported monthly by credit institutions. Based on data on liquidity, the SBV determines the supply of reserve money and autonomy factor. In general, the demand for refinancing is determined by the following simplified equation $RK = BR + C - ZN$, where RK is refinancing credit of the SBV, BR is bank reserves in the SBV, $C - ZN$ is autonomy factor, C is cash and ZN is currency reserves

Figure II.6. Interest rate corridor, 2002:06-2007:3



Note: in % per year

Source: SBV (2002-2005) and Nguyen, Dac Hung (2007)

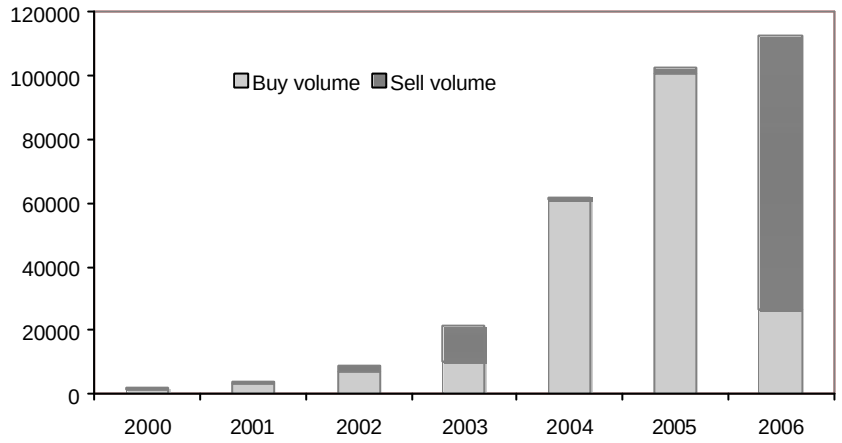
In 2005, the SBV used refinancing and discount interest rate more frequently (3 times adjustments). To strengthen its ability to regulate monetary policy through indirect monetary policy instruments, at end 2005, the SBV allowed bonds issued by Development Assistance Fund and Hanoi and Hochiminh People's Committee to be transacted in refinancing and discount transactions of the SBV to increase types of valuable papers transacted. [21]

[21] Decision No1909/2005/QD-NHNN on credit institutions' use of bond in refinancing transactions of the SBV.

Furthermore, credit institutions began paying more attention to the SBV's refinancing and discount. Refinancing volumes increased by 50% in 2005 as compared to 2004. The number of members participating in refinancing transactions was also increased. Increase in transaction volume and expansion of participants would enhance the effect of these instruments in money market.

*** Open market operations**

Figure II.7. OMO volume, 2000-05



Note: in billions of dongs

Source: SBV (2002-2005), Le, Hung (2006) and Nguyen, Dac Hung (2007)

The open market operations were launched in July 2000. The SBV uses OMO to regulate liquidity demand and supply of credit institutions by buying and selling valuable papers, those are supplied in the Treasury bill auction market and the stock market, thereby modulating market interest rate (Chart II.2). OMO is implemented in the money market, whose participants are credit institutions being OMO members and the SBV. The number of participants is 31 credit institutions. However, the effect of OMO is mainly on SOCBs because they are major actors in the market. Transaction volume was very small in the first four years from the launch of OMO because of a few participants and small types and volume of valuable papers. Since 2004, the OMO transaction volume has been increased, which indicates that the SBV has paid more attention to this instrument and used it as the key instrument in conducting monetary policy through the injection and withdrawal of liquidity with relative short-term of 7-56 days (Figure II.7). In 2006, the SBV acquired a large amount of foreign exchange reserves (USD 2.5 billion) and sold the SBV's bond through OMO in order to ensure the money supply growth ratified by the National Assembly. However, the

effectiveness of this instrument still depends on the number and types of valuable papers, the number of participants, and commercial banks' preference and attention to this instrument (for example, if commercial banks mobilize more funds from the public but their lending is not increasing accordingly, they can find OMO as a good instrument to invest).

II.2.2.4. The ability of the SBV to control interest rate is limited because international interest rates have affected domestic interest rates under fixed exchange rate regime despite limited capital account liberalization

Under a fixed exchange rate regime and interest rate liberalization, the SBV can use indirect instruments (OMO, financing, and discount) and direct instruments (prime rate) in order to regulate credit supply of credit institutions, thereby money supply and interest rate. In order to set suitable and exact policy-rates, the SBV must rely on VIBOR rate (interest rate in interbank Vietnamese dong market) and Treasury bond auction rate. However, the interbank Vietnamese dong market is underdeveloped and operates ineffectively; therefore, the interbank rate (VIBOR) is not a reference rate for the SBV to manage interest rates. In addition, the affect of the prime rate as well as other indirect instrument is not effective (as mentioned above). Therefore, the control of interest rate as an instrument to regulate the monetary market is limited.

Besides, the SBV pays more attention to harmonize the relationship between the dong deposit interest rate, exchange rate and foreign currency deposit interest rate in order to make the dong deposit rate more attractive than the foreign currency deposit rate, which aims at restricting turmoil in the monetary market due to the shift from dong deposits to FCD. Before March 2007, the SBV regulated only foreign currency deposit rate of corporate clients at credit institutions by ceiling interest rates. However, the SBV faces difficulties in interest rate control because of the following reasons:

- Domestic interest rates in Vietnam are liberalized. Commercial banks refer to interest rates in Singapore and London markets to determine their interest rates. Thus, under a fixed exchange rate regime, increase in world interest rates may affect commercial banks' interest rates. For example, under fixed exchange rate regime, increase in the Fed rate leads to increase in interest rates in terms of U.S. dollar in Vietnam accordingly, then a rise in the demand for keeping the U.S. dollar. Commercial banks raise interest rates with

respect to the U.S. dollar in order to attract more deposits from the public. This triggers an "interest rate race", which heightens the run-out of commercial banks because they mobilized more funds but could not lend accordingly. In such a case, the SBV usually calls commercial banks to be prudent in raising their interest rates and has no better measures (the use of reserve requirement and refinancing and rediscount rate is ineffective) to prevent the shift from the Vietnamese dong to the U.S. dollar, or vice versa.

- The monetary market movements evolve complicatedly. Sometimes (1999-2001), banks are short of foreign currency, another time (since 2002), they lack of the dong to extend credit due to a smaller amount of the dong mobilization.

II.2.2.5. Some reasons impede the conduct of monetary policy in Vietnam

First, the SOCBs frequently operate on a non-commercial basis (with a culture of policy lending subject to direct government interference). The financial system is segmented by the dominance of four large SOCBs and a number of small and more dynamic foreign joint venture and domestic joint stock banks that are market-oriented. The SOCBs making up a large market share frequently finance for projects of SOEs, which is a source of nonperforming loans (NPL) and balance sheet risks (because projects of SOEs are ineffective). Policy lending affects the SBV's regulations on credit supply of credit institutions, hence money supply (Chart II.2).Therefore, any adjustments of the SBV through indirect instruments on monetary variables may become ineffective because they does not prevent the SOCBs from new lending.

Second, although having developed dramatically in recent 12 months, the stock market has developed a little. [22] Scale (market capitalization), types of goods (valuable papers), the number of listed companies in the stock market (39 of 5000 joint stock companies as of July 21, 2006) and listed companies having good capital capacity are small. The competitiveness

[22] Vietnamese stock market came into operation in July 2000. Since mid-2006 (time for active preparation for joining the WTO), the stock market developed dramatically. At end-2006 (on December 13, 2006), the VN-Index was 740.57 points. The VN-Index has increased sharply in the first three months of 2007. It surpassed, for the first time, the threshold of 1000 points on January 30, 2007 (at 1022.40 point) and was at peak of 1133.34 points on March 19, 2007. The market capitalization is increased from USD 0.5 billion in December 2005 to USD 13.8 billion (about 22.7% of GDP) at end 2006 and 24.4 billion (38% of GDP) as of March 2007. The total equity value listed in the stock market in 2006 is increased by 528% in comparison with 2005 (SBV, www.sbv.gov.vn, and State Securities Commission of Vietnam www.ssc.gov.vn)

ability in the international stock market is weak. Management and accounting system are not line with international standard. Investors in the stock market tend to short-term speculation. There is not supervision system over the stock market. Policies and solutions for the management and development of the stock market are slowly available.

The underdevelopment of the stock market (small scale and types of goods) has impeded the transmission of indirect instruments (refinancing, discount and OMO, whose effectiveness depends on goods and scale in the stock market) into monetary variables.

Third, the relationship between monetary and economic variables is instable. The rapid structural transformation of the financial system (such as growing monetization, and increasing internationalization of the banking system) makes it very difficult to estimate stable relationships between monetary and credit aggregates, interest rates, and other economic and financial variables (IMF, 2006a, Box 2, p.8 and IMF 2006d, p.19,66).

Last, statistic information has not yet been sufficient. Information and macroeconomic data for forecasting and conducting monetary policy have not yet been sufficient, reliable and collected on real time. This affects badly the SBV's modelling and policy-making, and other academic researches.

II.2.3. Negative impacts of the fixed exchange rate regime on the economy

The fixed peg brings about some benefits for the economy. First, in the context of high inflation rate and lack of credibility, anchoring inflation expectations in the targeting country (Vietnam) to the inflation rate in the anchor country (US) helps to consolidate the public's confidence in the ability of the SBV to control inflation, thereby lowering inflation expectations and hence inflation. The IMF (2006c, p.12) assesses that the fixed peg is useful in anchoring inflation expectation. In addition, the fixed peg fixes the inflation rate for internationally traded goods, and thus directly contributes to keeping inflation under control. Second, a more stable value of the Vietnamese dong provides foreign investors with a solider basis for planning and pricing, thereby lowering exchange rate risks and reducing business costs, thus, encouraging investment capital inflows to stimulate economic growth.

Apart from some benefits, the fixed exchange rate regime influences negatively on the economy as follows:

- Fixed exchange rate acts as an exchange rate guarantee and reduces the sensibility of market participants to exchange rate risks.
- The above-average increase in inflation under fixed exchange rate regime leads to real exchange rate appreciation, thereby deteriorating external competitiveness.
- Monetary policy loses its independence under fixed exchange rate regime, thus adjustments to shocks must be implemented by fiscal policy.
- It would occur a credibility problem, if market participants do not believe in the ability of the SBV to maintain the fixed exchange rate regime.
- Fixed exchange rate together with open capital account, imperfect credible monetary policy, high liability dollarization, build-up of short-term external debts and a weak banking system are likely to promote financial fragility and heighten the potential for a financial crisis.
- Weaknesses of banking and financial system sooner or later put the exchange rate under depreciation pressures, under which the SBV faces difficulties in attempting to defend the fixed exchange rate regime by adjustments such as maintaining the policy of high interest rate.

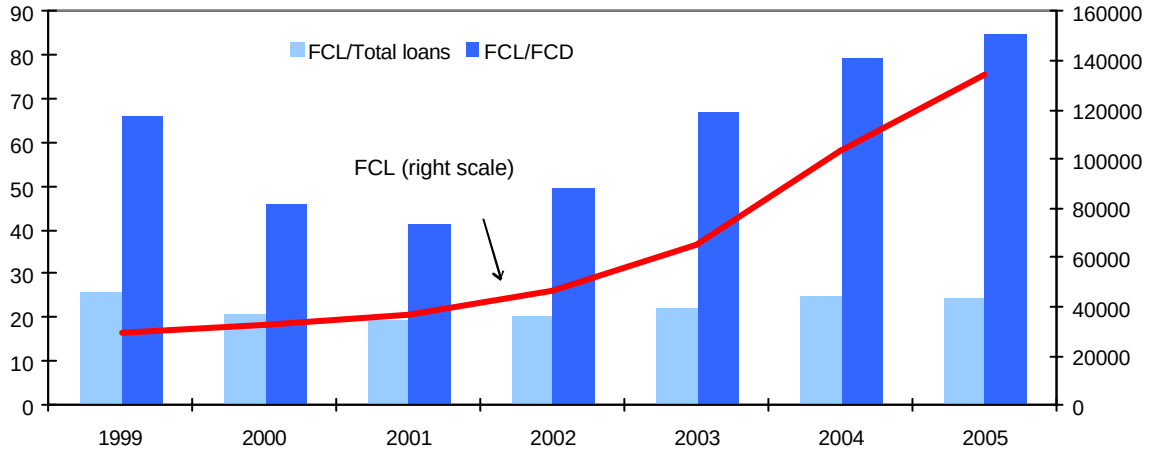
II.2.3.1. Fixed exchange rate acts as an exchange rate guarantee and reduces the sensibility of market participants to exchange rate risks

The SBV has kept the dong-US dollar exchange rate stable by restricting exchange rate movements within very narrow trading band and continues to keep it broadly stable in the near future. The fixed exchange rate seemingly creates the perception of an implicit exchange rate guarantee and reduces the sensibility of market participants to exchange rate risks; thereby they have a little incentive to hedge their foreign exchange exposures. Unhedged foreign exchange exposures together with weak financial system under fixed exchange rate become potential danger to crisis to happen. It can be explained as follows. Being guaranteed by fixed exchange rate regime, unhedged foreign-currency borrowing is promoted. Lending boom and weak bank supervisions weaken further weak-inherent banks' balance sheets. If a negative shock in terms of trade occurs, a fall in the price of exports leads to a reduction in income and in production and labour of export sector, and a weaker position of balance of

payments. The exporters have fewer foreign exchanges and fewer people want to sell foreign exchange in the market. As a result, exchange rate depreciates. If the central bank cannot maintain the peg, a depreciation of the exchange rate can provoke banks insolvency if banks' balance sheets are weak (for example, their liability is in foreign currency but their income is in domestic currency - currency mismatch) and their open foreign exchange positions are high. As a result, a currency crisis may happen.

Let see the foreign exchange exposure in Vietnam in episode of fixed exchange rate. About 24-25% of total credit is extended in foreign currencies. The amount of foreign currency loans (FCL) has always increased since 1999. The ratio of FCL in total loans has increased continuously since 2001 and levelled off in 2005. The ratio of FCL to FCD have doubled since 2001 (Figure II.8), from 41.2% in 2001 to 84.2% in 2005. These figures show that banks tend to increase their FCL in absolute number and the increase speed of FCL is faster than that of FCD. If this situation is not controlled, the potential foreign exchange exposure will be inevitable.

Figure II.8. Vietnam: Foreign exchange exposure, 1999-2005



Source: IMF (1999b, 2003c, 2006e)

The Asian crisis is frequently taken as an example. The low volatility of exchange rates led investors to believe that the authorities were insuring them against exchange risk. Eichengreen and Hausman (1999) show that "The consequence of the combination of an exchange-rate guarantee and a financial safety net, it is argued, was to cause a large amount of short-term foreign capital to be intermediated through the banking system… To be sure, in some countries such as Thailand, banks were required to hedge their positions by acquiring

offsetting assets in foreign currency, but they did so by making foreign currency loans to domestic corporations, which became the repositories of the unhedged exposure. In other countries, notably Indonesia, companies borrowed offshore directly, but their unhedged exposures created credit risk for domestic banks that also extended them domestic-currency loans. In both cases, the accumulation of unhedged exposures was fostered by … exchange rate stability."

In short, the fixed exchange rate creates the perception of an implicit guarantee for exchange rate and reduces the sensibility of market participants to exchange rate risks (moral hazard problem), thereby having a little incentive to hedge foreign exposures. High liability dollarization, unhedged foreign exchange rate risk, together with tendency to borrowing in foreign currency in context of unsound financial system and inadequate banking supervision and capital account liberalization become potential danger (see below).

II.2.3.2. The above-average increase in inflation under fixed exchange rate regime leads to real exchange rate appreciation, thereby deteriorating external competitiveness

Vietnam uses the exchange rate as a nominal anchor to stabilize prices. Since 2004, the economy has faced high inflation rate and change in domestic inflation has been higher than that of United States, whereas the nominal exchange rate has been kept quasi-fixed, thus entailing exchange rate appreciation in the real terms. The real effective exchange rate has appreciated since end 2004 (see II.2.1.4). At present, IMF (2006c, p.30) notes that the appreciation of REER has not affected external competitiveness, given a data limitation. However, if inflation rates are increasing and strong capital flows continuously pour into Vietnam, then a large and long-lasting appreciation will sooner or later hamper Vietnam's external competitiveness, which in turn worsens the current account and thereby retarding the output growth.

II.2.3.3. Monetary policy loses its independence under fixed exchange rate regime, thus adjustments to shocks must be implemented by fiscal policy

Under a pegged exchange rate, monetary policy must be subordinated to the needs of maintaining the peg. Any change in the anchor country, with whose currency the domestic currency is pegged, will affect the pegging (targeting) countries, thus the central bank must

adjust monetary policy as well. Therefore, the fixed exchange rate transmits shocks from the anchor country to the targeting country because changes in interest rates in the anchor country lead to a corresponding change in interest rates in the targeting country.

An empirical evidence of Schambaugh (2004) concludes that fixed exchange rate forces countries to follow the monetary policy of anchor countries more closely than floating exchange rate and leads to a loss of monetary policy independence. Loss of an independent monetary policy becomes problematic under fixed exchange rate regime since the pegging country loses the ability to use monetary policy to respond to domestic shocks that are independent of those hitting the anchor country. For example, if the interest rate in the anchor country (say, USA) increases because demand in this country is increasing, the interest rate in the targeting country (Vietnam) must be raised in order to maintain the exchange rate relationship, even if Vietnam is in recession. Increase in interest rate, in turn, aggravates further the recession situations through, for example, reduction in output. In addition, rise in interest rate further weakens an already fragile banking system. If banks suffer from heavy losses of loans (bad debts), increase in interest rate impedes banks from collect debts and raise the burden debt of firms, thereby probably leading to insolvency. Furthermore, increase in interest rate also aggravates fiscal deficit due to higher interest payments provided fiscal imbalance is large, and public debt is mainly short-term or contracted at floating rates.

Let see the case of Vietnam in pegging exchange rate to control inflation since 2004. At that time, commercial banks lacked of the dong to extend credit, but had excess assets in foreign currencies. [23] In response to this situation, the SBV should reduce the reserve requirement ratio or refinancing rate as well as discount rate to help commercial banks cut down their expenses, hence they could reduce lending interest rate in foreign currency to promote enterprises to borrow in foreign currency from banks. However, monetary policy could not respond by lowering interest rates because these rates were tied to those of anchor country (the United Stated). In fact, the SBV had counter action, that is, it raised the reserve requirement ratio and the discount and refinancing rate. The reason is at that time, inflation rate was high. To respond to inflationary pressures, the SBV raised the reserve requirement ratio to control credit growth in mid-2004. Until Fed had continuously raised its rate from mid-2004, the SBV raised the discount and refinancing rate at early 2005 to force commercial

[23] Due to banks has bought a large amount of foreign exchange from migrants' remittances, disbursement of ODA and FDI, spending by foreign tourists, and mobilized a high ratio of FCD.

banks more actively in capital mobilization to reduce cash in circulation. Nevertheless, the effectiveness of these two instruments has yet to be seen. The government, at the same time, had to adopt tightening fiscal policy and other policies (as mentioned in II.2.2.2). Consequently, the increase in SBV's rates led to increase in interest rates of Vietnam's commercial banks as well, which triggered a new interest rate "race". This rise in interest rate would in turn damage the balance sheet of both enterprises and banks because banks mobilized deposits but could not lend, and enterprises that had demand for loan would bear higher cost for loans or do not invest any more. It also did not help banks to solve their main problem of lacking dong capital and exceeding foreign currency deposit. Looking back on the past, Vietnam experienced the credit crisis and currency cash due to increase in interest rates.

In short, the fixed exchange rate regime in Vietnam faces inherent problem. That is loss of monetary independence affects the effectiveness of monetary policy. Therefore, adjustments to shocks must be implemented by fiscal policy that is required flexible and sustainable. However, it is not sure that the Government always supports objectives of monetary policy by reducing its spending. In fact, the Vietnamese Government only reduced its spending in 2004, when inflation rate was at the peak of 9.5% since 1996. After that, although the inflation rate was still high, the Government spending was increasing (IMF, 2006e).

II.2.3.4. It would occur a credibility problem, if market participants do not believe in the ability of the SBV to maintain the fixed exchange rate regime

Credibility refers to the degree of the confidence that the public has in the central bank's determination of and ability to meet its announced monetary objectives (Perrier and Amano, 2000 and Ladesma-Rodríguez et al., 2005).

A fixed exchange rate may occur the credibility problem if the public doubts about the ability of the central bank to maintain the peg. Hence, speculative attacks are likely to be successful and the abandonment of the peg is inevitable. Obstfeld and Rogoff (1995), Eichengreen et al. (1999) and many other economists conclude that fixed exchange rate becomes very difficult to sustain under high capital mobility. Opening capital account under the fixed exchange rate regime is associated with a rise in external vulnerabilities because the capital flows easily come into the country and they can flight out of the country at any time if there is a doubt

about the ability of the central bank to maintain the fixed exchange rate and the capital inflows are guided by short-term capital flows. It can be explained as follows.

A massive volume of capital inflows would help to supply an abundant amount of foreign exchange for the economy and lead to exchange rate appreciation. To maintain the peg, the central bank would have to intervene and thereby accumulating a great amount of foreign exchange reserves. However, in parallel with the accumulation of foreign exchange reserves is an increase in money supply, which in turn puts pressures on inflation. To cope with inflation pressures, the central bank could sterilized intervene by selling bonds through OMO. However, the ability of the economy to absorb them was limited. In some cases, the central bank would have to raise dividends of bonds to make them more attractive, which in turn would lead to increase in interest rates of the whole economy and hence capital inflows. If these pressures become too intensive, market participants would perceive that the exchange rate might be no longer sustainable (i.e. a sudden loss of credibility increases). In such a case, speculative attacks might occur. A large volume of foreign currency deposits would be withdrawn from banks. A massive volume of foreign exchange would flight out of the countries. [24] These would lead to exchange rate depreciation, which in turn would force the central bank to intervene to defend the peg. If the intervention of the central bank would not be strong enough (because intervention in the foreign exchange market at the cost of the depletion of foreign exchange reserves, raising interest rate at the cost of weakening the health of the economy), a collapse of the fixed exchange rate would be inevitable. [25] This situation occurred in Latin American and Asian financial crisis during the 1990s.

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[24] For example, net private capital flows to Thailand swung from a net inflow of 5% of GDP in 1996 to net outflows of 8% and 17% of GDP in 1997 and 1998 respectively. For five East Asian countries, net capital inflows turned from USD 0.8 billion in 1997 to USD -68 billion in 1998 (Agénor, 2004).

[25] Take Sweden and the UK as example in European Exchange rate Mechanism crisis in 1992-93. Sweden began to peg its krona to European Monetary System currencies in May 1991. On 16 September 1992, in an attempt to defend the peg against speculations, the Sweden's central bank (the Sveriges Riksbank) raised marginal overnight lending rate to 500% and hold for 4 days. Within a couple of weeks, the interest rate was lower. However, the speculators saw the precariousness of the economy and renewed their attack in mid-November. This time the Riksbank could not raise the interest rate, even above 20%. Thus, it abandoned its peg and let the krona float. In case of England, when the pound came under the attack on 16 September, the Bank of England were reluctant to raise the interest rate because there is a brief lag between the home mortgage rate and market rates. Instead, the central bank used USD 70 billion to intervene, but this effort was ineffective, the government allowed the pound to float after a few hours (Obstfeld and Rogoff, 1995).

Take the case of Vietnam. The public has not had much confidence in the ability of the SBV to control inflation because of the following reasons:

- The ability of the SBV to keep inflation under control is very weak. The public experienced the persistence of hyperinflation in Vietnam during the past decades until 1993. Excessive high inflation volatility has reduced the credibility of monetary policy. Since then, the control of inflation has been still problematic in Vietnam. After attempt at reducing hyperinflation during the 1980s and early 1990s, the economy experienced moderate inflation for only two years (1996-1997), and then came under inflationary pressures in one year later (1998). All endeavours to control inflation by tightening monetary policy led to a deflation episode (1999-2001). Measures to stimulate consumption (expansionary monetary policy), among other things, resulted in high inflation since 2004.
- The weak ability of the SBV to respond to shocks is further constrained by underdeveloped policy instruments (refinancing rate, discount rate, reserve requirements, and OMO) and the dominance of SOCBs that frequently operates based on non-commercial objectives.
- It is very difficult to achieve simultaneously all objectives of monetary and exchange rate policy because the SBV belongs to the Government (loss of independence in all three areas, personnel, finance, and formulation and implementation of the monetary policy) and has to conduct duty that contrasts to the objective of the central bank, e.g. economic growth is conflicting with the maintenance of price stability.

In face of the high-inflation history and its weak ability to keep inflation under control, the SBV has imported credibility by anchoring the value of the Vietnamese dong to the U.S. dollar. The credibility under fixed exchange rate relates to the ability of the central bank to maintain the peg, thereby controlling inflation. Normally, the SBV is able to intervene to defend the peg. The fixed exchange rate regime in Vietnam has been not yet successfully speculated until now. However, the maintenance of the peg remains a challenge to the SBV because of imperfect credibility of the public in the SBV. Take example. The exchange rate of VND 16,000 per USD is considered as a moral threshold by both authorities and the public. Whenever the dong depreciated above this threshold, market participants immediately bought the U.S.dollar for hoarding objective, causing scarcity in the foreign exchange market and giving pressure the exchange rate to depreciate. This circumstance occurred in May 2006,

leading to depreciation of the exchange rate to VND 17,000 per USD in the black market. In such a case, the SBV had to intervene to calm down the market by revaluating the dong under this moral threshold and announcing that the central bank has enough ability to keep the exchange rate stable. Other example, at end-2006, an abundant foreign exchange supply puts upward pressures on the fixed exchange rate. In such as case, the SBV did not buy foreign exchange in the market, rather widened the exchange rate band from +/-0.25% to +/-0.5%. The missing of exchange rate targeting might impair the fragile credibility of the public in maintaining the fixed exchange rate regime (more details see below).

In addition, as mentioned above, the progressive liberalization of capital account puts the maintenance of the fixed exchange rate regime in more difficult situation. This circumstance has already happened and may continue happening in Vietnam in the coming years, as Vietnam liberalizes progressively its capital account (see II.2.1.7). We see it as follows.

Being attracted by high interest rate, stable exchange rate and strong economic performance and vigorous development of the stock market, a massive amount of capital flows has poured in Vietnam in recent years, including FDI, FPI (foreign portfolio investment), ODA, and inward remittances. As a result, the REER has appreciated since 2004. To maintain the fixed exchange rate, the SBV has accumulated a large amount of foreign exchange reserves, from USD 6.3 billion in 2004 to USD 13 billion in 2006. At the same time, the SBV implemented sterilized intervention by selling Treasury bills and bonds through OMO to reduce pressures on money supply. In fact, volumes of Treasury bill auction market and OMO have increased significantly since 2004. The pressures of capital inflows on maintaining the fixed exchange rate was higher at end-2006. Generally, at the end of year, capital inflows pours sharply in Vietnam, including inward remittances, spending by Vietnamese overseas in Vietnam in the New Year, export receipts, and FDI implementation. In addition, spending by domestic agents is increased at end-year, thus they sell foreign exchange for domestic currency to meet their consumption demand in the New Year. As a result, exchange rate was under upward pressure and commercial banks had bought an abundant volume of foreign exchange from the public. However, the SBV did not buy foreign exchange from commercial banks at end-2006 because it would raise money supply ratified annually by the National Assembly. When the SBV did not buy foreign exchange from commercial banks, these banks could not buy foreign exchange from the public anymore. Otherwise, it would exceed the limit of foreign exchange position of commercial banks (not allowed to excess 30% of total equity capital/own capital).

To reduce pressures on the exchange rate management, the SBV widened the exchange rate band from +/-0.25% to +/-0.5% in January 01, 2007.

The authorities forecast that in coming years, Vietnam would continue attracting a large amount of capital inflows, especially FDI and FPI. [26] These capital inflows might continue putting pressures on the fixed exchange rate and inflation because the SBV has to intervene in foreign exchange market to maintain the peg, which in turn puts pressures on inflation. However, the effectiveness of sterilized intervention could be limited because the ability of the market to absorb Treasury bonds would be limited. In such a case, the SBV would raise dividends of bonds to make them more attractive, which in turn would lead to increase in domestic interest rates and hence capital inflows. [27] If these pressures become too intensive, for example, inflation is increasing, the central bank would have to widen the exchange rate band continuously, market participants would doubt that the exchange rate could not be maintained any more (a sudden loss of credibility increases). In such a case, speculative attacks might occur. A capital flight from banks and out of the country might happen. These would lead to exchange rate depreciation, which in turn would force the central bank to intervene to defend the peg. If the intervention of the SBV would not be strong enough, a collapse of the fixed exchange rate would be inevitable.

Let see reserve coverage of short-term external debts in the event of a capital flight out of the country and a run on foreign exchange deposit from banking system in Vietnam. De Beaufort and Kaptyen (2001) estimate that countries with a managed float or fixed exchange rate regime need a range of 10 to 20% of M2 to cover short-term external debt (debt falling within 1 year) in the event of capital flight. Under this benchmark, since 2002 Vietnam's reserves have covered only the lower range (10%) but not upper range. That means Vietnam has enough foreign exchange reserves to service short-term external debts in case the volume of capital flight is 10% of M2 (M2 is used for assessing potential demand for foreign assets from domestic sources).

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[26] FPI in Vietnam has increased sharply since 2006. Total FPI in the stock market is USD 3 billion until mid-2006 and at early 2007, the figure is more than USD 4 billion, making up one third of total market capitalization of USD 14 billion.

[27] Commercial banks are able to buy Treasury bills and bonds through OMO but their ability to absorb high pressures on inflation deriving from an excessively expansionary money supply may be not enough to put down the upward pressures in money supply.

In addition, the IMF uses also consolidated banking sector reserves (CBSR) to find whether the country has enough reserves to cover its short-term external debts in the event of a withdrawal of foreign-exchange deposit. CBSR is relevant for Vietnam and very important to restore the market confidence. CBSR equals gross international reserves of the SBV plus reserves of deposit money banks. The minimum benchmark is the sum of short-term external debt on a remaining maturity basis and dollar deposit. The CBSR in Vietnam has hovered around the benchmark. That means the economy has enough reserves to cover its short-term external debt in the event of a withdrawal of foreign-exchange deposit.

These results show that the current reserve adequacy of Vietnam is relative positive. It can cover the short-term external debts in episode 2001-05. However, all indicators always touch the margin. Therefore, the IMF (2006d, p.44) concludes that, in the period ahead, in association with opening capital account, the pressures on reserves will be higher in time of stress.

In summary, in the coming years, in association with progressive open capital account are the pressures on the fixed exchange rate, inflation, and reserve adequacy. In such a case, de facto fixed exchange rate in Vietnam could occur the problem of credibility if market participants do not believe in the ability of the central bank to maintain the peg. Hence, a successful speculation is likely and a collapse of fixed exchange rate regime is unavoidable.

II.2.3.5. Fixed exchange rate together with open capital account, imperfect credible monetary policy, high liability dollarization, build-up of short-term external debts and a weak banking system are likely to promote financial fragility and heighten the potential for a financial crisis

Being attracted by high interest rate, stable exchange rate and strong economic performance, there is a massive volume of capital inflows in the country, which will be allocated in efficient sectors, but may be extended in inefficient sectors due to weak banking supervision (for example, using foreign exchange in projects that do not create foreign exchange incomes, using short-term loans for long-term projects - so called currency and maturity mismatch). If speculative attacks happen (as mentioned above), the capital flows would reverse (because capital inflows are guided by short-term capital flows), which in turn put the exchange rate

under downward pressures. Exchange rate depreciation would weaken already weak balance sheets of bank and firms, which in turn would force the central bank to sell foreign exchange in the market to defend the peg, but at the cost of exhaust of international reserves. To constrain the flight of capital flows, the central bank could tighten monetary policy by raising interest rates but at the cost of further weakening an already fragile banking system and affecting negatively output. These could trigger a financial crisis and a collapse of the fixed exchange rate.

Recently, Latin American and Asian financial crises during the 1990s are clear case in point. In fact, experiences of Latin America and Asia show that maintaining the fixed exchange rate while opening capital account in the context of high liability dollarization and build-up of short-term external debts and weak banking system are determinants triggered financial crises in emerging countries during the 1990s.

Take the case of Vietnam. The excessive capital inflows in association with stable exchange rate and the gap between domestic-currency and foreign-currency interest rate has promoted lending and borrowing in foreign currency. In fact, foreign currency loans rose from 19.2% in 2001 to 24.3% in 2005 of total credit to the economy (IMF, 2006e). Foreign currency deposits (dollarization) rose from USD 1.8 billion in 2000 to USD 11.4 as of June 2006. Short-terms debts could increase from 4% of GDP in 2005 to the regional average of 11.5% of GDP from 2006 onward according to a scenario estimated by IMF (2006d). In addition, being attracted by economic achievements, a dramatic growth of the stock market (one of the fastest growth all over the world) and the speed up of the equitization growth of SOEs, FPI inflows have increased sharply from USD 3 billion until mid-2006 to USD 4 billion at early 2007, making up one third of total market capitalization of USD 14 billion. These capital inflows may flight out of the country at the time of distress, leading to the imperfect credibility of the public about the ability to maintain the fixed exchange rate; hence, a speculative attack is likely to happen (as mentioned above). A run on capital flows may occur at any time if a shock originating from home countries of foreign investors forces investors to draw capital out of Vietnam (for example a cyclical recession), or a negative terms-of-trade shock will lower export prices, thereby reducing capital inflows (which was invested in export sector), or if investors change their investment strategies. In addition, the economy has some shortcomings that can make capital inflows reversals:

- Inflation in Vietnam has increased and higher than that of other Asian countries, except Indonesia (IMF, 2006d). High inflation can affect badly the effectiveness of investment and export competitiveness, thereby output growth, through increase in domestic production costs and real exchange rate appreciation. If the effectiveness of doing business in Vietnam was not ensured because of high inflation, there could be reversals of capital inflows in Vietnam (capital flows flight out of country or cessation of capital inflows).
- The stock market has developed at the highest speed in the world. The market capitalization is about 10% GDP in May 2006 and 38% GDP in March 2007. The total equity value listed in the stock market in 2006 is increased by 528% in comparison with 2005. However, revenues of listed companies have increased by about 10%. That means the stock market has the signal of asset bubble. If this bubble crashed, capital inflow reversals would be inevitable.

Because of certain reasons (mentioned above), capital inflows would slow down or be reversed (so-called sudden stop, Edwards, 2001), leading to depreciation of exchange rate. Exchange rate depreciation would raise the debt burden of domestic firms. Firms' balance sheets would suffer exchange rate risks if they did not hedge them against exchange rate risks. Exchange rate deprecation could deteriorate balance sheets of both firms and banks if firms' incomes were mainly in domestic currency and banks would be unable to collect the loans from firms because of increasing debt burden of firms. Exchange rate depreciation would lead to rise in both actual and expected inflation because the public have a little credibility in central bank in defending the peg. Rise in expected inflation would entails a rise in nominal interest rate, further weakening the balance sheets of firms with regard to new borrowings.

In such a case, the SBV would have to intervene to maintain the peg. However, if the intervention were delayed or insufficient to return exchange rate back to it initial level, this would increase the risk and uncertainty of the economy. When the banking system were in weakened condition, speculative attacks could be successful because speculators would believe that the central bank would dare not raise interest rates to defend the currency, which would further undermine already-weakened banks and firms. As a result, there could be a massive volume of capital flight out of the country. This would make the exchange rate further depreciated. As mentioned above, pressures on reserve coverage of short-term external debts in the event of capital flight is higher associated with capital account liberalization. In

addition, under the scenario of an increase in short-term debts to the regional average (11.5% noted above), the reserve coverage would be inadequate (IMF, 2006d, p.48). Thus, international reserves could exhaust to defend the peg. This would place the SBV in difficult situation. Additionally, in the event of adverse movements in the exchange rate, there would be a large withdrawal of foreign currency deposits, which would further weaken the health of banking system and undermine the credibility of the public in the central bank. When the fixed exchange rate would become too costly for the government to maintain, the fixed exchange rate would have to be abandoned, and the country would be forced to float its currency. Then financial crises would often happen. This is potential danger perspective that may happen in Vietnam and in fact, it already happened in emerging countries during financial crises in the 1990s.

In summary, the fixed exchange rate with open capital account may increase financial fragility and heighten the potential for financial crises if domestic liability is mainly dominated in foreign currency and short-term and the banking system is weak.

II.2.3.6. Weaknesses of banking and financial system sooner or later put the exchange rate under depreciation pressures, under which the SBV faces difficulties in attempting to defend the fixed exchange rate regime by adjustments such as maintaining the policy of high interest rate

The weakness of banking system would eventually put the exchange rate under depreciation pressure. A massive volume of capital inflows and a rapid economic growth have gone together a rise in investment and then borrowing. This led to lending boom, especially when banking sector lacks of adequate prudential regulations and supervisions. Until foreign investors perceive about the ineffectiveness of lending, they will slow down or withdraw their capital, which lead to a depreciation of the exchange rate. A depreciation of the exchange rate could deteriorate balance sheets of firms and banks (as mentioned above). A depreciation of the exchange rate might undermine banking stability, as the banking sector suffers large losses. In such a case, the central bank would have to intervene to maintain the peg. The central bank could sell foreign exchange in the market or raise the interest rate to limit the capital flight-out. However, selling foreign exchange would be at the cost of depletion of international reserves. Raising interest rates to defend the currency would further undermine already-weakened banks and firms.

In short, the weakness of banking system would eventually put the fixed exchange rate under depreciation pressure. The effects of exchange rate fluctuations on the economy depend on, among other factors, the health of the banking system. With interactions between the exchange rate and health of the banking system, the SBV has been reluctant to allow large exchange rate volatility, or in other words, the weakness in the financial system precludes the SBV from moving toward more flexible exchange rate. However, Eichengreen (1999) shows through Thailand's crisis that delay can then be a recipe for disaster. Thailand's authorities were repeatedly warned of the problem with their currency peg and of the need for greater exchange rate flexibility but the response was "You have a point, but we must first finish strengthening the financial system". And we are aware of the result.

Edwards (2001) cites an analysis of Dornbusch of the Mexican crisis as follows: "Exchange rate-based stabilization goes through three phases: The first one is very useful…Exchange rate stabilization helps bring under way a stabilization…In the second phase increasing real appreciation becomes apparent, it is increasingly recognized, but it is inconvenient to do something…Finally, in the third phase, it is too late to do something. Real appreciation has come to a point where a major devaluation is necessary. But the politics will not allow that. Some more time is spent in denial, and then - sometime - enough bad news pile up to cause the crash." Because of the devastating effects on the economy that financial crises can bring, an exchange rate pegging is a very dangerous strategy for controlling inflation in emerging countries in general and in Vietnam in particular.

Box II.1. Problems of Vietnam's domestic financial system

Dominating problems of the financial sector is the weakness of banking system. The vulnerability of the banking system includes large foreign exchange rate exposure (23-24% of total bank credit being extended in foreign currency, of which about 50% to SOEs), high rate of nonperforming loans (NPL), double mismatch, and low profitability and competitiveness (low capital capacity and undiversified financial products).

SOCBs, which account for about 70% of the banking system's total assets, are the strategic weak point among Vietnam's economic institutions. SOCBs are burdened with low asset

quality, multiple mandates from the Government (e.g. extending loans to SOEs directed by the Government), significant undercapitalization, and the poor capacity of credit assessment and risk management. SOCBs' capital adequacy ratio averages at 5.5% (where the minimum ratio is 8% according to Basel Accord).

The banks' balance sheets are not accurately assessed because current loan classification practices do not accurately reflect customers' ability to repay debt as well as their potential risks. As a result, banks are showing an unrealistic level of NPL. For example, according to International Accounting Standards, bad loans make up 40% of total loans, of which NPL are 58%. The IMF staffs estimate that the capital needed to bring SOCBs to solvency is about 15% of GDP at end 2003 (IMF, 2005b). Meanwhile, the ratio of NPL measured using domestic accounting standard is smaller, accounting for 15% in 2000, 7.6% in 2002, 5.8% in 2003 (Pham and Nguyen, 2005). In April 2005, the SBV adopted a new regulation on credit risk classification and provisioning (Decree 493), which is considered by the SBV as more conformed to international standards. As a result, the ratio of NPL in 2005 is 4.4% with regard to entire system, and 7.7% with regard to SOCBs. However, some are suspicious about the reality of these numbers (Pham, Thuy Ngoc, 2006).

The currency mismatch (projects generating the Vietnamese dong will be financed by the U.S. dollar) in the banks' balance sheet has been narrowing since 2003. But given the weakness of the banking system, the banking sector is still vulnerable when the exchange rate depreciates. In addition, most enterprises borrowing foreign currency for import payment have income in domestic currency from selling imports in the domestic market. As regard to maturity mismatch (long-term projects will be financed by short-term loans), the maturity mismatch of the banking system still happened because the long- and medium-term to short-term FCD could not meet the demand. Short-term FCD makes up more than 70% of total FCD. Foreign currency credits extended by banks are mainly short-term and export-import sponsoring credits (Nguyen, Thanh Ha, 2003).

Credit is the main trading activity of banks, accounting for 70% banks' earnings. Rapid credit expansion, uncertain loan quality, and misallocation of credit are main issues of banks' credit activities. Rapid credit expansion was overwhelming the banks' ability to evaluate adequately credit risk that creates risks for the quality of loan portfolios of banks that are still inexperienced at credit risk management.

The capital and money market is underdeveloped. The foreign exchange market is illiquid. Dollarization is widespread. These complicate the monetary policy management through indirect instruments. Ability of the SBV to conduct financial and monetary policy and to supervise banking system is weak. International reserves are thin. The monetary and exchange rate policy still lack credibility in the eyes of the public and the community of investors. The essential infrastructure (technical infrastructure, macroeconomic environment, institutional setting, market structure, and laws) is not in place to help the SBV to conduct effectively monetary policy. Information system about clients and payments is poor and underdeveloped. Banking technologies are not modern enough and adopting banking technologies is still limited because of low income of most of populations.

Source: Author

In conclusion, the fixed peg brings about some benefits for the economy in controlling inflation and reducing business costs, thereby encouraging investment capital inflows to stimulate economic growth. However, the fixed exchange rate regime influences negatively on the economy in some aspects, for example, discouraging exchange rate risk managements, deteriorating external competitiveness, loss of monetary policy independence, occurring credibility problem, increasing financial fragility and heightening potential financial crises, and putting the central bank in difficulties in monetary policy implementation, especially as the economy open its capital account. These difficulties lay the issues in choice of exchange rate regime for Vietnam.

Chapter III

CHOOSING AN EXCHANGE RATE REGIME FOR VIETNAM

Vietnam experienced hyperinflation in the 1980s, and now, inflationary tendency has come back since 2004 due to some external and internal factors. To control inflation, Vietnam has pegged its currency to that of a large, low-inflation country, the United States. Is it a good choice? As discussed in the previous chapter, de facto pegged exchange rate regime faces some problems. Getting the exchange rate right is essential for economic stability and growth in developing countries, especially for Vietnam, which is under the way of economic reform and accelerating its integration into the world market. This chapter discusses the choice of an appropriate exchange rate regime for Vietnam.

Vietnam will open progressively the capital account by 2010 in association with opening the financial market. The opening of capital account has implications for the choice of exchange rate regime in Vietnam. It raises the question about the sustainability of the fixed exchange rate regime in Vietnam in new environment of free capital flows. As mentioned in the previous chapter, the fixed peg could face problem of credibility and financial crisis, as the economy open its capital account.

The first section of this chapter contains a literature study about the performance of different exchange rate regimes in emerging countries. The different systems of exchange rate classification (from freely float to hard peg) will be introduced. Generally, there is a trend toward more flexible exchange rate regimes in emerging countries. The trend of transitions to more flexible exchange rate regimes among emerging countries and their experiences from currency crises during 1990s show that opening capital account while maintaining fixed exchange rate may lead to crises. Then, there will be a short literature review about advantages and disadvantages as well as economic performance of fixed and flexible exchange rate regime. The results of literature study are divided into two conclusions. First, no exchange rate regime is superior, which can be proven neither theoretically nor empirically. Higher output growth and lower inflation can be satisfied under either fixed or flexible exchange rate. Second, no definite exchange rate regime is optimal for all countries. Rather, the choice of exchange rate regime must be based on the characteristics of the

economy, its inflation history, type of shocks the economy coped, institutional frameworks, and political considerations.

The second section of this chapter analyses results of exchange rate theories. Firstly, I see whether Vietnam is a candidate for a fixed exchange rate regime against the U.S. dollar based on OCA theory (e.g. the size and openness of the country to trade and financial flows, structure of its production and exports, the stage of its financial development, and the nature and source of shocks it faces, etc). Second, real situations of the economy suggest that, an appropriate exchange rate regime for Vietnam must meet conditions of achieving the price target, and helping the economy to resist different shocks. The first one is related to the credibility and independence of the central bank, the second one is associated with the ability of different exchange rate regimes to absorb shocks.

To stabilize price: based on the analysis of conventional models on exchange rate, I come to following conclusions. Fixed exchange rate can contribute to stabilize the price if the public has confidence in the ability of the central bank to control inflation. Under flexible exchange rate regime, the central bank intervention is not compulsory and the exchange rate is no longer nominal anchor to stabilize the price. In such a case, the credibility and ability of the central bank to control money supply are two factors that help to control inflation. The credibility can be stronger if the central bank is given more independence in implementing monetary policy. The central bank independence can yield lower rate of inflation by placing higher weight on price stability relative to output stabilization in social loss function. I also conclude that in order to stabilize price, it is able to combine flexible exchange rate regime with inflation targeting, under which the central bank independence is needed to give the central bank necessary manoeuvring room to achieve the price stability objective. If the price stability objective is conflicted with other objectives (for example output objective), the central bank should give priority to price stability objective; even accept the negative effects on output. The negative effects on output can be solved by other policies, for example flexible wage policy.

To protect from shocks: the absorption of shocks under fixed and flexible exchange rate regimes will be treated. I conclude that flexible exchange rate regime will be more desirable in shock absorption in case of Vietnam, especially when the central bank targets at price stability objective.

The third section concludes that Vietnam should move toward greater exchange rate flexibility and addresses some questions supporting for this finding.

III.1. Recent evolution of exchange rate regimes

III.1.1. Classifications of exchange rate regimes

In the aftermath of the financial crises in the 1990s, discussions of appropriate exchange rate regimes have mushroomed, which include a great deal of interest in classifying exchange rate regime, bipolar hypothesis and fear of floating.

From the start, discussions on the choice of exchange rate regime face difficulties because there are too many different classification systems. From 1975 to 1998, most studies of exchange rate regimes relied on the official IMF's exchange rate regime classification (de jure classification) reported on the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions, which was based on members' official notifications to the IMF. The de jure classification distinguished between three main categories, which were divided into 15 subcategories, including pegged regimes, regimes with limited flexibility (those that permit the exchange rate to fluctuate within a band or a cooperative arrangement), and more flexible arrangements (those in which the exchange rate is managed or floated freely). The de jure classification system had a serious drawback, that is its failure to capture inconsistencies between what the countries officially announced and what they were doing in practice. Consequently, the de jure classification inaccurately characterized the distribution of operative currency regimes across the world and over time. Moreover, empirical analyses employing the de jure classification to test theories of regime choice or to assess the relationship between regime choice and economic performance risked reaching incorrect conclusions and drawing misleading policy implications (Rogoff et al, 2004). To address this problem, a number of new de facto classification systems have been introduced by IMF and researchers. Table III.1 provides a brief review of the classification scheme starting from the most rigid regime and becoming increasingly flexible within each system.

Table III.1. Classification systems

	Approach method	From Peg to Floating regime
Bubula and Otker-Robe (2002), (13 categories)	Based on behaviour of exchange rates and international reserves	**Hard peg** - Formal dollarization - Currency union - Currency board arrangement **Intermediate** - Conventional fixed peg against single currency - Conventional fixed peg against a basket - Horizontal bands - Forward looking crawling peg - Backward looking crawling peg - Forward looking crawling band - Backward looking crawling band - Tightly managed floats **Floating** - Other managed with no predetermined exchange rate path - Independently floating
Dubas et al. (2005) (6 categories)	Volatility of a country's effective exchange rate, a bilateral exchange rate against anchor currency, and international reserves	- Currency peg - Limited flexibility - Cooperative arrangements - Adjusted according to a set of indicators - Managed floating - Independently floating
Frankel (2003) (9 categories)		**Firm fix** - Monetary union - Dollarization (Euroization) - Currency board **Intermediate** - Adjustable peg - Basket peg - Crawling peg - incl. preannounced crawl and

		indexed peg - Band incl. Bergsten-Williamson target zone (fundamental equilibrium exchange rate) and Krugman-ERM target zone (fixed nominal central parity) **Floating** - Managed floating - Free floating
Ghosh et al. (2002) (10 categories)	Consensus classification by using the intersection of the de jure and de facto classification (hybrid classification)	- Monetary union - Dollarization - Currency boards - Single currency peg - Basket peg - Cooperative regime - Crawling peg - Target zones and bands - Managed floating - Float
IMF (since 1999) (8 categories)	Combining information on exchange rate and monetary policy framework, and authorities' formal or informal policy intentions with data on actual exchange rate and reserve movements (or based on the degree of commitment to a given exchange rate path).	**Hard peg** - Regime with no separate legal tender – incl. another currency as legal tender (formal dollarization) and currency union - Currency board **Intermediate regimes** - Conventional fixed peg against a single currency or a basket of currencies - Pegged exchange rates within horizontal bands - Crawling pegs - Crawling bands **Floating regimes** - Managed floating with no predetermined path for exchange rate - Independent floating
Kuttner and	The degree to which the	- Currency board – incl. official dollarization and

Posen (2001) (4 categories)	exchange rate regime imposes a rules on policy	currency union - Hard peg – incl. single or basket peg - Target zones – incl. crawling pegs, frequently shifting basket and wide-band arrangement - Free float
Levy-Yeyati and Sturzenegger (2002a) (5 categories)	Based on exchange rate volatility, the volatility of exchange rate changes, and the volatility of reserves	- Fixed - Crawling peg - Dirty float - Flexible - Inconclusive
Nitithanprapas and Willett (2002) (5 categories)	At least using two parameter - i.e. coefficients for trend and for deviations around trend - to start with fairly broad categories. For finer distinctions within these categories, some parameters will be considered for further research	- Hard fixed - Narrow band sticky peg (the Dead centre) - Crawling pegs/bands - Heavily managed float - Lightly managed float
Reinhart and Rogoff (2004) (15 categories)	Natural classification by using movements in the parallel rate	- No separate legal tender - Preannounced peg or currency board arrangement - Preannounced horizontal band that is narrower than or equal to +/-2% - De facto peg - Pre announced crawling peg - Preannounced crawling band that is narrower than or equal to +/-2% - De facto crawling peg - De facto crawling band that is narrower than or equal to +/-2% - Preannounced crawling band that is wider than or equal to +/-2%

		- De facto crawling band that is narrower than or equal to +/-5% - Moving band that is narrower than or equal to +/-2% (i.e., allows for both appreciation and depreciation over time) - Managed floating - Freely floating - Freely falling - Dual market in which parallel market data is missing
Stone et al. (2004) (8 categories)	Defined by the choice and clarity of the nominal anchor	- Monetary nonautonomy - Exchange rate peg - Full-fledged inflation targeting - Implicit price stability anchor - Inflation targeting lite - Weak anchor - Money anchor

Source: Bubula and Otker-Robe (2002), Dubas et al. (2005), Frankel (2003), Ghosh et al. (2002), Husain et al. (2004), Kuttner and Posen (2001), Levy-Yeyati and Sturzenegger (2002a), Nitithanprapas and Willett (2002), Rogoff et al. (2004), Reinhart and Rogoff (2004), and Stone et al. (2004).

Schuler (2005) shows in his study that a problem with studies of de facto exchange rate systems is that economists disagree even more among themselves than they do with the IMF in classifying particular cases. Ghosh *et al.*, Levy-Yeyati and Sturzenegger, and Reinhart and Rogoff found that they agreed with the IMF classifications in 41 to 55 percent of cases, but agreed with each other in only 35 to 45 percent of cases (results from Table 3, Frankel 2003, p.39). For example, the IMF classifies Egypt as having a managed float with multiple exchange rates from August 1989 to January 2001. Reinhart and Rogoff (2004) characterize the de facto exchange rate as a crawling band to the U.S. dollar from July 1971 to October 1991 and a hard peg thereafter. Levy-Yeyati and Sturzenegger (2003) classify the de facto exchange rate as a dirty float from 1989 to 1991, inconclusive from 1992 to 1997, a fix in 1998, inconclusive in 1999, and a float in 2000.

This babel of classification schemes makes us confuse with distinguishing the exchange rate regimes and identifying changes in the exchange rate regimes. To keep the analysis manageable, I use the IMF de facto classification scheme. According to this classification schemes, the countries informally pegging their currencies and those managing their exchange rates along a predetermined target path (for example, crawling peg or crawling band regimes) are classified as intermediate regimes.

III.1.2. Exchange rate regime transitions

Since the mid-1990s, some observers, Eichengreen (1994, 2002), Obstfeld and Rogoff (1995), Summers (2000) have predicted that emerging market countries would over time move to the polar extremes of exchange rate flexibility (so-called Bipolar hypothesis [28]), that is they would either adopt hard peg (currency board and high dollarization) or freely floating. Fischer (2001) concluded, on the basis of the IMF de facto classification, "In the last decade, there has been a hollowing out of the middle of the distribution of exchange rate regimes in a bipolar direction, with the share of both hard pegs and floating gaining at the expense of soft pegs".

Bubula and Otker-Robe (2002) find that there have been shift away from intermediate regimes toward the two ends of the spectrum of exchange rate regimes of either truly peg or freely float. In 1990, members with intermediate regimes made up 69.2% of total IMF membership. This number reduced to 38.7% in 2001 (Figure III.1). Most intermediate regimes existed to a floating regime, rather than to hard pegs (Table III.2). More than half of the shifts (56.3%) across all types of regimes involved exits to more flexible regimes and the remaining (43.7%) to less flexible regime.

The greater degree of regime polarization has been attributed to the principle of "impossible trinity" (Frankel, 1999, Fisher, 2001, Bubula and Otker-Robe, 2002, and Obstfeld et al., 2004). The "impossible trinity" principle says that a country cannot attain all three goals simultaneously: exchange rate stability, monetary independence, and financial market integration (or capital mobility). The increasingly integrated financial market pushes the country to choose between exchange rate stability and monetary independence. However,

[28] Bipolar view is referred to as "vanishing or missing middle", "hollowing out of intermediate regimes", "hollowing out of the middle", or "corner solutions".

some authors argue that there is no reason why emerging countries have to allow free capital mobility. Indeed, the fact that currency crisis are result of capital flow reversals has led some authors argue that capital control can reduce the risk of crisis. Chile is a case in point (Edwards, 2001). [29] Furthermore, even under perfect capital mobility, there is nothing to prevent country from choosing intermediate solutions between freely floats and purely fixed.

Table III.2. Number of regime shifts under alternative exchange rate regimes, 1990-2001

	Toward greater flexibility	Toward less flexibility	Total
Exit from			
- Hard pegs	8	-	8
- Intermediate regimes	164	58	222
- Floating regimes	30	99	129
Total	202 (56.3%)	157 (43.7%)	359

Source: Bubula and Otker-Robe (2002)

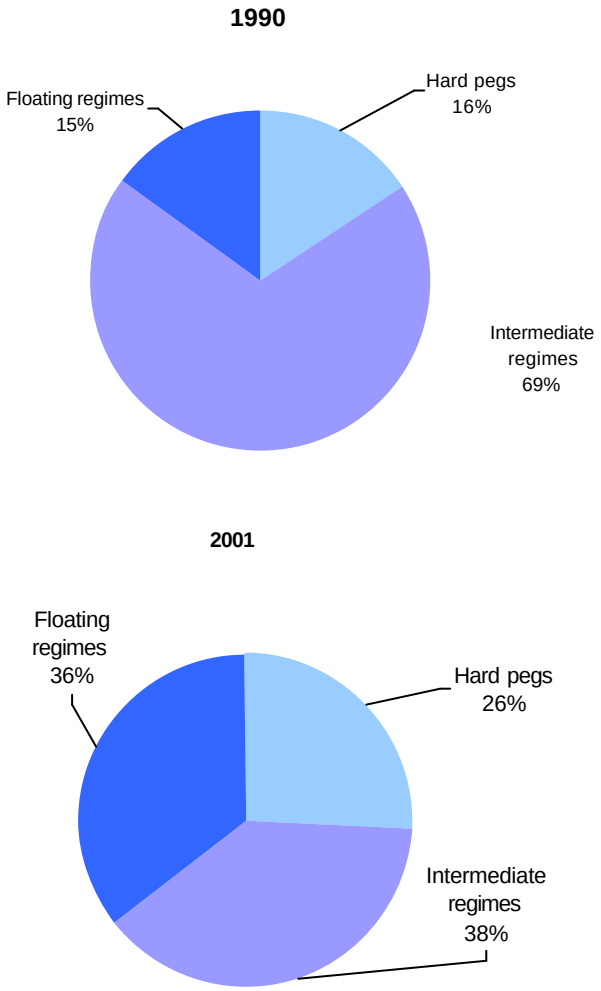
The validity of the bipolar view has been challenged because some have argued that a number of countries declare officially floating but maintain informal exchange rate targets, or many countries say that they have intermediate regime but in fact have de facto peg. The tendency of countries to allow less exchange rate flexibility in practice than in policy statements is consistent with the "fear of floating" of Calvo and Reinhart (2000). That is, countries may be reluctant to allow their currencies to float because negative effects of exchange rate fluctuations on output, exchange rate overshooting, lack of credibility and fear of inflation, currency mismatches, and/or balance sheet effects (on account of high liability dollarization) in case of large depreciations.

Frankel (1999) says that intermediate regime is likely more appropriate than corner solutions. Bubula and Otker-Robe (2002) examine whether the "bipolar view" holds with de factor exchange rate classification. The result is that though the proportion of countries adopting intermediate regimes has been shrinking in favour of either greater flexibility or greater fixity, there is no strong evidence to suggest that the intermediate regime will disappear. This result

[29] Although Chile experienced with the policy of control of capital flows in helping prevent currency crisis, there is no guarantee that this policy will work in the same ways in other countries (Edwards, 2001).

is consistent with that of Masson (2000). Similarly, using Natural classification, Rogoff et al. (2004) indicates that there has been no "hollowing out of the middle". While a few emerging markets indeed moved in the 1990s to de facto hard pegs or free floats, there are many transitions from freely floating to intermediate regimes.

Figure III.1. Evolution of exchange rate regimes, 1990-2001



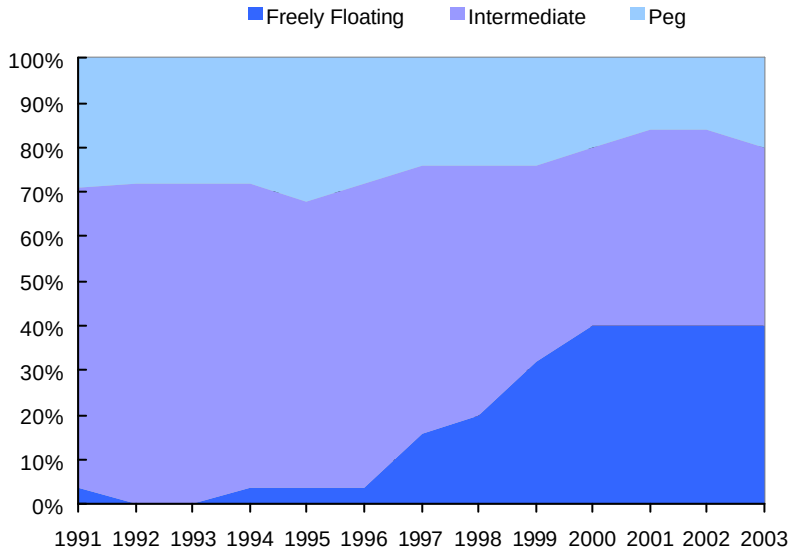
(in percent of IMF membership, de facto classification)
Source: Bubula and Otker-Robe (2002)

IMF (2004b) carried out a descriptive review of exchange rate transition in emerging countries, [30] and found that there has been a trend toward greater exchange rate flexibility

[30] Emerging countries that are developing countries that highly integrated in international capital market (Hakura, 2005) in this review include Argentina, Brazil, Chile, China, Colombia, the Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, the Philippines, Poland, Russia, South Africa, Thailand, Turkey, and Venezuela.

since the early 1990s. Over the past decade, there have been 28 transitions, of which 20 transitions to more flexible exchange rate regimes. The share of emerging countries with free floats rose from zero in the early 1990s to 40% in recent years (Figure III.2). The reason explaining for the move to more flexible exchange rate regimes is drawn from countries' experiences with fixed exchange rate, that is the fixed exchange rate is not able a long run solution to problem of financial and monetary instability in a world of increasingly high capital mobility. "Exchange rate overvaluation, imperfect credibility of both monetary and fiscal policy, and a build-up of short-term external debts all contributed to a high incidence of costly speculative attacks and financial crises in many exchange rate targeting countries since the 1990s. As economies become more open to international financial markets, the vulnerability to shocks under fixed exchange rate increases and floats become more durable" (IMF, 2006b).

Figure III.2. Increasing exchange rate flexibility in emerging countries



Source: World Economic Outlook (IMF 2004b)

In summary, no compromise seemed to have developed in the debate whether freely floating or hard pegs are more attractive for emerging countries. However, the tendency toward greater flexibility continues and predominates over the counter direction. The reason explaining for the move to more flexible exchange rate regimes is drawn from countries' experiences with fixed exchange rate, that is the fixed exchange rate is not able a long run solution to problem of financial and monetary instability in a world of increasingly high capital mobility. This raises the question whether the flexible exchange rate regime can

replace the fixed exchange rate regime (or the choice of an appropriate exchange rate regime) in the new environment of free capital flows.

III.1.3. Advantages and disadvantages of fixed versus flexible exchange rate

Before considering about determinants in the choice of exchange rate regimes, it is necessary to recall about advantages and disadvantages of fixed and flexible exchange rate regimes. Either of fixed or flexible exchange rates have its advantages and disadvantages. Choice of the exchange rate regime is a tradeoff between the advantages of fixing and the disadvantages of floating, and vice versa (Table III.3 and Table III.4). The big advantage of fixed exchange rate is to provide a credible nominal anchor for monetary policy to control inflation. The main advantage of flexible exchange rate, on the other hand, is ability to pursue an independent monetary policy.

Table III.3. Advantages and disadvantages of fixed exchange rate regime

For	Against
1. A fixed exchange rate provides a credible nominal anchor for monetary policy to bring down inflation.	1. A fixed rate, if it lacks complete credibility, may be vulnerable to speculative attack; this could have damaging consequences for monetary stability in the economy or for the foreign exchange reserves; ultimately speculation may force abandonment of the fixed rate.
2. A fixed rate, if it is durable and is regarded as durable, provides businesses with a sure basis for planning and pricing, then reducing transaction costs and exchange rate risk, thereby helping to develop investment and international trade.	2. Promoting trade and investment in Europe was certainly a prime motivation for the European Monetary Union. However, there has not been satisfactory testing of the proposition that trade and investment are substantially boosted by full monetary union (case of European Monetary Union), in which circumstance even the possibility of a future change in the exchange rate is eliminated, along with all transactions costs (Frankel, 1999).

3. A fixed rate regime, which imposes direct discipline on monetary and financial policy, may be preferred when financial sector insufficiently developed for the operation of a market-based monetary policy. For example, to maintain a peg, the central bank is not be able to increase its borrowing through the bond market because this may affect interest rates, and, hence, put pressure on the exchange rate peg (Caramazza and Aziz, 1998). Fixed exchange rate induces more discipline because adopting lax financial policy must eventually lead to an exhaustion of reserves and an end to the peg.	3. A fixed exchange rate results in the loss of independent monetary policy. Loss of an independent monetary policy becomes problematic under fixed exchange rate regime, though inflation is controlled, since the pegging country loses the ability to use monetary policy to respond to domestic shocks that are independent of those hitting the anchor country. For example, the pegging country has to raise its interest rate if the anchor country raises the interest rate in order to maintain the exchange rate relationship, even if the pegging country is in recession.
4. A fixed exchange rate absorbs domestic monetary shocks. A negative shock from domestic money market leads to a shortage in money supply in money market. The public tries to sell valuable papers, which predisposes an excess in supply of valuable papers, then a reduction in price of valuable papers and an increase in interest rate. Increase in domestic interest rate also leads to a decline in demand for investment in goods and excess supply in goods market. As a result, prices and output decline. Additionally, domestic interest rate is higher than foreign interest rate, resulting in an increase in capital inflow, which leads to exchange rate appreciation. Under fixed exchange rate	4. Shock in the anchor country will be more easily transmitted to the pegging country, with possible negative consequences. For instance, changes in interest rates in the anchor country lead to a corresponding change in interest rates in the pegging country.

regimes, the central bank has to intervene to maintain the fixed exchange rate by buying foreign exchange in the market. This intervention brings about an increase in money supply, which in turn helps to compensate negative effects on output.	
	5. Fixed exchange rate together with open capital account, imperfect credibility monetary and fiscal policy, high liability dollarization, build up of short-term external debts and a weak banking system are likely to promote financial fragility and heighten the potential for financial crises. Attracting by high interest rate, stable exchange rate and strong economic performance, there is a massive volume of capital inflows in the country, which will be allocated in efficient sectors, but may be extended in inefficient sectors due to weak banking supervision. Capital inflows will also lead to exchange rate appreciation. If this pressure becomes too intensive, market participants will perceive that the exchange rate might be no longer sustainable (i.e. a sudden loss of credibility increases). In such a case, speculative attacks may occur. A large volume of foreign currency deposits will be withdrawn from banks and a massive volume of foreign exchange will flight out of the countries. These will lead exchange rate depreciation. Exchange rate depreciation will weaken already weak balance sheets of bank and firms, which in turn will force the central bank to sell foreign exchange in the market to defend the peg, but at

	the cost of exhaust of international reserves. To constrain the flight of capital flows, the central bank can tighten monetary policy by raising interest rates but at the cost of further weakening an already fragile banking system and affecting negatively output. These can trigger a financial crisis and a collapse of the fixed exchange rate. In fact, experiences of Latin America and Asia show that maintaining the fixed exchange rate while opening capital account in the context of high liability dollarization and weak banking system are determinants triggered financial crises in emerging countries during the 1990s.
	6. The fixed exchange rate creates the perception of an implicit guarantee for exchange rate and reduces the sensibility of market participants to exchange rate risks, thus they have a little incentive to hedge foreign exposures. If everything works smoothly, hedging is not necessary. If, however, there would be a shock on fixed exchange rate, the central bank would not be able to maintain the fixed rate; market participants would bear exchange rate risks when they had not hedged them against exchange rate risks.
	7. An adequate quantity of foreign exchange reserves is required. It becomes difficult for the country, which has only modest foreign exchange reserves, to maintain the peg.

Source: Frankel (1999), Latter (1996), Mishkin (1999)

Table III.4. Advantages and disadvantages of floating exchange rate regime

For	Against
1. A floating exchange rate allows country to pursue an independent monetary policy, instead of constraining monetary policy by the fixed exchange rate. When the economy is hit by a disturbance, such as a shift in worldwide demand away from the goods it produces, the government would like to be able to respond, so that the country does not go into recession.	1. The freedom to operate a discretionary domestic monetary policy may be abused: for example, the government, not being impelled to prevent the exchange rate depreciating, may fund budget deficits by excessive credit creation. The discretion of monetary policy comes with problem of time-inconsistency because various objectives can be pursued under flexible exchange rate. Additionally, because many emerging market countries have not developed the political or monetary institutions that result in the ability to use discretionary monetary policy successfully, they may have little to gain from an independent monetary policy, but a lot to lose (Mishkin, 1999).
2. Under a floating exchange rate, the exchange rate risk can be hedged through the forward exchange market and other instruments, thereby reducing possibility of crisis.	2. The flexible exchange rate may demonstrate high exchange rate volatility in context of increasingly international financial market integration. Volatility is substantially higher in developing countries with thin foreign exchange markets and unsound financial systems. Higher exchange rate volatility would create uncertainty; the future path of the exchange rate will be uncertain, which may create difficulties for businesses in planning and pricing; this risk will in turn discourage international trade and investment. In certain cases, it may be costly to hedge against such uncertainty.
3. Flexible exchange rates smooth effects of external and domestic real shocks.	
4. If markets operate efficiently and the rate floats freely, there will be	4. Markets seldom operate with perfect efficiency; there is a risk, therefore, of overshooting, which will

no opportunities for speculators to make profits at the expense of the central bank.	result in the exchange rate being at a level not warranted by "economic fundamentals", perhaps for a considerable period.
5. The rate is determined principally by market forces. A cardinal principle underlying the market economy is that markets are successful in allocating resources (including finance) efficiently.	

Source: Frankel (1999), Latter (1996), Mishkin (1999)

Which factors are likely to dominate the advantages of fixed exchange rates or the advantages of floating? The choice of the exchange rate regime is a tradeoff between the advantages of fixing and the disadvantages of floating, and vice versa. There is no right answer for all countries or at all times. The answer depends on the particular circumstances facing the country (Frankel, 1999, 2003).

III.1.4. Determinants in choice of exchange rate regimes

The choice of exchange rate regimes depends on the characteristics of the economy, the shocks the country coped with, and the political considerations (IMF, 1997).

Macroeconomic and financial characteristics are determinants in choice of exchange rate regime. The standard classical theory of choosing an exchange rate regime is the theory of optimum currency area (OCA theory) pioneered by Mundell (1961). Notable followers, who further develop Mundell's ideas, are McKinnon (1963) and Fleming (1971). An optimum currency area is defined as a geographical area in which member countries should use absolutely fixed exchange rates among themselves or, equivalently, have a common currency. Mundell and his followers have stipulated several criteria to assess whether a country should belong to an optimal currency area, including the symmetry of external shocks, the degree of labour mobility, the degree of openness, the extent of economic diversification, fiscal cushions and policy willingness to accept neighbours' policy (McKibbin and Le, 2002, Frankel, 2003, and Horvath, 2003). Among macroeconomic variables, studies later included the different factors such as inflation, foreign exchange reserves, an indicator of either capital

controls (typically also drawn or constructed from the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions) or de facto capital openness (e.g., the ratio of foreign assets of the banking system to the money supply), measures of volatility of domestic output, exports, domestic credit, or the real exchange rate, political economy or institutional strength. Collectively, Rogoff et al. (2004) find that the studies considered more than 30 potential determinants of exchange rate regime choice.

For example, Frankel (1999) is aware of some new criteria for a fixed exchange rate, though OCA factors are still relevant, and underlines that these characteristics have to do with credibility and the need to satisfy international financial markets:

- A strong (even desperate) need to import monetary stability, due to either a history of hyperinflation, an absence of credible public institutions, or unusually large exposure to nervous international investors;
- A desire for further close integration with a particular neighbour or trading partner (which has the added advantage of enhancing the political credibility of the commitment);
- An economy in which the foreign currency is already widely used;
- Access to an adequate level of reserves;
- Rule of law; and
- A strong, well-supervised and regulated financial system.

Mussa et al. (2000) indicate conditions that are likely to favour the adoption of some forms of pegged exchange rate regime:

- The degree of involvement with international capital markets is low;
- The share of trade with the country to which it is pegged is high;
- The shocks it faces are similar to those facing the country to which it pegs;
- It is willing to give up monetary independence for its partner's monetary credibility;
- Its economy and financial system already extensively rely on its partner's currency;
- Because of high inherited inflation, exchange rate-based stabilization is attractive;
- Its fiscal policy is flexible and sustainable;
- Its labour markets are flexible;
- It has high international reserves.

Rogoff et al. (2004) also show that different empirical studies using the de jure and other de facto regime classifications have often obtained different results. For example, openness - the most frequently analyzed variable - is found to be significantly associated with floating regimes by three studies, significantly associated with fixed exchange rates by three studies, and not significantly associated with any particular exchange rate regimes by another five studies. Degree of economic development is found to be significantly associated with floating regimes by three studies, significantly associated with fixed exchange rates by two studies, and not significantly associated with any particular exchange rate regime by another three studies. These suggest that it is very difficult to draw general conclusions about how countries choose their exchange rate regimes.

Another approach has focused on the effects of shocks on the domestic economy. The optimal regime is the one that stabilizes macroeconomic performance, that is, minimizes fluctuations in output, real consumption, the domestic price level, or some other macroeconomic variables (IMF, 1997). If the economy faces predominantly domestic nominal shocks (money supply shocks or money demand shocks), a fixed exchange rate (or a greater degree of fixity) looks attractive. If the shocks are real (foreign shocks, shocks to productivity, or terms-of-trade shocks), a flexible exchange rate (or a greater degree of flexibility) is preferable (IMF, 1997, and Calvo and Mishkin, 2003).

Reason that fixed exchange rate regime absorbs money demand or supply shocks as follows: A negative shock from domestic money market (a decrease in money supply) leads to a shortage in money supply in money market ($m < p + y - a \cdot i$). Man, say, tries to sell valuable papers, which predisposes an excess in supply of valuable papers, then a reduction in price of valuable papers and an increase in interest rate. Increase in domestic interest rate also leads to a decline in demand for investment in goods ($y^d = -b_1 \cdot i$) and excess supply in goods market. As a result, prices and output decline. In addition, domestic interest rate is higher than foreign interest rate, resulting in a reduction in expected exchange rate ($i > i^* + Ee_{+1} - e$) and an increase in capital inflow, which leads to exchange rate appreciation. Under fixed exchange rate regimes, the central bank has to intervene to maintain the fixed exchange rate by buying foreign exchange in the market. This intervention brings about an increase in money supply, which in turn compensate negative effect on output. By contrast, under flexible exchange rate regimes, the central bank permits exchange rate to appreciate.

Exchange rate appreciation makes foreign goods cheaper, resulting in a reduction in the demand for domestic goods (if effect of cheaper prices of imports is larger than decrease in prices of domestic goods), hence a decrease in price of goods and a reduction in money demand. As a result, under flexible exchange rate, nominal exchange rate, money supply, price of goods and output decrease. Therefore, the nominal shocks arising from money supply is transmitted in the real one (a decrease in output).

Reason that flexible exchange rate regime is more appealing if the shocks are real (shock to productivity or to the terms of trade) is: A fall in the price of export of a country (a negative terms-of-trade shock) leads to a reduction in income and in production and labour of export sector, and a weaker position of balance of payments. The exporters have fewer foreign exchange and fewer people want to sell foreign exchange in the market. As a result, exchange rate depreciates. Under fixed exchange rates, the central bank has to sell foreign exchange in the market to sustain the value of the domestic currency. This intervention leads to decrease in money supply (reducing amount of money available for investment), thereby contracting output. Under flexible exchange rate, by contrast, the central bank allows exchange rate to depreciate. The depreciation in exchange rate makes export more competitive, thereby increasing export demand, which in turn stimulates export and reduce negative impacts of the shock to the terms of trade on output.

In addition, the choice of exchange rate regime may depend on political considerations (IMF, 1997). For instance, it may be more costly politically to adjust a pegged exchange rate than to allow a more flexible exchange rate because the former is clearly visible and involves an explicit government decision, while the latter can be attributed to the market. When the political costs of exchange rate adjustments are high, it is more likely that a more flexible exchange rate regime will be adopted. Therefore, the choice of exchange rate regime also depends on policymakers' preferences. That is, the type of costs they wish to minimize, the will to abandon its monetary independence to pursue a monetary policy that results in the dependence on the monetary policy/currency of the country they plan to peg, or the trade-off between advantages and disadvantages between fixed and flexible exchange rate regimes they can accept.

Table III.5. Determinants in choice of exchange rate regimes

Characteristics of economy	**Implication for the desired degree of exchange rate flexibility**
Size of economy	The larger the economy, the stronger is the case for a flexible rate.
Openness	The more open the economy, the less attractive is a flexible exchange rate.
Diversified production/export structure	The more diversified the economy, the more feasible is a flexible exchange rate.
Geographic concentration of trade	The larger the proportion of an economy's trade with one large country, the greater is the incentive to peg to the currency of that country.
Divergence of domestic inflation from world inflation	The more divergent a country's inflation rate from that of its main trading partners, the greater is the need for frequent exchange rate adjustments. (But for a country with extremely high inflation, a fixed exchange rate may provide greater policy discipline and credibility to a stabilization program.)
Degree of economic/financial development	The greater the degree of economic and financial development, the more feasible is a flexible exchange rate regime.
Labour mobility	The greater the degree of labour mobility, when wages and prices are downwardly sticky, the less difficult (and costly) is the adjustment to external shocks with a fixed exchange rate.
Capital mobility	The higher the degree of capital mobility, the more difficult it is to sustain a pegged-but-adjustable exchange rate regime.
Foreign nominal shocks	The more prevalent are foreign nominal shocks, the more desirable is a flexible exchange rate.
Domestic nominal shocks	The more prevalent are domestic nominal shocks, the more attractive is a fixed exchange rate.
Real shock	The greater an economy's susceptibility to real shocks, whether foreign or domestic, the more advantageous is a flexible exchange rate.
Credibility of policymakers	The lower the anti-inflation credibility of policymakers, the greater is the attractiveness of a fixed exchange rate as a nominal anchor.

Source: IMF (1997)

To conclude, it is very difficult to draw general conclusions about how countries choose their exchange rate regimes. A country needs a pegged exchange rate regime at the time, for example, of high inflation if the ability of the central bank to control inflation is weak. But when inflation is reduced, the external competitiveness is deteriorated (because the

appreciation of the currency, to which the domestic currency is pegged), or the surge in foreign investment stopped, the pegged exchange rate should be abandoned. Therefore, the choice of exchange rate depends on the structural characteristics of the economy, the nature and source of the shocks to the economy, and policymakers' preferences (see Table III.5 for summarization of the main determinants in the choice of exchange rate regimes).

III.1.5. Economic performance across exchange rate regimes

How does economic performance (inflation, GDP growth, volatility, and crisis) differ across exchange rate regimes among developing countries? Results of a variety of studies reach a little consensus, which reflect the difference in method of classifying exchange rate regimes (Rogoff et al., 2004).

* **Inflation**

The major difference in economic performance between fixed and flexible exchange rate regimes is with respect to inflation. Pegging exchange rate can lower inflation by inducing policy discipline and to the extent that the peg is credible, the public will not find the way to protect themselves, thus there is no expectations of inflation. Using de jure classification, Ghosh et al. (1996, 2002) also find that inflation under fixed exchange rate regimes is significantly lower than that under immediate or freely floating arrangements due to greater confidence in the currency (credibility effect) and lower money growth (discipline effect). IMF (1997) indicates that inflation in countries with pegged exchange rates has been consistently lower and less volatile than in countries with more flexible exchange rate, but the difference has narrowed substantially in the 1990s. This finding is also made by Levy-Yeyati and Sturzenegger (2001), Coudert and Dubert (2004), Edward and Magendzo (2003a, 2003b) and Rogoff et al. (2004).

However, IMF (1997) and Grauwe and Schnabl (2004) indicate that these findings do not imply that flexible exchange rates are necessarily associated with higher inflation. Indeed, there are a number of countries with flexible exchange rates having relatively low inflation. It is the case of Poland and the Czech Republic.

*** Growth**

The exchange rate regime can influence economic growth through investment or productivity. Ghosh et al. (1996) analyse that fixed exchange rates are in company with higher investment by reducing policy uncertainties and lowering interest rates, but associated with slower productivity since pegged exchange rate can create protectionist, distort price signal and restrict efficient allocation of resources. Output growth is slightly lower and output variability is greater under pegged exchange rates. However, this study does not find strong evidence between exchange rate regimes and economic growth. IMF (1997) also shows that during the 1990s, the mean growth rate in countries with flexible exchange rate appears to have been higher than in countries with pegged exchange rates. However, if excluding growth rate of rapidly growing Asian countries, there is no significant difference between two exchange rate regimes and output growth over the period 1975-96. In contrast, Levy-Yeyati and Sturzenegger (2002b) find that fixed exchange rates are associated with lower growth in developing countries (no similar association for industrial countries). Nevertheless, these findings do not imply that pegged exchange rates necessarily associated with lower growth. Central and Eastern Europe Countries are the case in point (Grauwe and Schnabl, 2004). In favour of pegs, Dornbusch (2001) suggests that lower inflation associated with rigid exchange rate regimes would reduce interest rates and uncertainty, spurring investment and growth. Aghion et al. (2006) find that higher exchange rate flexibility leads to lower growth in countries with relatively thin financial development and predominant financial shocks. Similarly, Rogoff et al. (2004) find that for developing economies, growth appears to decline with increased flexibility, though the effect is not statistically significant. Rogoff et al. (2004) review empirical and theoretical analyses and find conflicting results of these studies, reflecting difference in their methods of exchange rate classification.

Overall, high economic growth and low inflation can be satisfied under either fixed or flexible exchange rate regime, provided that appropriate policies and other conditions for good economic performance are in place (IMF, 1997).

*** Volatility**

IMF (1997) and Levy-Yeyati and Sturzenegger (2002b) find that, during the 1990s, fixed exchange rates are associated with greater output volatility. In contrast, Rogoff et al. (2004) growth volatility does not essentially vary across regimes for developing countries.

Some studies use the volatility of exchange rate changes and that of policy instruments such as interest rate changes and foreign exchange rate reserve changes to identify types of exchange rate (Calvo and Reinhart, 2000, Baig, 2001, Hernández and Montiel, 2003, Levy-Yeyati and Sturzenegger, 2005, Kim et al., 2005). The monetary authorities use policy instruments in order to stabilize exchange rate movements. Under a float exchange rate, the authorities do not intervene or rarely to stabilize the exchange rate, thus, the volatility of exchange rate would be high but that of policy instruments would be low. Volatility is substantially higher in developing countries with thin foreign exchange markets and unsound financial systems. High exchange rate volatility creates uncertainty, increases transaction costs, discourages international trade and investment, and fuels inflation. The degree of volatility of the nominal exchange rate decreases as one moves along the exchange rate spectrum towards decreasing flexibility. The hard peg regimes with their strong and credible institutional arrangements guarantee nominal exchange rate stability but low volatility in change of the exchange rate is associated high volatility with regard to policy instruments.

*** Currency crisis and financial fragility**

Pegged exchange rate regimes as crisis prone [31] for emerging countries [32] is widely accepted (e.g. Obstfeld and Rogoff, 1995, Mishkin, 1999, Mussa et al., 2000, Fisher, 2001,

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[31] Currency crisis are mostly defined as episodes of sharp change in some indicators of pressure in the foreign exchange market. Typically, crises are defined to occur when the value of an exchange market pressure (EMP) index exceeds some threshold value. According to Bubula and Otker-Robe (2003), EMP index is computed as a weighted average of exchange rate and interest rate changes when data existed on both variables. In particular, crises were identified as periods in which the EMP index ($I_{e,i}$) exceeded its sample mean by at least three standard deviations (Crisis $=1$ when $I_{e,i} \geq \overline{I}_{e,i} + 3\sigma\, I_{e,i}$). Currency crisis is accompanied by financial instability (such as banking crisis). Key determinants of banking crisis are credit risk, lack of adequate capital, sharp increases in short-term interest rates, currency mismatches, presence of a deposit insurance scheme, financial liberalization, lending booms, and external economic conditions (Domaç and Peria, 2000).

Williamsons, 2001, Bubula and Otker-Robe, 2003, Husain et al., 2004, and Rogoff et al., 2004).

Mussa et al. (2000) show that for emerging market countries that were most severely affected by recent crises, their exchange rate regimes were clearly important factors in their vulnerability. Argentina and Mexico were the most severely affected countries in the "tequila crisis" of 1994-95; Indonesia, Korea, Malaysia, and Thailand in the Asian crisis of 1997-98; Russia in the Russian crisis of 1997-98; and Brazil and Argentina in the Brazilian crisis of 1997-98. At the same time, countries, which did not have pegged rates, such as South Africa, Israel in 1998, Mexico in 1998, and Turkey in 1998, avoided crises that emerging countries with fixed exchange rates faced. The currency crises of the 1990s underscored that most pegged exchange rates resulted in real exchange rate overvaluation that is incompatible with sustainability of external accounts. For example, Mexican peso was argued that it was overvalued by at least 30%, Brazilian real by 14% (see Edwards, 2001), Malaysian ringgit by 8%, Thai bath by 7%, and the Philippines' peso by 19% (Chinn, 1998 using producer price indices).

However, it is important to note that the exchange rate regime alone is not a fundamental source of crisis, rather other factors, such as domestic financial conditions, also contribute to crisis. [33] Since more stable value of the currency might lower perceived risk for foreign investors, capital inflows were encouraged. These capital inflows, on the one hand, might be channelled into productive investments and thus stimulate growth, they might, on the other hand, promote excessive lending, manifested by a lending boom, especially in countries with inadequate bank supervision and unsound banking system. There were also positive incentives to borrow in foreign currency because on the one hand, domestic currency interest rates were higher than foreign currency interest rate as result of effort to constrain domestic

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[32] It is important to stress that recent crisis have directly and adversely affected emerging countries, but have only indirectly affected the developing and transition countries (through movements in world prices, and trade flows). One of the factors to differentiate emerging and developing countries is that emerging countries have higher exposure to international capital flows (Mussa et al., 2000, Husain et al., 2004 and Rogoff et al., 2004).

[33] For example, Russia and Brazil have had the serious fiscal problem. Korean most important problems were weak financial system and overleveraged corporations. Korea at the onset of 1997 crisis experienced high leverage ratios of chaebols and their low profitability, which made them more vulnerable to shocks. Thailand, Malaysia and Indonesia faced the problem of weal financial sector and financial position of non-financial firms.

overheating by tighter monetary policy. [34] On the other hand, exchange rate stability made banks and corporations think that it was not risky when they agreed to shoulder currency risk to minimize their borrowing costs by over-borrowing foreign currency. In addition, as international credits were cheaper for short-run borrowing, foreign currency borrowings are mainly short-term (Table III.6). [35] These short-term foreign-currency borrowings were used in long-term projects generating domestic currency that causes maturity and currency mismatch.

When the domestic currency was suddenly changed, [36] the debt burden of domestic firms increased. The consequences were substantial loan losses and a deterioration of balance sheets, both for non-financial firms and financial firms, which now were unable to collect on their loans to non-financial firms. In addition, devaluation could lead to a dramatic rise in both actual and expected inflation. Indeed, Mexican inflation surged to 52% in 1995 after the foreign exchange crisis in 1994 and Indonesian inflation increased dramatically from 10.3% at end-1997 to 77.6% in the same period of 1998 (Mishkin, 1999 and IMF, 2003e). The rise in expected inflation then led to a sharp rise in interest rates, which weakened firms' cash flow position and further deteriorated their balance sheets.

The fixed exchange rate seemingly created the perception of an implicit exchange rate guarantee and reduced the sensibility of the market participants to the exchange rate risks (moral hazard problem); thereby there was a little incentive to hedge foreign exposure. Unhedged foreign exposure together with tendency toward borrowing in foreign currency in context of weak financial system and weak banking supervision became potential danger.

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[34] For example, in South Korea, a combination of South Korean policy, its accession to the OECD, and the Basle accords on capital adequacy created unintended incentives for short-term bank borrowing (Noland, 2005).

[35] Total external debt outstanding of Thailand at end-1997 is USD 93.4 billion (equivalent to 62.3% of GDP), of which short-term debt outstanding is USD 34.8 billion (IFS and Bank of Thailand, 1998).

[36] In case of Thailand, beginning in 1993, the economy started showing overheating signals. Demand pressures intensified, leading to higher inflation and a sharp widening of the current account deficit despite tighter monetary and fiscal policy. The pegged exchange rate in combination with freely capital flows along with large capital differential encouraged interest rate arbitrage and contributed to highly volatile capital inflows. In addition, rapid credit growth and a rising level of external debt increased Thailand's vulnerability to a series of domestic and external shocks, including a sharp slowdown in export growth (in part reflecting appreciation of the real exchange rate in line with the strengthening of the U.S. dollar), growing difficulties in the over-expanded property sector, large falls in the stock market, and a rapidly weakening financial system. Instability eroded the public's confidence. A succession of speculative attacks was successful led to depletion of Thailand's international reserves, which forced the authorities to abandon the exchange rate peg on July 2, 1997.

Table III.6. Liquidity and currency mismatches as of June 1997

	Ratio of short-term debt to international reserves	Ratio of short-term debt to total debt (%)	Ratio of broad money to international reserves
South Korea	3.0	67	6.2
Indonesia	1.6	24	6.2
Thailand	1.1	46	4.9
Philippines	0.7	19	4.9
Malaysia	0.6	39	4.0

Source: Goldstein (1998)

When a banking system was in a weakened condition as well as the exchange rate came under downward pressure, the monetary authorities, who had thin foreign exchange rate reserves, had to defend the fixed exchange rate regime by intervention in the foreign exchange market and dared not raise the interest rate because it further undermined already weak banks and firms. Once market doubted about the stability of the fixed exchange rate, then speculative attacks became overwhelming, thereby resulting in depletion of foreign reserves. When the fixed exchange rate became too costly for the government to maintain, then the collapse of the fixed rate was inevitable.

In summary, the crises in East Asia and Mexico, in which the weakness of the banking sector and speculative attacks on the currency contributed by fixed exchange rates triggered a full-scale financial crises, illustrate how dangerous the fixed exchange rate for emerging countries, particularly for countries with perfect capital mobility. By contrast, the flexible exchange rates allow greater flexibility for monetary authorities at times of exchange rate pressures and economic difficulty. Market participants are forced to recognize risks of foreign currency borrowing and have measures to protect them. Overall, flexible exchange rate becomes more valuable as countries integrate more closely into international financial markets and as they develop sound financial systems.

Similarly, Eichengreen and Hausman (1999) base on moral hazard hypothesis to conclude that pegged exchange rates are source of moral hazard and promote unhedged foreign currency borrowings that are easy to expose. By implication, more flexible exchange rate is desirable to limit short-term capital inflows and buttress stability of the exchange rate.

Conversely, Domaç, and Peria (2000) indicate empirically that adopting fixed exchange rates reduce the probability of banking crisis in developing countries. Eichengreen (1998) finds counter examples that the savings-and-loan crisis in the United States and the Japanese banking crisis of the 1990s both occurred under floating rates. Eichengreen (1998) indicates that there is no simple mapping between exchange rate stability and financial stability, it needs to consider about the origin of disturbances. When disturbances to the banking system originate abroad, exchange rate flexibility can help to insulate the banks from shocks to their funding and investments. It gives the authorities the opportunity to act as lenders of last resort. In contrast, when macroeconomic and financial shocks jeopardizing the stability of the banking system are home grown, pegging the exchange rate imposes discipline on domestic policymakers.

*** Other macroeconomic variables**

With regard to interest rate, Hausman et al. (1999) indicate through statistical record for Latin America that fixed exchange rate regime lead to lower real interest rates.

With regard to competitiveness, IMF (1997) finds that countries with pegged exchange rate have suffered larger current account deficits than countries having more flexible exchange rate. One of the reasons is that since the early 1980s countries with pegged exchange rates have experienced losses of competitiveness relative to countries with more flexible exchange rates. In fact, the real effective exchange rates in 1996 of countries with single-currency pegs were essentially unchanged from 1980, while currencies pegged to a basket had depreciated by 14%, and countries with flexible exchange rates by 55%.

However, with regard to relations with other domestic variables, effect of exchange rate depreciation is likely inefficient. According to conventional wisdom, allowing depreciation under flexible exchange rate, could achieve more competitive real exchange rate (provided that unchanged spread between foreign and domestic prices). By lowering wages measured in the U.S. dollar, exchange rate depreciation improves competitiveness, thereby stimulating export and reducing import. Thus, countries with flexible exchange rate can use the exchange rate to affect dollar wages. Nevertheless, Hausman et al. (1999) find evidence in case of Latin America and suggest that countries with exchange rate flexibility face heavy costs when they

attempt to improve competitiveness through devaluation. That is, under flexible exchange rate, wage indexation tends to be higher because price setters protect themselves from unexpected changes in prices (price setters anticipate the possibility of lowering dollar wages through exchange rate depreciation). Wage then influences prices and cause a further cycle of inflation. All attempts to improvement of competitiveness by devaluation are nullified by response of wages while amplifying inflation. In this context, the central bank aiming to price target should not allow greater exchange rate flexibility.

Overall, high economic growth and low inflation can be satisfied under either fixed or flexible exchange rate regime; lower real interest rate is able to reach under fixed exchange rate, the improvement of competitiveness by depreciation under flexible exchange rate may not have desirable results; low volatility in change of the fixed exchange rate is associated high volatility with regard to policy instruments; and different conclusions about crisis proneness of alternative exchange rate regimes.

These imply that no exchange rate is superior and the choice of exchange rate regime depends on many determinants. These may include the characteristics of the economy (based on OCA theory), inflation history (mentioned by IMF, 1997 and Frankel, 1999), type of shocks the economy coped (introduced by Eichengreen, 1998), the existence of appropriate policies, institutions and other conditions for good economic performance and for handling the exchange rate fluctuation (for example, level of financial development indicated by IMF, 1997, Mishkin, 1999, Mussa et al., 2000, Calvo and Mishkin, 2003, and Aghion et al., 2006), and policymakers' preferences (IMF, 1997).

III.2. Fixed versus flexible - approaches to choose an appropriate exchange rate regime in Vietnam

To answer the question of which kind of exchange rate regimes and how flexible they should be, Frankel (1999) said, "No single currency regime is right for all countries or at all times. The choice of exchange rate arrangement should depend on particular circumstances facing the country in question".

Take the case of Vietnam. As mentioned above, fixed exchange rate regime with its problems become very difficult to sustain as the economy opens its capital account. This lays the issues

in the choice of an appropriate exchange rate regime for Vietnam. Firstly, I see whether Vietnam is a candidate for a fixed exchange rate regime against the U.S. dollar based on OCA theory. Second, real situations of the economy suggest that, an appropriate exchange rate regime for Vietnam must meet conditions of achieving the price target, and helping the economy to resist external shocks. The former is related to the credibility and independence of the central bank. The latter considers the role of the exchange rate in sustaining the economy (output and price) in the face of various kinds of shocks.

III.2.1. Country characteristics

According to IMF (1997), Mussa et al. (2000), and Rogoff et al.(2004), the fixed exchange rate is superior when the economy is small (typically measured as gross domestic product in common currency) and open (defined as half the sum of imports and exports, in percent of GDP); the economy's production and export structure are less diversified; the geographical trade concentration (the share of trade with the country's main partner) is high, the labour market is flexible; the degree of involvement with international capital markets is low; the country's inflation rate less diverges from that of its main trading partners; political authority is willing to give up monetary independence for its partner's monetary credibility; exchange rate-based stabilization is attractive in context of high inflation; the level of international reserves is high; the fiscal policy is flexible and sustainable; and the level of economic development (GDP per capita) and financial development is low.

Using these criteria as jumping-off points to consider the desired degree of exchange rate flexibility for Vietnam in the context of opening capital account in the coming years, I find some results (Table III.7):

With regard to degree of size and openness of the economy, the economy of Vietnam is small and open (the proportion of export and import to GDP is more than around 130-140% in 2004-06), and then the fixed exchange rate is more attractive (since import prices weigh more heavily in domestic consumer prices in an open economy than in a closed economy, then fixed exchange rate regime is a nominal anchor for the import prices).

With regard to the diversity of trade and production, the economy has trade relations with many countries in all continents. For example, in 2005, 66.5% of total exports are with

industrial countries, of which United States (18% of total exports), Japan (13.6% of total exports), Australia, other EU- and Asian countries make of large proportion, and 33.5% of total export are with developing countries, of which China accounts for large ratio (9.1% of total exports). The export structure is diversified, including crude oil (23% of total exports), garment, footwear, marine products, electronic goods, rice, coffee, coal, rubber, furniture, handicraft, etc (IMF, 2006d and 2006e). Manufacturing goods (garment, footwear, marine products, and furniture) make up one third of total exports in 2005, an increase from 6% in 1992. In such a case, flexible exchange rate is more feasible. However, although Vietnam has diversified its trade, 80% of international payments are settled in the U.S. dollar. This problem arises from the public's preference to the U.S. dollar. In such a case, fixed exchange rate is more desirable.

With regard to divergence of domestic inflation from partners' inflation, domestic prices are influenced by world prices because the economy imports almost major input (petrol, steel, machinery, construction materials). Besides, the credibility of anti-inflation program of policy makers is low, thus the fixed exchange rate is more desirable.

With regard to degree of financial development, according to conventional wisdom, the fixed exchange rate is more desirable when financial system is unhealthy (i.e. bank balance sheets are weak, financial institutions have large open foreign positions) because depreciation can provoke bank insolvencies, undermine the confidence that leads to further currency depreciation. But the point is when the fixed exchange rate regime faces problem such as unsustainability of the peg (due to lack of credibility), unhedged foreign exposure, the peg may be susceptible to speculative attacks. In this case, delay to adjust the exchange rate can be a recipe for disaster (Eichengreen, 1999). Thus, flexible exchange rate is preferable.

With regard to capital mobility, Vietnam still restricts the capital flows but it has to loosen the capital flow restrictions in the next few years according to US-Vietnam bilateral trade agreement and commitment to join WTO, thus flexible exchange rate is more feasible.

With regard to labour mobility, labour mobility is low, the wage system in Vietnam is rigid, and thus the attraction of a flexible exchange rate is greater.

With regard to shocks, the open economy will face more external and real shocks (terms-of-trade shocks are a key fundamental that affects REER in Vietnam, IMF, 2006d), thus the flexible exchange rate is superior.

Table III.7. Consideration in choice of exchange rate regime in Vietnam

Characteristics of economy	**Implied exchange rate flexibility**
Size and openness of economy	Less flexible
Diversified production/export structure/Geographic concentration of trade	Less flexible
Divergence of domestic inflation from world inflation	Less flexible
Degree of economic/financial development	More flexible
Labour mobility	More flexible
Capital mobility	More flexible
Foreign nominal shocks	More flexible
Real shocks	More flexible
Political considerations	More flexible

Source: Author

With regard to political considerations, the SBV wants to stabilize the price level but does not want to loose its independence. Additionally, it has only thin foreign exchange reserves (about 12 weeks of imports). This implies that maintaining a fixed exchange rate as nominal anchor to control inflation by intervention in the foreign exchange rate market is very risky. Raising interest rates to defend the fixed exchange rate faces difficulties because it will affect negatively the inherent weak banking system. In such a case, although fixed exchange rate contributed to control inflation but at the cost of the central bank and the economy if the fixed peg cannot be defended, then the flexible exchange rate is preferable.

In summary, Vietnam does not fit well all OCA criteria for a fixed exchange rate regime. Rather, the economy meets more criteria for a flexible exchange rate regime. To the extent of increasingly integrated financial market, the flexible exchange rate together with strengthening the financial system as well as giving more room for the central bank to manoeuvre an independent monetary policy become more appropriate for Vietnam. We will

see more details about two aspects, which play an important role for Vietnam in the choice of exchange rate regime, price stability and shock absorption.

III.2.2. Credibility and independence of the central bank

III.2.2.1. An introduction to the relationship between price-stability objective, credibility and independence of the central bank

Monetary policy objectives include normally stabilizing price, currency, interest rate and finance, promoting output growth, achieving full employment, smoothing business circle, etc. Some of these objectives may be inconsistent with each other, for example output growth and price stability. However, it is widely consented that price stability is overriding goal of monetary policy. Maintaining low inflation (or price stability) creates a more favourable climate for doing business and thereby economic growth. If individuals and businesses believe that prices will be stabilized year after year, they can make better long-terms plans and set their wages and prices based on the expectation that inflation rate will be equal the announced inflation by the central bank, hence contributing to stabilize the inflation rate. In addition, nominal and real interest rates will be lower (stable), which in turn encourage investment. In contrast, high inflation has many costs. High inflation can affect badly the effectiveness of investment and export competitiveness, thereby output growth, through the increase in domestic production costs and real exchange rate appreciation. The public tries to protect itself by setting wages and prices on the expectation that inflation will be higher than announced inflation rate, which contributes to push up prices, wages, and interest rates (so-called vicious circle of rising inflation). High inflation will affect badly the quality of living because the increase in incomes does not keep pace with the rise in price levels. Doing business, spending, and saving plans become more difficult because less predictable prices in the future. Many sellers will exploit high inflation to speculate, which aggravates the high inflation situation.

With the benefits of low inflation and costs of high inflation, from my point of views, monetary policy in Vietnam should aim at stabilizing price level as primary objective. The question is how should monetary policy be conducted to achieve the price stability objective?

A monetary policy targeting at price stability (low inflation) will be successful if it is credible. That means the public believes that the central bank will carry out all necessary measures to achieve this announced objective. To the extent that monetary policy is credible, the public will not react so strongly to fluctuating trends of prices and set its wages and prices based on the expectation that inflation rate will be equal the announced inflation by the central bank, hence contributing to stabilize the inflation rate.

However, in fact, it is not right that monetary policy is always credible. The central bank may lose the credibility if the public believes that the central bank is unlikely to achieve all of its announced objectives because they are perceived to be incompatible. The multiple incompatible objectives arise from loss of central bank independence. That means the central bank is under pressure from the Government to implement the Government's objective that is inconsistent with the objective pursued by the central bank (for example budget financing or output growth objective is conflicting with price stability). In such a case, price stability objective will not be achieved (see below). This situation is called time-inconsistency problem.

Time-inconsistency problem is analyzed by Kydland and Prescott (1977), Barro and Gordon (1983), Rogoff (1985) and the followers. [37] Time-inconsistency refers to "the difference between the optimal policies that a central bank would announce it would carry out and the policies that the central bank would carry out after the public had made decisions based on its expectations" (Khan, 2003). If the central bank announces that it will target a specific rate of inflation and the public will set contract of wage based on that announcement, then the central bank can renege on its promise by pursuing a policy that bring about higher growth and employment in the short run (i.e. expansionary monetary policy) even though this policy causes higher inflation rate. However, the public realizes that and protects themselves by setting their wages and prices based on the expectation that inflation rate will be higher than announced inflation rate (when prices and wages are flexible), which contributes to push up

[37] Kydland and Prescott (1977) define the policy is consistent if for each time period, this policy maximizes an agreed-upon social objective, taking as given previous decision, and that future policy decisions are similarly selected. Inconsistency arises when the best plan currently made for some future periods is no longer optimal when that period actually starts. More concretely, the time-inconsistency problem arises because there are incentives for the central bank to pursue discretionary policy to achieve short-run objectives, such as higher growth and employment, even though it can lead to higher inflation in the long run.

prices and wages, hence limiting the desired output gains. Nevertheless, it is important to know that the central bank can avoid the time-inconsistency problem by simply recognizing the issue of forward-looking expectation in the wage- and price-setting process, thus the central bank can decide not to play that game. Even though, there will still be pressures on the central bank to pursue overly expansionary monetary policy by the government, who has other considerations such as budget financing or growth objective, because the central bank lacks independence in implementing monetary policy. In short, time-inconsistency problem arises when the public believes that the central bank is unlikely to achieve all of its announced objectives because they are conflicting. Therefore, time-inconsistency problem can lead to negative outcomes in the long run.

In summary, loss of central bank independence leads to multiple incompatible objectives (so-called time-inconsistency problem), thus the public has less credibility in the central bank in achieving its announced objective, say, price stability. In such a case, the public will protect itself by setting wages and prices based on the expectation that inflation rate will be higher than announced inflation rate by the central bank As a result, the inflation rate is push up; the price stability objective is not achieved.

In fact, in order to reach the price stability objective, there are the following ways:

One way to deal with time-inconsistency problem is to negotiate an agreement between the government and the central bank, in which the government and the central bank will declare themselves that they will be jointly responsible for achieving monetary policy objective (Perrier and Amano, 2000). Knowing that the central bank must pursue the announced objective, the public will adjust its inflation expectations accordingly. In this case, it is necessary for the central bank to have a credible commitment to pursue its primary price-stability objective. In fact, the central bank tends to choose an appropriate target for monetary policy to the extent that the public understands it, allowing monetary policy to operate in an environment called by Bernanke et al. (1999) as “constrained discretion”. [38] The most popular

[38] The implementation of monetary policy is characterized as a form of either “rules” or “discretion” (Bernanke et al., 1999 and Khan, 2003). “Rules” may be thought of as pre-set policy, independent of contemporaneous circumstances, neither permitting nor requiring judgment or discretion over time. The constant money growth rule of Milton Friedman is one example, under which the money stock is required to grow annually by a fixed percentage, independent of economic or financial conditions. Advocates of “rules” note that this regime creates

is the use of "nominal anchor" to tie down price level to a specific value at a given time. According to Mishkin (1999), from a technical viewpoint, a nominal anchor provides conditions that make the price level uniquely determined, thereby being necessary for price stability. On the other hand, a nominal anchor, which is considered as a constraint on discretionary monetary policy, helps weaken the time-inconsistency problem so that price stability in the long run is more likely to be achieved. The nominal anchor can be in some forms of either quantitative constraint - e.g. monetary targeting (limit the amount of paper money that can be put into circulation) and inflation targeting (the public announcement of official quantitative targets for inflation rate over time) - or price constraint - e.g. exchange rate targeting (fix the value of paper money in terms of foreign currency). The first two nominal anchors (monetary targeting and inflation targeting) are usually used under flexible exchange rate regime. The last one, exchange rate targeting, is used as fixed exchange rate regime. These nominal anchors, if credible, will help to ensure price stability. We will see how credibility helps to ensure price stability under fixed and flexible exchange rate regime through a simple model in the next part.

Another way is to appoint a governor of the central bank who is recognized as having an inflation-tolerance threshold lower than that of the public (this relates to the central bank independence). [39] In such cases, inflationary pressures, for example, caused by excess demand, will not affect expectations, because the public is confident that the central bank will take measures to counter those pressures.

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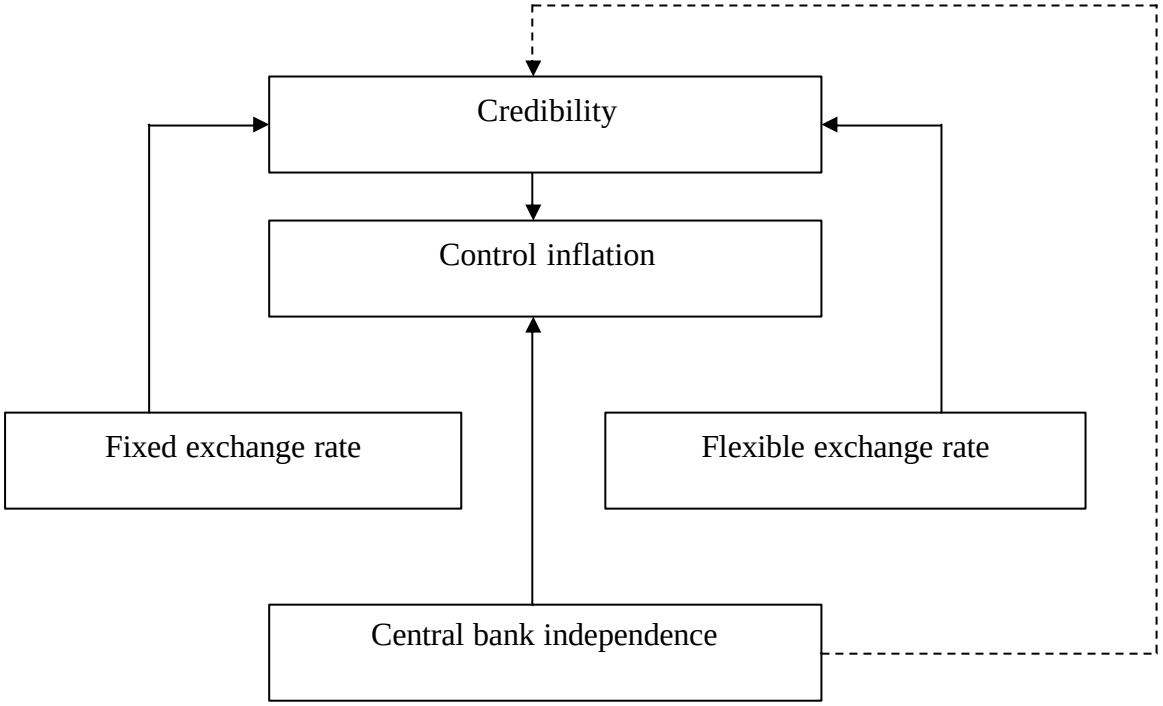
discipline or credibility, thus helps reduce inflationary bias. In contrast, a central bank that follows a purely discretionary strategy makes no public commitments about its objectives or future actions. Instead, it reserves right to set monetary policy monthly or weekly according to the policymakers' assessment of current conditions. Arguments in favour of "discretion" are the discretionary policymaking preserves flexibility and enables the central bank to respond to new information of unexpected developments. Most now agree that rules-based strategy still permits a margin for discretion (Khan, 2003). For example, the gold standard permitted moderate discretion in practice, particularly for countries with ample gold reserves (Bernanke et al., 1999). By contrast, even under a discretionary regime, the central bank has policy goals and does not conduct policy randomly. Bernanke et al. (1999) show that, in practice there is not an absolute rule for monetary policy. In fact, all monetary policy regimes are discretionary and discretion is a matter of degree. The success of different monetary policy strategies depends on the central bank's ability to constrain discretionary monetary policy so that long-run objectives are more likely to result.

[39] See Rogoff (1985) model in the next part.

Overall, price stability objective of monetary policy can be achieved by a variety of nominal anchors and giving the central bank more independence. The following are discussions about the issue of credibility under fixed and flexible exchange rate regime and central bank independence in attaining price stability objective (Chart III.1).

Chart III.1. Control of inflation and monetary policy



Source: Author

III.2.2.2. Credibility

A. The model

We see the issue of credibility in ensuring price stability under fixed and flexible exchange rate through the following simple model.

Consider a small country. Foreign variables and output are exogenous. Money supply is determined by the central bank. Price and wage are flexible. Interest parity and purchasing power parity hold. Market participants set rational expectations.

Monetary market	$m = p + y - a \cdot i$	(III.1)
Purchasing power parity	$e = p - p^*$	(III.2)
Interest parity	$i = i^* + E\Delta e$	(III.3)
Exogenous variables	$y = i^* = p^* = 0$	(III.4)

where m is the log of the domestic money supply, e is the log of the exchange rate, i is the nominal interest rate. Variables referring to foreign currency are indicated by an asterisk. $E\Delta e$ is the expected rate of change of the log of the exchange rate.

Substituting Equation III.4 into Equation III.1, III.2, and III.3, we have:

$$m = p - a \cdot E\Delta e \quad \text{(III.5)}$$

$$e = p \quad \text{(III.6)}$$

Consider different cases as follows:

(a) Fixed exchange rate $e = 0$, money supply m is endogenous.

(a1) If fixed exchange rate is credible $E\Delta e = 0$.

The result is $m = p = e = 0$, the price level is stable.

(a2) If fixed exchange rate is not credible, there is an expectation of depreciation $E\Delta e > 0$.

The result is $m = -a \cdot E\Delta e$. Because there is an expected depreciation of the exchange rate, the central bank has to intervene by selling foreign exchange in the market, thereby reducing money supply. However, the problem is foreign exchange reserves are limited. Therefore, the central bank cannot defend the fixed exchange rate because its foreign exchange reserves run out. In addition, speculative attacks are likely to happen, which are not reflected in this model.

(b) Flexible exchange rate $m = \overline{m}$, money supply m is exogenous, but not set as zero because it can be changed by the central bank.

Under flexible exchange rate regime, market participants do not sure about the fluctuation trend of the exchange rate, thus the expected fluctuation of the exchange rate is assumed zero $E\Delta e = 0$.

The result is $p = e = \overline{m}$. Under flexible exchange rate, the central bank is not impelled to defend the exchange rate and changes in foreign prices are neutralized by changes in exchange rate (no inflation import). Therefore, the domestic price stability is ensured if the central bank is able to control money supply.

To summarize, the price stability objective will be achieved if credibility under fixed and flexible exchange rate regime is ensured. The credibility of fixed exchange rate regime refers to the ability of the central bank to maintain the peg. The credibility of flexible exchange rate regime refers to the ability of the central bank to control money supply. We see the credibility of the exchange rate regimes in Vietnam as follows.

B. Credibility under the fixed exchange rate regime in Vietnam

Facing high domestic inflation, the central bank cannot build a credible monetary policy to fight inflation. It, thus, imports credibility by fixing the value of domestic currency to hard-money country with low inflation rate. A pegged exchange rate fixes the inflation rate for internationally traded goods, and thus directly contributes to keeping inflation under control (see Equation III.2). The pegged exchange rate (as a nominal anchor, if credible) anchors inflation expectations in the targeting country to the inflation rate in the anchor country. The lower inflation expectations result in the targeting-country's inflation rate in line with that of the low-inflation anchor country. In short, if the public has confidence in the central bank's ability to defend the peg, the pegged exchange rate regime will help to ensure price stability.

As mentioned in the previous chapter (see II.2.3.4), although the fixed exchange rate regime in Vietnam has been not yet successfully speculated until now, the maintenance of the peg remains a challenge to the SBV because of imperfect credibility of the public in the SBV. In addition, the progressive liberalization of capital account puts the maintenance of the fixed exchange rate regime in more difficult situation, as a sudden loss of credibility increases. Consequently, a financial crisis and a collapse of fixed exchange rate regime are more likely. Therefore, it can be said that the fixed exchange rate regime in Vietnam could not gain

enough credibility in the eye of the public in control inflation. The fixed exchange rate regime also could not a long-run solution for financial stability in the event of free capital flows.

Besides, we see the actual role of fixed exchange rate regime in ensuring price stability in Vietnam. The prominent effect of the fixed peg in the control of inflation in Vietnam is that the pegged exchange rate fixes the inflation rate for internationally traded goods. Market participants will set their prices accordingly based on the perception that prices will not rise because prices of traded goods will not be affected by change in exchange rate, and thus directly contributes to keeping inflation under control. In such a way, the fixed exchange rate is useful in anchoring inflation expectation. [40] However, the fixed exchange rate is not really a strong nominal anchor to control inflation because it is very difficult to fix inflation expectations in Vietnam due to large inertial inflation in Vietnam (IMF, 2006d). The Vietnamese economy experienced a long period of hyperinflation, thus, inflation has been always an obsession with regard to both the public and the authorities. The inflation obsession leads to the fact that one percentage point of past inflation results in a rise of 0.79% in inflation in Vietnam in the episode of 2000-06, higher than other selected Asian countries (IMF, 2006d). Moreover, the effects of a shock on inflation in Vietnam persist longer than in other Asian countries. A one-percentage increase in inflation would take 20 quarters in Vietnam to vanish, while those in selected Asian countries would be 10 quarters.

Furthermore, the role of exchange rate pegging as a nominal anchor to peg inflation expectations in the targeting country to the inflation rate in the anchor country becomes very difficult for the public to understand.

Additionally, although the SBV has a fear that an excessive volatility of the exchange rate will lead to increase in inflation, however, the effect of exchange rate volatility on inflation rate is relative small (IMF, 2006d). The IMF (2006d) estimates that 1-percent depreciation of NEER leads to an increase of 0.12% in inflation (in period 2000-06), 0.1% higher than that in other Asian countries. For example, the depreciation of NEER in 2004 was 6.7%. This figure resulted in a rise of 0.8% in inflation in this year. Meanwhile, the inflation rate in 2004 was 9.5%, in comparison with that of 3% in 2003. This result shows that the nominal exchange rate volatility (measured as NEER) is only one of determinants of inflation in Vietnam. Many

[40] Similarly, the IMF (2006c, p.12) concludes that the fixed peg is useful in anchoring inflation expectation in Vietnam.

other determinants that affect the price stability in Vietnam are past inflation, broad money, excess demand pressures (measured as output gap), food supply and oil price shocks, overly fiscal spending, liberalization of administered price, and natural calamity.

In conclusion, although the fixed exchange rate in Vietnam is useful in anchoring inflation expectations, the role of the fixed exchange rate regime as a nominal anchor to stabilize the price is not strong enough because the inflation in Vietnam is largely inertial and affected by a variety of determinants aside from exchange rate volatility. These lead to the requirement of use of monetary policy in association with other policies (for example fiscal policy) to control inflation, rather exchange rate peg alone. In addition, as mentioned in previous chapter, the maintenance of the fixed exchange rate regime faces difficulties in the event of free capital flows. Therefore, it can be said that the fixed exchange rate regime is not able to be a long-run solution for price and financial stability. The fixed exchange rate as nominal anchor is not a sole solution to control inflation. Another alternative solution is moving to flexible exchange rate regime and adopting monetary targeting or inflation targeting as a nominal anchor to control inflation. We see below whether monetary and inflation targeting work in Vietnam.

C. Credibility under the flexible exchange rate regime in Vietnam

Let see about the necessity of adopting a nominal anchor to control inflation under flexible exchange rate regime. Under flexible exchange rate regime, the central bank is not impelled to prevent exchange rate fluctuation. Regardless of price stability objective of the central bank, the government can force the central bank to finance budget deficit by excessive credit extension that leads to inflation and depreciation of domestic currency. [41] Since various objectives can be pursued under flexible exchange rate regime, the discretion of monetary policy comes with time-inconsistency-problem, then likely leading to poorer outcomes (as discussed above). Additionally, the problem of multiple incompatible objectives can reduce the credibility of the pubic in the central bank. Once the central bank looses credibility, the flexible exchange rate can produce further rapid depreciation and inflation. Therefore, it is necessary to have a nominal anchor for monetary policy under flexible exchange rate regime to constrain the discretion of monetary policy, thereby helping weaken time-inconsistency

[41] Overly credit creation to finance public sector spending experienced under both fixed and flexible exchange rates, but the cost under a fixed exchange rate is more where the central bank has to defend the peg to avoid currency crisis.

problem, hence ensuring the price stability objective. The nominal anchor is understood by the public as a commitment of the central bank to pursue its price stability objective. As long as this nominal anchor is credible, inflation will be restrained. The most popular nominal anchors under flexible exchange rate regime are monetary targeting and inflation targeting

Under flexible exchange rates, the credibility of commitment to keep inflation in control needs to be taken into account. As showed by the model, the credibility of monetary policy under flexible exchange rate is related to ability of the central bank to control money supply, thereby inflation. We see below the ability of the SBV to control money supply, hence inflation. This relates to the adoption of monetary targeting. Then, we try to answer if the SBV cannot control money supply, what should the SBV do in order to control inflation under flexible exchange rate regime? This is related to inflation targeting.

*** Monetary targeting**

Monetary targeting strategy relies on information conveyed by monetary aggregates to conduct monetary policy. Monetary targeting limits the amount of paper money that can be put into circulation, or in other words, aims at the growth rates of various money aggregates (Bernanke et al., 1999). Monetary targeting was popularly adopted from the mid-1970s (following the collapse of the Bretton Woods system) until the early 1980s.

A monetary targeting strategy comprises three elements: 1) reliance on information conveyed by a monetary aggregate to conduct monetary policy, 2) announcement of targets for monetary aggregates, and 3) some accountability mechanism to preclude large and systematic deviations from the monetary targets (Mishkin, 2000).

Monetary targeting helps to control inflation (as a nominal anchor) in the following way. Under flexible exchange rate regime, the demand for domestic base money, and hence the price level and exchange rate, depends on the expectation about money supply growth. Because information on conducting money aggregate is announced periodically with very short time-lags, the public can compare easily actual money-supply growth rate with target rate, which in turn sends immediately signals to market participants about the central bank's stance and intention to control inflation, thereby mitigating inflation expectations and then

producing less inflation. In short, when a central bank slows the rate of money aggregate growth, the result will be a lower rate of inflation.

(a) Advantages of monetary targeting

According to Bernanke et al. (1999), Mishkin (1999), and Mishkin and Savastano (2000), monetary targeting has the following advantages: First, it allows the central bank greater freedom to adjust monetary policy to domestic conditions (see Chapter III, III.3.1). Second, it allows some scope for monetary policy to deal with transitory output fluctuations and certain external shocks. Third, it can be used as a nominal anchor to reduce inflation. Fourth, monetary targets promote the central bank's accountability to keep inflation low and help to constrain the time-inconsistency problem.

(b) Disadvantages of monetary targeting

First, it is more difficult to anchor inflation expectations because money targets introduce a second numerical target to primary goal of monetary policy (i.e. low inflation), thereby obscuring the task of the central bank and making it harder to monitor its performance. Therefore, monetary targeting is not suitable for countries with history of high inflation rate and fragile credibility of the central bank (IMF, 2005c).

Second, the advantages of monetary targeting only work if the relationship between money aggregates and goal variable such as inflation is strong and reliable. That means the implementation of monetary targeting is based on the assumption that the central bank has full control of the nominal money stock (i.e., the money multiplier and velocity are predictable). In other words, the precondition (or necessary condition) to adopt monetary targeting is good ability of the central bank to control money supply (we can see this conclusion through the model above). The sufficient condition is a strong and reliable relationship between targeted variable, say, monetary aggregates, and goal variable, say, inflation (Mishkin, 1999, Agénor, 2001). The weak relationship between money supply and inflation implies that hitting the target will not produce desired outcomes on goal variable. Thus, money aggregates will fail to provide signals to market participants about the central bank's intention, and then they will be no more effective anchor for inflation expectations. Additionally, this weak relationship makes it difficult for the central bank to be transparent and accountable to the public that may

in turn impair credibility of market participants in the central bank. To conclude, the weak relationship between monetary aggregates and inflation deteriorates the effect of regulating money supply on inflation, hence the effectiveness of monetary targeting as nominal anchor to control inflation.

Indeed, countries' experiences both in industrialized countries (United States, the United Kingdom, Canada, Germany and Switzerland) and emerging countries (Latin America) show that the relationship between monetary aggregates and goal variable is very unstable, which may arise from, say, financial innovation and liberalization, and other changes in banking system. This explain why most of monetary targeters abandoned this strategy in the 1980s and a few adopted it in a flexible and ad hoc manner (Germany allowed inflation goal change over time and missed target frequently, about 50% of the time) (Agénor, 2001, Bernanke et al., 1999, Mishkin, 1999, and Mishkin and Savastano, 2000).

Third, sources of inflation derive from a variety of reasons, not only money aggregates; thus making the control of money supply to stabilize inflation is very hard. We can see it as follows (assumingly, closed economy).

Money market	$m = p + y - a \cdot i$	(III.7)
Fisher equation	$i = r + E\Delta p$	(III.8)
Inflation rate	$\Delta p_t = p_{t+1} - p_t$	(III.9)
Rate of change of inflation rate	$\Delta\Delta p_t = \Delta p_{t+1} - \Delta p_t$	(III.10)

Then, inflation rate equation is written:

$$\Delta p = \Delta m - \Delta\bar{y} - (\Delta y - \Delta\bar{y}) + a \cdot \Delta r + a \cdot E\Delta\Delta p \qquad \text{(III.11)}$$

where $\Delta\bar{y}$ is potential output growth, $(\Delta y - \Delta\bar{y})$ is output gap between actual and potential output growth (degree of utilization).

The inflation rate depends on change in money supply ?m, actual output growth ?y given a certain growth rate of potential output $\Delta\bar{y}$, change in real interest rate ?r, and in expected change in inflation rate. Therefore, sources of inflation are money supply growth, cost push,

demand pull (change in variables relating to interest rate such as investment and government expenditure), and shocks.

Monetary targeting would be an optimal way of fulfilling inflation targets if money growth was a sole source of inflation, i.e. the inflation rate is caused by change in money supply alone. We have:

$$\Delta p = \Delta m - \Delta\bar{y} - \underbrace{\left(\Delta y - \Delta\bar{y}\right)}_{0} + \underbrace{a \cdot \Delta r}_{0} + \underbrace{a \cdot E\Delta\Delta p}_{0} = \Delta m - \Delta\bar{y} \qquad \text{(III.11)}$$

Given a certain potential output growth, inflation rate increases when the money supply increases.

(c) The adoption of monetary targeting in Vietnam

At present, in parallel with exchange rate targeting, the SBV aims at money supply (total liquidity - M2) to implement monetary policy. However, the control of the money supply faces a variety of difficulties.

First, monetary targeting is sometimes at odds with exchange rate pegging. For example, at end-2006, there was an excessive supply of foreign exchange in the market resulting from remittances, foreign tourists, and Vietnamese emigrants taking traditional "Tet" holiday in Vietnam, receipts from export, FDI, and increase in selling foreign exchange of the resident for spending for "Tet" holiday. This made exchange rate appreciated in real terms. In this case, the SBV did not intervene to defend the peg. Otherwise, foreign exchange intervention in the market would lead to increase in money supply that has been already ratified by the National Assembly. In such a case, the SBV chose to widen the exchange rate band from +/- 0.25% to +/-0.5%. That means the SBV prioritized monetary targeting. The missing of exchange rate targeting might impair the fragile credibility of the public in the SBV's maintenance of the fixed exchange rate regime.

Second, the amount of money supply is ratified annually by the National Assembly to attain the objectives of economic growth and inflation rate (i.e. inflation rate must be lower than output growth). This does not show that the long-run objective of monetary policy is to

control inflation. This also limits the central bank independence in conducting monetary policy and raises the time-inconsistency problem, thereby restraining the accountability of the central bank to control inflation. Therefore, the SBV is not active in controlling money supply to achieve monetary policy objectives. In addition, the effect of monetary indirect instruments on money supply is restricted. For example, in using refinancing instrument to control credit institutions' liquidity, then credit supply, interest rate, and inflation rate, the SBV has to regulate refinancing and discount interest rate (in a way that refinancing interest rate is ceiling rate and discount interest rate is floor rate) to limit assess of credit institutions to funds of the SBV because the SBV is restricted from money supply ratified by the National Assembly.

Third, the SBV is less able to control credit extension, hence money supply (see Chart II.2). The credit growth has been high. As already mentioned in previous chapter, the most important reason that affects the control of credit growth is policy lending (credits directed by the government), which does not base on commercial reasons. Moreover, many financial institutions, such as Development Assistance Fund and postal savings system, whose operations affect the implementation of monetary policy, are not supervised by the SBV because of lacks of legal regulations. In addition, the impact of central bank lending facilities and reserve requirements on credit liquidity has not been yet effective. The control of the credit operation (such as credit institutions' liquidity) through OMO is not yet effective because of a few participants in OMO and an underdeveloped stock market. Furthermore, the control of interest rate faces difficulties because domestic interest rate is affected by international interest rate under fixed exchange rate regime.

Fourth, let I say about the relationship between money aggregates and inflation. Previous studies show that the relationship between broad money and inflation in Vietnam is weak (a study by Vo (2000) for the period 1992-99, and a study by IMF (2003b) for the period 1995-2003). Unlike the earlier phase, IMF (2006d) finds some evidence that, since 2002 correlation between money and inflation has become strong, monetary aggregates appear to affect inflation with a lag of about 12 months. However, this finding must be viewed cautiously, especially during a period that money demand function has shifted significantly. This could be attributed to the rapid structural transformation of the economy since "doimoi", growing monetization, and increasing integration into international financial markets, which create many new services and assets, more variable capital movements, and rapid change in institutional framework as well as in financial sector. IMF (2006a, d) concludes that the rapid

structural change of the economy makes it difficult to estimate stable relationships for macroeconomic variables. This unstable relationship between monetary growth and inflation obstructs monetary policy strategy targeting at monetary aggregates. Additionally, the economy is affected by a sequence of price shocks (corrections in administered prices and tax reforms, oil and rice price shock) and supply shocks (food supply shocks). These make controlling and predicting money supply and demand become more complicated. Therefore, relying on targeting money aggregates could be a quite ineffective approach to control inflation.

Fifth, experiences of Germany and Switzerland show that monetary targeting can be used successfully if the central banks announce clearly the objective of monetary policy and explain that they continue pursuing the long-run objective of price stability when monetary targets are missed (Mishkin, 2000). However, gaining the confidence of the public in such a case is not easy and explaining the reason of target misses is complicated. The central banks can do it if they have a track record of fighting inflation, like Germany and Switzerland, and the public places high confidence in the central banks. In such a case, the central banks must be flexible in implementing monetary policy at monetary targeting. With this condition, monetary targeting is not advisable for Vietnam because the public has a little confidence in the ability of the central bank to fight inflation. In addition, the public does not care about the money supply, rather about the intuitive and visible commitment - that is inflation rate.

In conclusion, monetary targeting and exchange rate targeting are two parallel nominal anchors in implementing monetary policy in Vietnam. Exchange rate targeting is not a long-run solution for price and financial stability in the event of free capital flows. Monetary targeting faces problems of unstable relationship between money aggregates and inflation, time-inconsistency problem, policy lending and ineffective monetary policy instruments. In addition, monetary targeting and exchange rate targeting are sometimes conflicting but the SBV has had not yet a rule to solve it. Therefore, the adoption of monetary targeting and exchange rate targeting at the same time is not an optimal solution. Alternatively, putting aside the exchange rate targeting, monetary targeting under flexible exchange rates would face inherent problems of weak ability of the central bank to control money supply and unstable relationship between monetary aggregates and inflation. That means the necessary and sufficient conditions to adopt monetary targeting under flexible exchange rates are not met. Once the conditions for the adoption of monetary targeting are not met, the success of

this strategy is impossible, thereby its credibility is not ensured. Therefore, the adoption of monetary targeting when moving to flexible exchange rate regime is not an optimal alternative for fixed exchange rate regime in Vietnam. We see below what the central bank should do when it cannot control money supply under flexible exchange rate regime. This relates to inflation targeting.

*** Inflation targeting**

If the central bank is not able to control money supply, it cannot implement monetary targeting as nominal anchor to control inflation. In such a case, the central bank can adopt inflation targeting, under which the central bank must give priority to price stability objective in implementing monetary policy; even accept the negative effects on output. To reduce negative effects on output, the central bank needs support from the government by conducting other supportive policies (for example, the wage policy).

For example, let see the effectiveness of wage policy in reducing the negative effect on output under a shock in money supply. A decrease in money supply $M\downarrow$ means that market participants have fewer money in hands, they will restrict their consumption $C\downarrow$ (if price is flexible), leading to excess supply of goods $Y^d < Y^s$, and then a decline in the price of goods $P\downarrow$.

In case of rigid nominal wage in the short-run, the nominal wage is already set in the labour contract, thus employer cannot cut off wage to get more profit in case that prices of goods are reduced ($W = \overline{W}$). This brings about an increase in the real wage $\overline{W}/P\uparrow$. Enterprises, who want to maximize their profit, will react by cutting off employment $N\downarrow$ (Labour market in case of underemployment $N^d(\underset{-}{\frac{\overline{W}}{P}}) \le N^s(\underset{+}{\frac{\overline{W}}{P}})$, thus resulting in a decrease in output $Y\downarrow$ ($Y = Y(\underset{+}{N}, \underset{+}{K})$). That means the rigid nominal wage does not help to reduce the negative effect on output under the impact of a money supply shock.

$$\underset{-}{M} \Rightarrow \underset{-}{P} \Rightarrow \underset{+}{\frac{\overline{W}}{P}} \Rightarrow \underset{-}{N} \Rightarrow \underset{-}{Y}$$

In case of flexible nominal wage, the employer will accordingly reduce the nominal wage ($W \downarrow$) when prices of goods are reduced ($P \downarrow$). As a result, the real wage remains constant ($W / P\ cst$). Then employment and output do not change ($N\ cst, Y\ cst$). That means the flexible nominal wage helps to neutralize the impact of money supply shock on output.

$$M \downarrow \Rightarrow P \downarrow \Rightarrow W \downarrow \Rightarrow W / Pcst \Rightarrow Ncst \Rightarrow Ycst$$

In short, a flexible wage policy will help to reduce the negative impact on output when the central bank implements measures to counter inflation. The less output-inflation trade-off will increase the credibility of both the public and the Government in anti-inflation program of the central bank, thereby helping to increase the credibility of inflation targeting.

Unlike monetary or exchange rate targeting, which targets intermediate variables, such as money supply growth or a level of the exchange rate, inflation targeting involves targeting inflation directly. Inflation targeting is associated with high degree of exchange rate flexibility and central bank independence in terms of monetary policy instrument and the link between the central bank and the financing of the government budgets.

Inflation targeting entails an institutionalized commitment to price stability as the primary goal of monetary policy; mechanisms making the central bank accountable for attaining its monetary policy goals; the public announcement of medium-term numerical targets for inflation; an information inclusive strategy in which many variables, and not just monetary aggregates or exchange rate, are used in making decisions about monetary policy; and increased transparency of the monetary policy through communication with the public about the plans, objectives and decisions of the monetary authorities (Mishkin, 2004).

(a) Advantages of inflation targeting over exchange rate pegging

Nowadays, many countries choose inflation targeting in implementing their monetary policy when they decide to exit fixed exchange rate regimes. Advantages of inflation targeting over exchange rate pegging are:

- With the announcement of low inflation as primary objective of monetary policy and an explicit numerical inflation target, inflation targeting becomes easier understand than exchange rate pegging (also than monetary targeting).
- Inflation targeting increases the transparency of the central bank's policymaking, whereas the policymaking under exchange rate pegging is disclosed. The greater transparency, the better the public understands the central bank's stance and strategy, which in turn enhances the credibility of the public in the central bank.
- Inflation targeting allows the central bank to solve the problem of maintaining price stability, thereby enhancing the central bank's ability to control inflation and to conduct monetary policy, while the central bank under exchange rate pegging cannot do it because maintaining price stability is shifted to anchor country.
- Inflation targeting helps to enhance the credibility of the public in the central bank's ability to conduct monetary policy, while the central bank under exchange rate pegging cannot enhance its credibility per se because it imports credibility by anchoring the domestic currency to foreign currency. Bernanke et al. (1999) find that credibility is not achieved immediately on the adoption of inflation target, but once the central bank gains credibility, it will bring better economic consequences. For example, after inflation is kept in control for a period of time, inflation expectation will remain low despite the economy in strong cyclical growth.
- Inflation targeting allows the central bank to focus on its per se monetary objective (price stability) and domestic considerations by giving it independence, while the central bank under exchange rate pegging is constrained to use monetary policy for other purposes (loss of independence). On the one hand, loss of central bank independence under exchange rate pegging becomes a problem because the central bank has to conduct the duty entrusted by the Government that contradicts to its objective (i.e. the price stability), thereby not ensuring the price stability objective. On the other hand, loss of monetary policy independence becomes a problem when shocks transmitted from anchor country are independent with domestic shocks (increase in interest rate in anchor country forces the pegging country to raise its interest rate even in face of a negative demand shock). In contrast, inflation targeting maintains the central bank independence (to avoid time-inconsistency problem) and monetary policy independence (to respond to domestic shocks). The more independent the central bank, the larger credibility and the lower inflation rate is (Cukierman, 1992, 2006).

- Inflation targeting allows the central bank to use all information, neither just one variable such as monetary aggregates, nor exchange rate, to determine the best settings for monetary policy.
- Inflation targeting pays attention to inflation and deflation, whereas exchange rate pegging cannot do it. Deflation can cause negative effect on output and employment and lead to financial instability (see, Mishkin, 1997).
- Inflation targeting focuses the central bank and the Government on what they can do (that is long-run price stability, which in turn improves prospect of sustained long-term growth), rather than on what they cannot do (tradeoff between output and price stability, which however can be reduced by flexible wage policy), thereby reducing time-inconsistency problem that undermines credibility.
- Inflation targeting, among other things, does not raise the probability of crises, but the exchange rate peg increases a likelihood of speculative attacks in case of high capital mobility (IMF, 2005c, 2006b).

With above noted advantages of inflation targeting over exchange rate pegging, the inflation targeting will become a strong and credible nominal anchor if the central bank is successful in achieving its inflation targets.

(b) Credibility of inflation targeting

Making inflation targeting credible in the eye of the public is related to the success of the central bank in achieving its inflation targets. Inflation targeting framework creates a mechanism, which gives the central bank more independence and puts pressures on the central bank to increase accountability, transparency, communication. Transparency and flexibility will help to achieve both output stability in the short run and price stability in the long run (more details are discussed in chapter V, V.1.2.2). Low inflation in the long run, in turn, improves prospect for sustained long-term growth. Bernanke et al. (1999) conclude that "there is no evidence that inflation targeting has produced harmful effects on the real economy in the long run; more likely, low inflation have improved the prospects for sustained long-term growth". These outcomes will enhance the credibility of the public in the central bank.

Experiences of inflation targeters show that the adoption of inflation targeting, among other things, helps to reduce inflation (Bernanke et al., 1999 and IMF, 2006b). However, the adoption of inflation targeting does not eliminate the costs of reducing inflation, i.e. inflation-output tradeoff in the short-run. In addition, credibility is enhanced after the adoption of inflation targeting, despite not immediately, because credibility gains are slow to materialize and institutional arrangements (for example, for wage- and price-setting) do not change quickly following the adoption of inflation target. For instance, Perrier and Amano (2000) write about inflation targeting in Canada, "… Most of the studies on this topic have concluded that success in keeping inflation within a target range has helped to increase the credibility of Canadian monetary policy". Similarly, Coletti et al. (2006) show the evidence that the credibility of monetary policy has increased significantly with the introduction of the inflation-targeting regime in Canada.

Mishkin (2004) concludes that, "the examples of Chile and Brazil illustrate that inflation targeting is indeed feasible in emerging market economies, despite their more complicated political and economic environment. Inflation targeting has been able to provide a strong nominal anchor that can keep inflation expectations in check. However, this requires not only a focus on good communication and transparency by the central bank, but also supportive policies to develop strong fiscal, financial and monetary institutions". Schmidt-Hebbel and Werner (2002) analyze evidence on the contribution of inflation targeting to strengthen the credibility of monetary policy in Chile, Brazil and Mexico and find that "…inflation targeting has helped strengthen credibility in four ways: inflation targets have influenced private sector inflation expectations; they helped in the convergence toward low stationary inflation; the influence of volatile inflation shocks on core inflation was either small or negative; and inflation deviation forecast errors declined significantly following the adoption of inflation targeting".

In short, inflation targeting creates a mechanism, which will enhance the credibility of the public in the central bank depending on the success of the central bank in achieving its inflation targets. The credibility is enhanced after the adoption of inflation targeting, despite not immediately.

(c) Disadvantages of inflation targeting

Inflation targeting has several criticisms, including:

First, inflation is not easy controlled by the monetary authorities, and thus inflation targeting was only adopted after substantial disinflation has been achieved (single-digit inflation) in all industrial inflation targeters. This has contributed to the initial degree of credibility of the framework (Masson et al., 1997, Bernanke et al., 1999, Carare et al., 2002, and IMF, 2006b).

Second, inflation targeting does not provide immediate signals to the public about the stance of monetary policy because of the long lag of monetary policy, which affects inflation expectations.

Third, some criticisms argue that inflation targeting imposes a rigid rule on the monetary authorities that does not allow them enough discretion to respond unpredictable circumstances. However, Mishkin (1999) argues that inflation targeting is far from a rigid rule. In practice, inflation targeting contains a degree of policy discretion and inflation targets have been modified depending on economic circumstances. Moreover, it allows monetary authorities to use all information to determine appropriate policy actions to achieve the inflation target. Indeed, central banks under inflation targeting have left themselves considerable scope to respond to output growth. Say, this was the case of Brazil (see Mishkin, 2004)

Svensson (2002) shows that it is widely agreed that inflation targeting in practice is "flexible" inflation targeting. The objective is to stabilize inflation around the inflation target, but also to put some weight on stabilizing the output gap (the difference between actual output and the natural/potential output). Such an objective can be described by an intertemporal loss function in period t: [42]

$$L_t = (1-d)\cdot E_t \sum_{t=0}^{\infty} d^t \cdot \left[\left(p_{t+t} - p^* \right)^2 + l \cdot x_{t+t}^2 \right] \qquad \text{(III.12)}$$

[42] More details, see Svensson (1999)

where $d\,(0<d<1)$ is a discount factor, $1-d$ implies that the intertemporal loss function is scaled such that it is measured in period loss units), E_t is expected information in period t, p_t is inflation in period t, x_t is the output gap ($x_t = y_t - \bar{y}_t$) in period t, p^* is the inflation target, and $l > 0$ is the relative weight on output-gap stabilization. Thus, inflation and the output gap are two target variables in the loss function, which correspond to p^* and zero ($y_t = \bar{y}_t$), respectively. Note that inflation target is the primary objective.

When d approaches one ($d \to 1$), the limit of the intertemporal loss function is the weighted sum of the unconditional variances of inflation and the output gap:

$$\lim_{d \to 1} L_t = Var[p_t] + l \cdot Var[x_t] \qquad \text{(III.13)}$$

(when $E[p_t] = p^*$ and $E[x_t] = 0$). Flexible inflation targeting means $l > 0$, strict inflation targeting when $l = 0$.

(d) Macroeconomic performance under alternative monetary policy regimes

Based on two caveats, the IMF (2005c, 2006b) shows macroeconomic performance under alternative monetary policy regimes. [43] The results are industrial inflationary targeters have been associated with significant improvements in macroeconomic performance (inflation, volatility of inflation, output growth, volatility of output growth, medium- and long-term inflation forecast, and their volatility) relative to their own previous performance and to most non-targeters. Evidences from non-industrial countries, subject to two caveats, suggest that inflation targeting has been associated with better macroeconomic performance than under other alternative monetary policy frameworks. In addition, inflation targeting is associated with lower financial market volatility (volatility of nominal exchange rates, real interest rates and international reserves) and lower probability of crises relative to non-inflation targeters.

[43] The caveats are (i) the experience with inflation targeting in non-industrial countries is relatively short, and it is hard to draw definitive conclusions about the effects of inflation targeting, rather suggestive; and (ii) it is difficult to infer causality from inflation targeting to the observed outcomes in a definitive way, because in many cases inflation targeting coincided with a range of reforms towards greater macroeconomic stability (IMF, 2006b).

Similarly, Edwards (2006) finds that adopting inflation targeting has not resulted in increase in nominal and real exchange rate volatility.

(e) Prerequisites for inflation targeting

Prerequisites for a successful inflation targeting framework are divided into four groups (Carare et al., 2002, and IMF, 2005c, 2006b): institutional independence, technical infrastructure, economic structure, and healthy financial system.

(e1) Institutional independence

This include: (i) A central bank should have a mandate to pursue the inflation target as the primary objective of monetary policy and have sufficient independence to set monetary instruments to pursue the inflation target; (ii) The public should be informed about the framework and conduct of monetary policy; (iii) The inflation target will not be subordinated to other objectives.

When the country conducts inflation targeting, the overriding objective of monetary policy is to pursue inflation target. The inflation target can be set either by the government, the central bank, or jointly by both of them (Carare et al., 2002). The government's involvement in setting the target will strengthen the credibility of the inflation targeting framework through indirect commitment of the government to manage fiscal policy in a way that supports the inflation objective. The central bank has sufficient discretion to choose and manage its monetary instruments to pursue its inflation target. In practice, industrial inflation-targeting central banks use short-term interest rate as operating instrument and rely on developed financial markets to transmit the effects of changes in the instrument to aggregate demand and inflation.

When the central bank decides to adopt inflation targeting, it must be accountable to the public for achieving its goal. Accountability is essential because lags of monetary policy transmission make it difficult for the public to monitor the conduct of monetary policy. Thus, the monetary policy under inflation targeting must be transparent in order to ensure that the public has enough information about monetary policy performance.

Countries adopting inflation target should avoid fiscal dominance, a situation in which monetary policy is governed by the financial needs of the government (Masson et al., 1997). [44] If not, prolonged and huge fiscal imbalances will raise inflationary pressures (for example, financing fiscal deficit by monetization) that will undermine the ability of the central bank to achieve the inflation target.

(e2) Technical infrastructure

Analytical capabilities and infrastructure should be well developed. That means central banks must have a good capacity to forecast inflation and data needed are more required than under other alternative regimes.

(e3) Economic structure

Inflation targeting requires that prices are fully deregulated (not administered), the economy is not overly sensitive to changes in commodity prices and exchange rates, and dollarization is minimal.

(e4) Healthy financial system

Financial system stability is the foundation to control inflation and enables monetary policy to pursue inflation targets. It also helps to enhance the credibility of the monetary policy, thereby anchoring inflation expectation to the inflation targets.

A sound and stable fiscal policy is needed to avoid problems of fiscal dominance, to minimize potential conflicts with financial stabilization objectives, and to guarantee an effective monetary policy transmission.

[44] This implies that public sector borrowing from the central bank and the banking system should be low or nonexistent; the government should not finance its revenues from seigniorage generated by excessive currency issuance; domestic financial markets should have enough depth to absorb the placement of public and private debt instruments; and the accumulation of public debt should be sustainable and not unduly constrain monetary policy (Masson et al., 1997).

Further, a deep and liquid financial market helps to convey information to the central bank on economic fundamentals and market expectations about monetary policy stance, and helps to facilitate the formulation, execution of monetary policy and monetary and exchange rate operations.

(f) Do preconditions need to be met before adopting inflation targeting?

IMF (2005c) conducted a survey to assess the role of "preconditions" for the adopting of inflation targeting in both industrial and non-industrial inflation targeters. The results are as follows:

With regard to "institutional independence", although the IMF recommends that the central bank must have full legal autonomy, and be free from fiscal and/or political pressures that could create conflicts with the inflation objective, only 20% of emerging-economy inflation targeters satisfied key indicators of independence at the onset of inflation targeting (IMF, 2005c). [45] In fact, most industrial countries, plus Brazil and Thailand, adopted inflation targeting before introducing a central bank framework that grants the appropriate degree of central bank independence (Carare et al., 2002). Masson et al. (1997) indicate that central banks need not be fully independence; rather they should have instrument independence. In addition, regarding fiscal dominance problem, inflation targeters' experiences show that they faced different financial conditions at adoption, for example, the Philippines had high ratio of public debt whereas Chile was in good fiscal condition (IMF, 2005c).

With regard to "technical infrastructure", this precondition is not met by emerging countries' inflation targeters. They started with no or little inflation forecasting capacity and no forecasting model as well as not enough or not ideal date available.

With respect to "economic structure", in practice, administered prices, the economy's sensitiveness to commodity prices and exchange rates, and dollarization were problems that

[45] Freedom from any obligation of the central bank to purchase government debts, a high degree of job security for the central bank governor, and freedom from the executive and formulation of monetary policy which prioritizes the inflation (price stability) objective. These are independence in three areas (finance, personnel and policy).

emerging countries' inflation targeters faced; and none of them had ideal economic conditions when they introduced inflation targeting (as results of survey, IMF, 2005c).

With respect to "healthy financial system", at the outset of inflation targeting, most inflation targeters scored relatively poorly in this area (IMF, 2005c).

In conclusion, evidences indicate that no inflation targeters meet all these preconditions before the adoption of inflation targeting framework (IMF, 2005c). Thus, all preconditions for successful adoption of inflation targeting in emerging countries are not necessary in place before introducing inflation targeting framework (Carare et al., 2002, and IMF, 2005c, 2006b). However, technical and institutional improvements do contribute to better inflation performance once this framework has been adopted because such improvements signal the authorities' commitment to the framework and thereby enhancing their credibility.

(g) The adoption of inflation targeting in Vietnam

With the advantages of inflation targeting over exchange rate pegging noted above, I find that inflation targeting is really a leading monetary policy strategy instead of exchange rate pegging. However, the main issue is whether the inflation targeting framework can work in Vietnam in the control of inflation. To address this question, we will discuss the following issues:

- The benefits of the adoption of inflation targeting in the control of inflation in Vietnam and in comparison with that of exchange rate pegging;
- The preconditions for the adoption of inflation targeting;
- The challenges for Vietnam to adopt inflation targeting.

(g1) Benefits of the adoption of inflation targeting in Vietnam

The adoption of inflation targeting in Vietnam may bring benefits for the economy. I will compare the strength of both inflation targeting and exchange rate targeting as a nominal anchor to control inflation and to enhance the credibility of the public in the central bank.

- Inflation targeting would help to enhance the ability of the SBV to control inflation and to conduct monetary policy, in the following ways. First, in the context of unstable relationship between money aggregates and inflation, the adoption of inflation targeting would allow the SBV to use all information variables (such as monetary aggregates, exchange rate, interest rate, expected inflation rate, assets prices, and key-material-input prices) to achieve its announced targets, rather only monetary aggregate under monetary targeting or exchange rate under exchange rate pegging. Second, inflation targeting would allow the SBV to focus its monetary policy on solving the problem of maintaining price stability, while under exchange rate pegging the SBV cannot do it because maintaining price stability is shifted to anchor country. Third, if the SBV chooses a strict inflation targeting, inflation targeting would allow the SBV focus only on price stability objective, while the SBV faces the problem of time-inconsistency problem (trade-off between inflation and output) under fixed exchange rate regime.
- Inflation targeting, if successful, would help to enhance the credibility of the public in the SBV's ability to conduct monetary policy. The adoption of inflation targeting would create a mechanism, which gives the SBV's independence, increases its accountability (by targeting at explicit numerical target and by being supported by the Government in avoidance of fiscal dominance and time-inconsistency problem) and fosters its communication with the public. This mechanism would help to enhance the credibility of the public in the central bank, despite not intermediately. By contrast, under exchange rate pegging, the SBV cannot enhance its credibility per se because it imports credibility by anchoring the domestic currency to foreign currency.
- Inflation targeting can help build credibility and anchor inflation expectations more rapidly and durably (IMF, 2005c). It is assumed that, by announcing price stability as the primary objective of monetary policy and targeting an explicit numerical inflation target, the inflation targeting would help the public better understand, monitor, and evaluate the SBV's performance, thereby anchoring inflation expectations faster than under other monetary strategies. Countries experiences show that credibility is not achieved immediately on the adoption of inflation target, but once the central bank gains credibility, it will bring better economic consequences (Bernanke et al., 1999)
- The adoption of inflation targeting would increase the transparency of the SBV's policymaking, whereas the policymaking in Vietnam under fixed exchange rate regime is disclosed. The greater transparency, the better the public understand the SBV's stance and strategy, which would in turn enhance the credibility of the public in the central bank.

- Inflation targeting would allow the SBV to focus on its per se monetary objective (price stability) by giving it independence, at least in the implementation of monetary policy, while under exchange rate pegging the SBV loses its independence. In fact, under fixed exchange rate regime, loss of the SBV's independence leads to time-inconsistency problem (conflict between price and output stability). In contrast, inflation targeting maintains the central bank independence to avoid time-inconsistency problem. Cukierman (1992, 2006) proves that the more independent the central bank, the larger credibility and the lower inflation rate is (discussed later).
- The adoption of inflation targeting would enhance the SBV's ability to deal with shocks to the economy, such as demand shock. For example, the SBV can ease the monetary policy to deal with a decline in aggregate demand or vice versa. In contrast, under fixed exchange rate regime, loss of monetary policy independence will restrict the SBV's response to external shocks that contrast with domestic considerations. As mentioned in previous Chapter II.2.2.4, under fixed exchange rate regime, in 2006, the increase in Fed rate led to a rise in interest rates of commercial banks to attract foreign exchange deposits from the public, which could heighten the run-out of commercial banks because they mobilized more funds but could not lend accordingly. In such a case, the SBV usually called commercial banks to be prudent in raising their interest rates and had no better measures to prevent the shift from the Vietnamese dong to the U.S. dollar.
- The adoption of inflation targeting would not force the SBV to ignore other macroeconomic objectives, whereas the fixed exchange rate helps to control inflation only. The adoption of flexible inflation targeting in association with increasing transparency would help the central bank achieve two objectives, i.e. short-term output stability and long-term price stability (more details see Chapter V). Although inflation targeters cannot avoid loss in output and employment in the short-run (flexible wage only helps reduce the loss), less output loss in the short run, which may receive more support of the public and Government on the adoption of a new framework, and low inflation in the long run, which in turn improves the perspective of sustained long-term growth, will enhance the credibility of the public in the central bank.
- The successful adoption of inflation targeting would be likely if it would get strong support from the government to avoid fiscal dominance and time-inconsistency problem and to develop strong fiscal, financial and monetary institutions. In contrast, under fixed exchange rate regime, the SBV did not get support from the Government to maintain the peg. For example, facing upward pressures of exchange rate at end 2006, the SBV did not

buy foreign exchange from commercial bank because it would excess the volume of money aggregate ratified the National Assembly, rather the SBV widen the exchange rate band.

- The adoption of inflation targeting would pay attention to both inflation and deflation, whereas exchange rate pegging cannot do it.

With benefits and advantages of inflation targeting over exchange rate targeting in Vietnam, I find that inflation targeting is a desirable monetary strategy in lieu of the fixed exchange rate. From my point of view, the most important thing is that unlike the exchange rate pegging, under which the SBV has to import credibility from abroad, inflation targeting creates a mechanism that enhances the ability of the SBV per se to control inflation and to conduct monetary policy. Furthermore, once the Government accepts to give the SBV more room to manoeuvre monetary policy to control inflation, it will support the central bank through commitments to manage fiscal policy in a way that supports the price stability objective, e.g. to avoid fiscal dominance and to develop strong fiscal, financial and monetary institutions. The strong commitment between the central bank and the Government to control inflation will in turn help to enhance the credibility of monetary policy. The question is whether inflation targeting will bring into full play in Vietnam. The success of inflation targeting depends on whether Vietnam meets preconditions to adopt inflation targeting. If not, Vietnam should implement a transitional process to adapt itself to inflation targeting strategy.

(g2) Preconditions for the adoption of inflation targeting in Vietnam

We see whether Vietnam meets preconditions for a successful inflation targeting framework. As noted above, the prerequisites for a successful inflation targeting framework include institutional independence, technical infrastructure, economic structure, and healthy financial system.

With regard to “institutional independence”, this precondition is not met. The SBV lacks independence in the implementation of monetary policy. The SBV has to pursue the conflicting monetary policy objectives. The inflation target is subordinated to output target (inflation rate is lower than output growth). The conduct of monetary policy is not announced publicly. The SBV is not accountable to the public for achieving its target when it misses the projected inflation rate. In addition, the fiscal dominance is still problematic. A continuing

deterioration of fiscal balance has been since 2004, deriving from misspending, corruption, ineffective public investment (leakage and waste account for 20-40% of total investment, IMF, 2006c), and public wage reforms. As noted in the previous chapter, the SBV is required to finance the government deficit. For example, the SBV extends non-warranted loans to the SOCBs to restructure these commercial banks, i.e. freezing, rescheduling, and writing off their debts, and providing liquidity for SOCBs' lending to policy purposes and state project etc.

With regard to "technical infrastructure", this precondition is not yet satisfied. The SBV has forecasted inflation rate relatively closed to actual inflation rate. Sometimes the SBV fails to forecast the inflation, especially since 2004. In 2005, inflation forecast error was relatively large due to unanticipated shocks (3%). If the central bank uses core inflation, the forecast result might be better (discussed below). The SBV has not yet constructed econometric models to analyze the effects of monetary policy and to predict the future economic trends (monthly, quarterly, yearly, or long-term forecasts). Data are insufficiently collected and statistically reckoned.

According to "economic structure", some characteristics of the economy do not guarantee for the adoption of inflation targeting. The economy is sensitive to changes in commodity prices and exchange rates. Dollarization is widespread.

With regard to "healthy financial system", the financial system has some weak signals as noted in Box II.1. In addition, the financial market is not deep and liquid to help to convey information to the SBV on economic fundamentals and market expectations about monetary policy stance, and to facilitate the conduct of monetary policy.

In short, for the time being, Vietnam does not meet all preconditions for the adoption of inflation targeting.

(g3) Challenges for the adoption of inflation targeting in Vietnam

Like other emerging countries in adopting inflation targeting, Vietnam also faces a number of challenges that differ from those industrial countries faced, including: (i) weak fiscal institutions (public sector financial management), (ii) weak financial institutions and markets

(including government prudential regulation and supervision), (iii) weak monetary institutions (low credibility of monetary institutions), (iv) high dollarization of financial liabilities, and (v) vulnerability to sudden stops of capital inflows (Mishkin, 2004). These features make the implementation of inflation targeting more complicated.

First, fiscal stability is necessary for inflation control. Fiscal deficit has been always a problem in Vietnam and has increased more rapidly recently (see Appendix II.2). Excessive government spending leads to fiscal imbalances, raising money growth and then putting inflationary pressures because the SBV may have to finance fiscal deficit by monetization. Fiscal imbalance will undermine the ability of the SBV to achieve the inflation target and can lead to banking and financial crisis as the case of Argentina in 2001 (more details, see Mishkin, 2004).

Second, a healthy financial system is also necessary for inflation control. The Vietnamese financial system shows shortcomings and unsoundness (see Box II.1). Weak financial system makes countries more vulnerable to high inflation and currency crisis as cases of recent crises in Asian and Latin America. Weak banking system prevents the central bank from raising interest rate to tighten monetary policy in response to deviation of inflation or expected inflation from the target because increase in interest rate threatens the healthy of the banking system. Weakness of banking system worsens the situation of liability dollarization, especially when sudden stops in capital inflows occur that result in exchange rate depreciation and put upward pressure on inflation rate. However, although fiscal and financial stability are necessary conditions for inflation control, but it is accepted that this condition does not mean a strict prerequisite for inflation targeting (Carare et al., 2002, Mishkin, 2004 and IMF, 2005c, 2006b). It can be argued that inflation targeting can help promote fiscal and financial reforms because the government involves commitment to keep inflation low and thus the government must support these reforms if it wants the inflation targeting regime to be successful (Mishkin, 2004).

Third, perfect credibility of the public in the central bank will help to fix inflation expectations because the public believes that the central bank will take necessary measures to counter inflation. Because of imperfect credibility of monetary institutions, two monetary institutions are necessary for the ability of the central bank to keep inflation under control are a public and institutional commitment to price stability as the overriding long-run goal of

monetary policy and instrument independence of the central bank (Mishkin, 2004). In countries with history of poor support for the price stability goal and easily overturned law, in order for inflation targeting to work, it must be supported by the public and the political process and requires more transparency and excellent communication skills of the central bank as well as a well-supported political environment for inflation control. As mentioned above, the weak ability of the SBV in the conduct of monetary policy impairs the credibility of the public in the SBV. The government has not yet given the SBV independence in the implementation of monetary policy. The SBV has to face time-inconsistency problem (conflict between output and price stability objective). Loss of central bank independence in turn injures the credibility of monetary policy. If the Government does not support the SBV by giving more independence and conducting a supportive stable fiscal policy, it is very difficult for the SBV to adopt inflation targeting.

Fourth, according to Mishkin (2004), weak fiscal, financial and monetary institutions make emerging economies more vulnerable to high inflation and currency crisis, thus the real value of domestic currency will not be ensured. In such a case, the public switches to hold foreign currency and deposit foreign currency in banking system. The increase in foreign currency deposits raises loans in dollarization (liability dollarization). An excessive real depreciation of exchange rate raises the value of liability in domestic currency, making the net worth of the public fall, whose incomes come from nontradables (in domestic currency). Therefore, high liability dollarization and currency mismatch may make the economy vulnerable to a currency crisis. Dollarization makes the formulation and implementation of inflation targeting more difficult. High dollarization will tend to amplify the importance of exchange rate relative to inflation and interest rate movements. Given the potential negative impact of currency depreciation on the financial system, the central banks may smooth exchange rate fluctuations under an inflation-targeting regime (fear of floating). However, the problem is the central bank may pay too much attention on the exchange rate and the role of inflation target is dimmed (as the case of Hungary shown by Jonas and Mishkin, 2003). Pursuing two nominal anchors becomes problem when there is no clear guidance to solve the conflict, which in turn hinders the effectiveness and transparency of monetary policy, and when the central bank does not estimate exactly the origin of shocks on the exchange rate in order to make right monetary-policy decisions (discussed later). Take the case of Vietnam. Vietnam can face this challenge because it has also high dollarization, currency mismatch and fear of floating. To solve this problem, the central bank should have a transparent intervention policy with public

and institutional announcements of intervention objectives and a clear guidance to solve conflict, and analyze the exchange rate pass-through to inflation (discussed later). The central bank should prepare all conditions to enhance the resilience of the financial system to exchange rate fluctuation when it moves toward more flexible exchange rate (discussed later). Note that, a credible and successful policy of disinflation may help to reduce degree of dollarization. Leiderman et al. (2006) conclude that although dollarization alters the transmission of monetary policy, it does not preclude the use of inflation targeting in dollarized countries.

Fifth, a sudden stop may be understood as a large negative change in capital inflows. Large capital movements may affect the fixed exchange rate (as discussed in the previous chapter) and the conduct of inflation targeting. Large capital movements may require central bank to intervene in the foreign exchange market or to change interest rate particularly in the case of temporary shocks. In such cases, the central bank should make clear that foreign exchange intervention and change in interest rate policy aim at smoothing the effects of shocks. As mentioned above, Vietnam cannot avoid this challenge when it opens capital account.

In conclusion, although the fixed exchange rate regime is useful in anchoring inflation expectations, the effect of exchange rate pegging as a nominal anchor to fix inflation expectations is relative modest because the inflation in Vietnam is affected by a variety of determinants aside from exchange rate volatility and largely inertial. The current inflation will not correct itself without macroeconomic- policy actions (IMF, 2006d). These lead to the requirement of use of monetary policy in association with other polices (e.g. fiscal policy and wage policy) to control inflation, rather exchange rate peg alone. Therefore, the role of the fixed exchange rate as a credible nominal anchor to control inflation rate in Vietnam is not strong enough and the fixed exchange rate regime is not a long-run solution for price and financial stability, especially in the event of free capital flows.

Inflation targeting provides a strong nominal anchor in lieu of the exchange rate peg to control inflation. The combination between flexible exchange rate regime and inflation targeting framework will be a promising and leading monetary strategy in the long run. Other things equal, it will associate with better macroeconomic performance and an enhancement of credibility. Like other emerging countries at the onset of the adoption of inflation targeting, at present, Vietnam does not meet all prerequisites for inflation targeting and faces a number of

challenges. Although literature shows that no inflation targeters meet all preconditions before the adoption of inflation targeting framework (Carare et al., 2002, and IMF, 2005c, 2006b), I suggest that Vietnam should undergo a transition process to inflation targeting. A good preparation for the adoption of inflation targeting will contribute to improve necessary preconditions (especially technical and institutional preconditions) to ensure a successful adoption of inflation targeting in Vietnam. The success of inflation targeting are likely to depend more on the accountability and transparency of authorities' commitment and ability to plan and drive institutional change after the introduction of inflation targeting, good communicating with the public, strong support of the public and political process and developing strong fiscal, financial and monetary institutions. Some proposals for the transition process to inflation targeting and for the enhancement of credibility under inflation targeting will be discussed in Chapter V.

III.2.2.3. Central bank independence

As noted above, price stability objective can be achieved by giving the central bank more independence. Having independence in the implementation of monetary policy, the central bank will choose an optimal monetary policy, under which the central bank can pursue its monetary objective, say price stability (thereby avoiding time-inconsistency problem). The public has to appoint an independent central bank, who is recognized as having an inflation-tolerance threshold lower than that of the public. In such a way, inflationary pressures will not affect inflationary expectations, because the public is confident that the central bank will take measures to counter those pressures.

Recently, academics and policymakers have paid increasingly attention to the objective of price stability and the independence of the central bank. Many researchers believe that countries with an independent central bank have lower inflation rate than that of countries having central bank under direct control of the government. It has been found by Kydland and Prescott (1977), Barro and Gordon (1983), Rogoff (1985), Grilli, Masciandaro and Tabellini (1991), Alesina (1989), Cukierman (1992), Alesina and Summers (1993), Shiemann (1993), Lybek and Morris (2004), and Cukierman (2006) that, the more independent central bank has been coupled with lower levels of inflation. In relation to policy conductions, Cukierman (1992) concluded that, the lower the degree of central bank independence, the lower would be the level of average credibility (as measured by the variance of the deviation between actual

policy actions and the public's perception of the deviation). Indeed, various countries have recently upgraded central bank independence to raise their commitment to price stability (Eijffinger, Introduction, 1997, and Cukierman, 2006).

The independence of the central bank refers to three areas: personnel independence, financial independence, and policy independence (Eijffinger, Introduction, 1997). Personnel independence refers to the influence from the government in appointment and dismissal procedures, and term of office etc. Financial independence is referred as to access of the government to the central bank credit (to finance expenditure of the government), sufficient financial resources of the central bank to fulfil its mandate and authority of the central bank over its budget. Policy independence is related to manoeuvring room given to the central bank in the formulation and execution of the monetary policy.

Debelle and Fischer (1994) draw a distinction between goal and instrument independence. A central bank has goal independence when it has the right to define freely the goal of monetary policy. To achieve its goals, the central bank is given instrument independence. A central bank has instrument independence when it is free to use the means to meet the goal.

Lybek and Morris (2004) distinguish between goal and target independence. It can be divided into four different types:

- Goal autonomy, the broadest concept, entrusts the central bank authority to determine its primary objectives from among several competing objectives (such as output growth and price stability) included in the central bank law (Federal Reserve System in the United States is one example).
- Target autonomy, allows the central bank to decide one specific target for achieving the primary objective (Case of the European System of Central Banks and the European Central Bank).
- Instrument autonomy implies that the government decides the target in agreement with the central bank, but the central bank retains sufficient authority to implement the target by using the suitable instrument (One example is the Reserve Bank Act of New Zealand).
- Limited or no autonomy means that the government determines polices' objectives and influences the conduction of those policies. The central bank is a government agency (the case in Vietnam and some developing countries).

A. The model

Why would the central bank independence yield lower rate of inflation?

There are some answers for this question, but the most prominent argument based on time-consistency of monetary policy. This argument is presented in Rogoff (1985) model. In the Rogoff model, society can sometimes make itself better off by appointing a central bank who does not share the social objective function, but instead places a higher weight on price stability relative to output stabilization (optimal policy). It is optimal for society to choose an independent (conservative) central bank, who places a greater weight on price stability than society does (optimal central bank). The Rogoff model consists of two stages (Rogoff, 1985):

Stage 1: Choice of optimal monetary policy

The social loss function LS depends on deviations of output and inflation from their optimal level (socially desired level).

$$\min_{P} LS = p^2 + h \cdot \left(y - \overline{q} \right)^2 \qquad \text{(III.14)}$$

where p is the logarithm of the price level, h is the weight that society places on output stabilization, y is output in logarithm and $\overline{q}$ is optimal output level (Socially desired level) logarithm. Time index is not included to simplify. The output y differs from its natural level $\overline{y}$ (or output in full employment) by an amount inversely proportional to the real wage $w - p$ (in logarithm).

$$y = \overline{y} - \left(w - p \right) + z \qquad \text{(III.15)}$$

where nominal wage

$$w = Ep \qquad \text{(III.16)}$$

with Ep is expected price level, z is supply shock and expectation of shock is zero $Ez = 0$

Substituting equation III.16 into equation III.15, we obtain

$$y = \overline{y} - (Ep - p) + z \qquad \text{(III.17)}$$

By substituting equation III.17 into equation III.14, differentiating equation III.14 with respect to p and setting $dLS / dp = 0$, equation III.14 is written as:

$$2 \cdot p + 2 \cdot h \cdot \left[\overline{y} - (Ep - p) + z - \overline{q} \right] = 0 \qquad \text{(III.18)}$$

Taking expectations across equation III.18 and recalling that $Ez = 0$ and $Ec = c$ when c is constant, z is exogenous, thus:

$2 \cdot Ep + 2 \cdot h \cdot \left[\overline{y} - (Ep - p) + Ez - \overline{q} \right] = 0$, then we have:

$$Ep = h \cdot (\overline{q} - \overline{y}) \qquad \text{(III.19)}$$

By substituting equation III.19 into equation III.17 and solving for the value of p, the optimal value of price level and output can be obtained:

$$p_{opt} = h \cdot \left(\overline{q} - \overline{y} - \frac{1}{1+h} \cdot z \right) \text{: Optimal monetary policy} \qquad \text{(III.20)}$$

$$y = \overline{y} + \frac{1}{1+h} \cdot z \qquad \text{(III.21)}$$

In case of ideal situation $(LS = 0)$ would $p = 0$ and $y = \overline{q}$ that happens when $\overline{q} = \overline{y}$ and $z = 0$.

If employment goal is ambitious, $\overline{q} > \overline{y}$ then inflation bias arises ($p > 0$). The larger is h, the more p increases. At the same time, effect of supply shock z on output and price will be brought into play through h. In other words, if the society places the high weight on the output stabilization, or lower weight on inflation stabilization relative to output stabilization, it brings about inflation. Problem is that it should reduce inflation bias. That means one should choose

a monetary policy with low *h*. Note that *h* is not too low, otherwise disturbance *z* will affect more strongly. The model in stage 2 will answer the question what is the optimal value of *h*.

Stage 2: Choice of optimal central banker

Society and central bank place weigh on output stabilization h_s and h_b, respectively. The expected social loss function *ELS* (from society point of view) is

$$ELS = Ep_b^2 + h_s \cdot (y_b - \overline{q})^2 \qquad \text{(III.22)}$$

and depends on the price level p_b that the central bank chooses and the output y_b arising from chosen p_b (the optimal value of p_b and y_b is already set in stage 1).

The optimal value of h_b is defined by replacing p_b and y_b in the following equation:

$$\min_p ELS = E\left[h_b \cdot \left(\overline{q} - \overline{y} - \frac{1}{1+h_b} \cdot z\right)\right]^2 + h_g \cdot E\left[-(\overline{q} - \overline{y}) + \frac{1}{1+h_b} \cdot z\right]^2 \qquad \text{(III.23)}$$

Note that society will choose the central banker with h_b so as to the expected social loss is minimum (though society may have other optimal value h_s). The optimal value of h_b can be achieve by the foregoing method.

$$ELS = E\left\{h_b^2 \cdot \left[(\overline{q} - \overline{y})^2 - 2 \cdot (\overline{q} - \overline{y}) \cdot \frac{1}{1+h_b} \cdot z + \left(\frac{1}{1+h_b}\right)^2 \cdot z^2\right]\right\} \qquad \text{(III.24)}$$
$$+h_g \cdot E\left[(\overline{q} - \overline{y})^2 - 2 \cdot (\overline{q} - \overline{y}) \cdot \frac{1}{1+h_b} \cdot z + \left(\frac{1}{1+h_b}\right)^2 \cdot z^2\right]$$

Taking expectations across equation III.24 and recalling that $Ez = 0$ and $Ez^2 = s_z^2$ with exogenous *z*, $Ec = 0$ when *c* is constant, thus:

$$ELS = h_b^2 \cdot (\overline{q} - \overline{y})^2 + h_b^2 \cdot \left(\frac{1}{1+h_b}\right)^2 \cdot s_z^2 + h_g \cdot (\overline{q} - \overline{y})^2 + h_g \cdot \left(\frac{1}{1+h_b}\right)^2 \cdot s_z^2 \qquad \text{(III.25)}$$

Differentiating equation III.25 with respect to h_b and setting $dELS / dh_p = 0$, we obtain

$$\frac{h_g - h_b}{h_b \cdot (1 + h_b)^3} = \frac{(\bar{q} - \bar{y})^2}{s_z^2} > 0 \qquad \text{(III.26)}$$

Provided that employment goal is ambitious, $\bar{q} > \bar{y}$, then the optimal h_b muss meet the condition $h_g - h_b > 0$, that means it is optimal for society to choose an independent (conservative) central bank who places a lower weight on output stabilization than society does (optimal central bank), by which inflationary bias is smaller. In order to ensure that its weight h_b muss be smaller than h_g without pressure from society, the central bank must be independent. Note that, the more the variance s_z^2 is, the narrow is gap between h_b and h_g.

In short, central bank independence helps to reduce inflation.

B. Central bank independence under fixed and flexible exchange rate

We consider the role of central bank independence under fixed and flexible exchange rate regime in ensuring price stability through the model of credibility in II.2.2.2:

$$m = e - a \cdot E\Delta e \qquad \text{(III.5)}$$

$$e = p \qquad \text{(III.6)}$$

(a) Fixed exchange rate $e = 0$, money supply m is endogenous. The money supply must be adjusted to maintain the fixed exchange rate. The central bank is not able to implement an independent monetary policy.

(a1) If fixed exchange rate is credible $E\Delta e = 0$.

The result is $m = p = e = 0$, the price level is stable. Loss of independent monetary policy is no problem because price stability is ensured by exchange rate peg.

(a2) If fixed exchange rate is not credible, there is an expectation of depreciation $E\Delta e > 0$.

The result is $m = -a \cdot E\Delta e$. The central bank has to intervene to maintain the fixed exchange rate, leading to changes in money supply. If the central bank cannot maintain the peg, the monetary policy will not help to control inflation because it has to serves the objective of maintaining the fixed exchange rate. Thus, price stability is not ensured.

(b) Flexible exchange rate $m = \overline{m}$, money supply m is exogenous. The central bank has independence in the implementation of monetary policy.

Under flexible exchange rate regime, we have $p = e = \overline{m}$ (assumably, $E\Delta e = 0$). The exchange rate can move without intervention. Changes in foreign prices are neutralized by changes in exchange rate (no inflation import). The domestic price stability is ensured if the central bank is able to control money supply. Therefore, the central bank can conduct a discretionary monetary policy to stabilize the price level.

The results of the model can be summarized as follows. Under fixed exchange rate regime, the central bank loses its independence in implementation of monetary policy. If the fixed exchange rate regime is credible, loss of the central bank independence is not problematic because the price stability is ensured. If the fixed exchange rate is incredible, the independence of the central bank is needed to stabilize the price. Otherwise, price stability objective is not achieved (incredible fixed exchange rate and lack of the central bank). Under flexible exchange rate regime, the central bank can implement an independent monetary policy to stabilize the price.

However, as mentioned in II.2.3.3, although the fixed exchange rate is credible, loss of an independent monetary policy may become problematic since the pegging country loses the ability to use monetary policy to respond to domestic shocks that are independent of those hitting the anchor country. Thus, it can be said that, the main difference between fixed and flexible exchange rate regimes is the central bank independence.

Since the central bank independence is the advantage of flexible exchange rate over the fixed exchange rate, thus, many countries, now, choose to raise their commitment to price stability by upgrading the central bank independence in company with introduction of inflation target (explicit or implicit) than pegging it exchange rate. The Eurosystem having target

independence employs an explicit inflation target together with float exchange rate. Others, such as the U.S. Federal Reserve having goal independence, anchor monetary policy with an implicit low inflation objective accompanied with float exchange rate. The Czech Republic was the first transition economy that introduced an inflation targeting in company with floating freely exchange rate and high degree of the central bank independence, after it has abandoned fixed exchange rate regime following currency turbulence in May 1997. Poland's transition to inflation target regime began during 1998 with low degree of monetary policy independence, firstly, maintaining the exchange rate band (from ±10% at the time of announcement inflation target to ±15% later) and later switching to managed float in April 2000 (Arestis and Mouratidis, 2003, Jonas and Mishkin, 2003).

Vietnam is a case in point. Under the fixed exchange rate regime, the SBV loses its independence in implementation of monetary policy. The fixed exchange rate regime is not a strong nominal anchor to control inflation. In addition, the maintenance of the fixed exchange rate regime faces difficulties in the event of free capital inflows. These lead to the requirement of use of monetary policy in association with other policies to control inflation, rather exchange rate peg alone. Moving toward flexible exchange rate and inflation targeting will be a leading candidate strategy, under which the central bank independence will be given to help to control inflation.

In conclusion, the country can suffer the standard problem of the sustainability of the fixed exchange rate when the credibility of the exchange rate-based stabilization program is not ensured. In such a case, the country can introduce a more flexible exchange rate regime. Acquiring credibility following the abandonment or collapse of an exchange rate peg requires the country to introduce and implement an alternative monetary policy operating strategy under floating exchange rate regime. The leading candidate is inflation targeting. Inflation targeting entails an institutionalized commitment to price stability as the primary goal of monetary policy. The central bank independence is needed to give the central bank necessary manoeuvring room to achieve the price stability objective. If the price stability objective is conflicted with other objectives (for example output objective), the central bank should give priority to price stability objective; even accept the negative effects on output. The negative effects on output can be solved by other policies, for example flexible wage policy. The question how far the country moves to greater flexibility of exchange rate and how well it prepares for the introduction of inflation target will be discussed in the next chapters.

III.2.3. Exchange rate regimes and shock absorption

III.2.3.1. The model

To address the issue of the role of exchange rate in sustaining the economy (output and price) in face of various kinds of shocks, we consider the following model (see Rødseth, 2000, p.325).

We consider a small country. All foreign variables are exogenous. All variables are measured in the logarithm, except the interest rate. All coefficients are positive. Variables referring to foreign countries are indicated by an asterisk.

Goods market	$y = -b \cdot r + h \cdot (e + p^* - p) + v$	(III.27)
Interest rate parity	$i = i^* + Ee - e + z$	(III.28)
Fisher equation	$i = r + Ep - p$	(III.29)
Labour market/Output	$y = -g \cdot (Ep - p + u)$	(III.30)
Consumption price	$p^c = (1-a) \cdot p + a \cdot (e + p^*)$	(III.31)

There are three types of shocks, demand shock v, foreign exchange market shock z, and supply shock u.

Goods market has two commodities, one home good and one foreign good. Purchasing power parity does not hold (home and foreign goods are not substitutive). The aggregate demand equation III.27 is based on Mundell-Fleming model, [46] under which $k = 0$ and v is added as exogenous demand shock.

Home and foreign financial assets are homogenous. Interest parity holds. A foreign exchange market shock z is for example a stochastic risk premium.

Real and nominal interest rate is distinguished in Fisher equation III.29. The monetary policy instrument of the central bank is nominal interest rate. The central bank will decide monetary response (by setting interest rate) after the shock and assessment of nature of shocks.

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[46] $y = -b \cdot r + q \cdot g + h \cdot (e + p^* - p) + k \cdot (y^* - y)$

Labour market/output is aggregate good supply. Wage is set based on inflation expectations before shock appears. For example, supply shock u is a productivity shock.

The consumption price is a price of a basket of goods, in which home goods have a weight of $1-a$ and a supply price of p and foreign goods have a weight of a and a supply price of $p^* \ (0 < a < 1)$. The price of foreign goods is converted to domestic currency by the exchange rate e.

To simplify, we assume that $Ep = Ee = 0$ (static inflation and exchange rate expectations) and $i^* = p^* = 0$. Disturbance with p^* and i^* can be expressed by v and z, respectively. Then, we have the simplified model:

Goods market	$y = -b \cdot (i + p) + h \cdot (e - p) + v$	(III.32)
Interest rate parity	$i = -e + z$	(III.33)
Labour market/Output	$y = g \cdot (p - u)$	(III.34)
Consumption price	$p^c = (1-a) \cdot p + a \cdot e$	(III.35)

We have four equations and five endogenous variables y, i, p, e, p^c. To have the result, we need one equation more. This equation will express the monetary strategy stance of the central bank. If the central bank wants to fix the exchange rate and allows the consumption price fluctuation, then $e \overset{!}{=} 0$ (strategy A). If the central bank wants to fix the consumption price and allows the exchange rate fluctuation, then $p^c \overset{!}{=} 0$ (strategy B).

We see how shocks v, z, u affect on exchange rate, consumption price and output under fixed and flexible exchange rate (strategy A and B); hence find which strategy is superior.

Solving the equation from III.32 to III.35, we have the results as follows:

Strategy A: fixed exchange rate flexible consumption price		**Strategy B: flexible exchange rate stable consumption price**	
$i = z$	(III.36)	$i = \frac{(1-a)\cdot(n+g\cdot u)+(a\cdot b+a\cdot g+h)\cdot z}{b+a\cdot g+h}$	(III.40)
$e = 0$	(III.37)	$e = -(1-a)\cdot\frac{v-b\cdot z+g\cdot u}{b+a\cdot g+h}$	(III.41
$p^c = a\cdot\frac{v-b\cdot z+g\cdot u}{b+g+h}$	(III.38)	$p^c = 0$	(III.42)
$y = g\cdot\frac{v-b\cdot z-(b+h)\cdot u}{b+g+h}$	(III.39)	$y = g\cdot\frac{a\cdot(v-b\cdot z)-(b+h)\cdot u}{b+a\cdot g+h}$	(III.43)

The central bank has only interest rate instrument to implement monetary policy to achieve its target. In strategy A, the target of the monetary policy is fixed exchange rate (equation III.37). Therefore, the central bank has to respond to only foreign exchange shocks (equation III.36) and can ignore demand and supply shocks. In strategy B, the target of monetary policy is stable consumption price (equation III.42). The central bank has to use interest rate to respond to all kinds of shocks (equation III.40).

To see which strategy is superior, we use social loss function:

$$\min\ LS = (p^c)^2 + j\cdot(y)^2 \qquad \text{(III.44)}$$

The economic policy wants to minimize its social loss that derives from consumption price's and output's deviation from its target level (target level are set as zero in equation III.44). We see two following cases:

(a) Consumption price component is overriding (j is very small). The social loss will be minimized if fluctuations in consumption price can be avoided ($p^c = 0$). This is relevant to strategy B or flexible exchange rate is superior.

(b) Output component is overriding (j is very high). In this case, the social loss will be minimized if changes in output are smallest. To see which strategy is superior, wee see the original of shocks faces the economy:

(b1) If the shock is a supply shock u, the effect of supply shock on output in strategy A (fixed exchange rate) is lower than that in strategy B (flexible exchange rate) (equation III.45). Thus, the fixed exchange rate regime is superior.

$$\left|\left(\frac{\partial y}{\partial u}\right)_A = -\frac{g\cdot(b+h)}{b+g+h}\right| < \left|\left(\frac{\partial y}{\partial u}\right)_B = -\frac{g\cdot(b+h)}{b+a\cdot g+h}\right| \qquad \text{(III.45)}$$

(b2) If the shock is demand shock v or foreign exchange market shock z, the effect of demand and foreign exchange market shock on output in strategy B (flexible exchange rate) is lower than that in strategy A (fixed exchange rate) (equation III.46 and III.47). Thus, the flexible exchange rate regime is superior.

$$\left(\frac{\partial y}{\partial v}\right)_A = \frac{g}{b+g+h} > \left(\frac{\partial y}{\partial v}\right)_B = \frac{a\cdot g}{b+a\cdot g+h} \qquad \text{(III.46)}$$

$$\left|\left(\frac{\partial y}{\partial z}\right)_A = -\frac{g\cdot b}{b+g+h}\right| > \left|\left(\frac{\partial y}{\partial z}\right)_B = -\frac{a\cdot g\cdot b}{b+g+h}\right| \qquad \text{(III.47)}$$

In conclusion, the choice of exchange rate regime in terms of shock absorption depends on the target of monetary policy (price or output is overriding) and the dominance of the shocks. The results of the model are summarized in Table III.8.

Table III.8. Desirable exchange rate regimes under different shocks

Shocks	**Price target**	**Output target**
Demand shock	Flexible exchange rate	Flexible exchange rate
Supply shock	Flexible exchange rate	Fixed exchange rate
Foreign exchange market shock	Flexible exchange rate	Flexible exchange rate

Source: Author

III.2.3.2. Choice of exchange rate regime in terms of shock absorption in Vietnam

Among other things, the IMF (2006d) and the SBV (2005) find that high inflation rate since 2004 has been attributed by a number of external, supply and demand shocks.

With regard to external shocks, increase in food prices (especially rice) and prices of input raw materials and fuels (e.g., oil, petrol, iron, steel, and fertilizer) in the world market contributed to increase in cost of production and then goods prices. In addition, growing foreign demand for Vietnamese exports also raise inflation.

As for supply shocks, the widely outbreak of avian influenza reduced dramatically the supply of avian foodstuff by about 20%, then leading to upward pressures on prices of other substitutive products such as beef and seafood.

Concerning demand shocks, increasing food demand for consumption and export raised the prices of foods, then inflation. The aggregate domestic demand, investment and consumption have increased relatively fast in recent years that have caused pressure on inflation (the ratio of investment to GDP increased from 35.1% in 2003, 36.3% in 2004 and 38.9% in 2005, 41% in 2006). In addition, wage adjustments under the Government's public administration reform program in the state sector have raise the purchasing power of wages and caused the wages in the private and FDI sectors to an increase approximately by 5-10%, resulting in inflation expectation and hence inflation.

In a situation that the economy has to face three kinds of shocks and the output objective is overriding, the fixed exchange rate helps absorb only supply shocks. The flexible exchange rate helps absorb demand and foreign exchange market shocks. IMF (2006d) finds that the excess demand pressure (usually measured as output gap) is one of the important determinants of inflation in Vietnam. In such a case, the flexible exchange rate is more attractive than the fixed exchange rate because it can absorb two kinds of shocks; one of them is importantly attributed to inflation in Vietnam, whereas the fixed exchange rate can absorb only supply shocks. In contrast, if the SBV is allowed to pursue per se central bank objective as primary objective, say price stability, the flexible exchange rate is obviously superior.

In short, regarding the ability of the exchange rate to absorb foreign exchange, supply, and demand shocks, flexible exchange rate is superior when the SBV targets at price stability. The flexible exchange rate is also more attractive than the fixed exchange rate when the SBV targets at output stability because the flexible exchange rate neutralizes two of three shocks facing the economy, of which demand shock is very important determinant of inflation in Vietnam.

III.3. Moving toward greater exchange rate flexibility in Vietnam

To consider an appropriate exchange rate regime for Vietnam, I base on three approaches related to country characteristics, the credibility of exchange rate regimes and the central bank independence to ensure price stability objective as well as and role of exchange rate regimes in sustaining the economy in face of a variety of shocks. Based on characteristics of the economy, Vietnam does not fit well all OCA criteria for a fixed exchange rate regime; rather the economy meets more criteria for a flexible exchange rate regime. To the extent of free capital flows, the flexible exchange rate regime together with inflation targeting as well as giving more room for the central bank to manoeuvre an independent monetary policy to achieve the price stability objective becomes more appropriate for Vietnam, provided that fiscal, financial, and monetary institutions are strengthened, the Government's supportive and appropriate policies and other conditions for good economic perfo rmance (to achieve output growth target) are in place. In addition, the flexible exchange rate looks more attractive in sustaining the economy against different shocks, especially when the central bank targets at price stability objective. Because the economy does not meet conditions for the adoption of flexible exchange rate and inflation targeting, it should undergo a transitional process to prepare all necessary conditions for a successful adoption of flexible exchange rate and inflation targeting.

To consolidate my arguments in favour of the flexible exchange rate regime, I will address following issues. The answers are moving toward flexible exchange rate is appropriate for Vietnam.

- Is fixing the exchange rate to control inflation a good choice?
- New environment for the choice of the exchange rate regime
- Advantages of flexible exchange rates

- Consequences of transition to greater exchange rate flexibility

III.3.1. Is the pegged exchange rate a good choice?

Firstly, inflation pressures in Vietnam since 2004 have in part resulted from increase in world commodity prices because mostly major inputs have been imported from abroad. In such circumstance, fixing the exchange rate, from technical point of view, has exacerbated domestic inflation because of phenomenon of import inflation under fixed exchange rate. We can see it through the following model including two countries, home country and foreign country.

	Home country	Foreign country
Monetary market	$m = p + y - a \cdot i$ (III.48)	$m^* = p^* + y^* - a \cdot i^*$ (III.49)
Fisher equation	$i = r + \Delta p$ (III.50)	$i^* = r^* + \Delta p^*$ (III.51)
Relative purchasing power parity	$\Delta p = \Delta p^* + \Delta e$ (III.52)	
Exogenous output	$y = 0$ (III.53)	$y^* = 0$ (III.54)
Real interest rate	$r = 0$ (III.55)	$r^* = 0$ (III.56)

where a is semi-elasticity of money demand with respect to nominal interest rate. ? is difference between present value and previous value (time index is omitted to simplify). Output and real interest rate are zero; that means deviations of two variables from equilibrium level are zero. This model deals with change in money supply accounting for inflation. It is related to inflation import under fixed and flexible exchange rate.

Substituting equations (III.53), (III.55), (III.56)) into equation (III.48), we have

$$m - p = -a \cdot \Delta p \qquad \text{(III.57)}$$

Assuming that steady inflation (constant rate of inflation), that means Δp is constant, leading to $m - p$ is constant, that implies:

$$\Delta m = \Delta p \qquad \text{(III.58)}$$

Similarly, we have

$$\Delta m^* = \Delta p^* \qquad \text{(III.59)}$$

Under flexible exchange rate regime, price level in one country depends only on changes in the money supply there. Because of a certain reason (for example, foreign country adopts an expansionary monetary policy, leading to an increase in money supply, thereby raising price p^* there), foreign price increases. When foreign price is higher than that in home country, the result is more export from home country to foreign country. More foreign currency earnings in home countries cause an excess supply of foreign exchange in home countries, thus resulting in cheaper foreign currency (exchange rate appreciation). Under flexible exchange rate regime, the central bank must not intervene to maintain the exchange rate. Foreign inflation is neutralized through changes in exchange rate. There is no inflation import. In this case, the central bank can conduct an independent monetary policy without consideration to foreign monetary policy.

$$\Delta m \rightarrow \Delta p \rightarrow \Delta e \leftarrow \Delta p^* \leftarrow \Delta m^*$$

Under fixed exchange rate regime, the nominal exchange rate is maintained fixed ($\Delta e = 0$). An increase in price p^* abroad causes a rise in domestic price p accordingly (equation III.52). This phenomenon is called inflation import. Therefore, fixing exchange rate does not help to constrain inflation in case of increase in inflation abroad and the country depends much on imported input. Let see reaction of the central bank in face of inflation import. In home country, increase in price level leads to increase in money demand. Excess money demand results in decrease in demand for valuable papers, and then rise in interest rate. Domestic interest rate is higher than foreign interest rate that brings about more capital inflows, which in turn make exchange rate appreciation. To maintain the fixed exchange rate, the central bank must buy foreign exchange in the market, leading to increase in the money supply m. Increased money supply causes further increase in price level in home country. Consequently, the central banks cannot implement an independent monetary policy and the price stability target does not achieve.

$$\Delta m \rightarrow \Delta p \rightarrow \Delta p^* \rightarrow \Delta m^* \text{ or } \Delta m \leftarrow \Delta p \leftarrow \Delta p^* \leftarrow \Delta m^*$$

In conclusion, the role of fixed exchange rate as a nominal anchor to import low inflation is not ensured when foreign inflations are more fluctuated than that in Vietnam. In such a case, flexible exchange rate is more feasible.

Secondly, as mentioned above, although fixing exchange rate since 2004 helps anchor inflation expectations (according to assessment of IMF, 2006a), the role of the fixed exchange rate regime as a nominal anchor to stabilize the price is not strong enough because the inflation in Vietnam is largely inertial and affected by a variety of determinants aside from exchange rate volatility. In the presence of inflationary inertia, real exchange rate will become appreciated, then undermining countries' competitiveness and weakening the external position. In addition, de facto fixed exchange rate system will bring about risks over long period for Vietnam's economy, in particular the economy's exposure to exchange rate risks due to high und unhedged foreign-currency borrowing from domestic banks. The fixed exchange rate limits the ability of monetary policy to concentrate on domestic considerations and transmits foreign shocks (from anchor country) to the economy. Besides, the sustainability of the fixed exchange rate regime faces the problem of credibility. When the confidence on the fixed exchange rate has been shaken, the fixed exchange rate becomes vulnerable to speculative attacks, thus currency crisis together with a collapse of fixed exchange rate is inevitable. In such cases, moving to greater exchange rate flexibility is encouraged.

To conclude, the fixed exchange rate as a nominal anchor to control inflation is not a good choice as foreign inflation is higher than home inflation. It is also not a long-run solution for price and financial stability, especially in the event of free capital flows.

III.3.2. New environment for the choice of exchange rate regime

Free capital flows have made the maintenance of pegged exchange rate more difficult. It is suggested that the flexible exchange rate becomes more valuable as countries integrate more closely into international financial markets and as they develop sound financial systems (Rogoff et al., 2004, and Husain et al., 2004).

For the time being, international financial integration becomes an indispensable trend that no countries want to keep themselves out of it. As mentioned by Williamson (1999) and Ishii and Habermeier (2002), international capital flows have some benefits:

- Capital account liberalization can support an efficient allocation of resource, that is, it helps facilitate to transfer capital from countries having surplus savings but low investment demand to countries having excess investment opportunities, which creates mutual benefit for countries received and countries transferred.
- Capital flows associate with modern technology and machinery, managerial expertise, assess to markets and higher working skills.
- Countries gain from capital inflows such as higher investment and higher output growth.
- Free capital movements contribute to the efficiency of financial system and the development of financial markets by strengthening competition and financial depth.
- In terms of risk diversification, international capital movement helps reduce risks specific to a country because investors' assets are hold in a variety of countries with different risks.

While a country can reap the benefits from international capital market access, it will cope with the risks associated with international capital flows. [47] Growing frequency of financial crises has led to argument that capital account liberalization contributes to financial crises. [48] Recent prominent crises involving emerging countries (Mexico of 1994-95, Asian countries of 1997-98, Russia of 1998, and Brazil of 1999) show that fixed exchange rate regimes under high capital mobility with thin financial sector are inherently crisis-prone for emerging countries (Williamson, 2005). [49] Opening the capital account before adopting flexible

[47] Including credit risk (e.g. transfer risk, settlement risk and country risk), market risk (e.g. foreign exchange rate risk, interest rate risk and derivatives transactions risk) and liquidity risk. For more details, see Ishii and Habermeier (2002).

[48] Ishii and Habermeier (2002) review that in sample of 35 economies, of which 25 economies experienced financial crises following financial sector liberalization.

[49] Ishii and Habermeier (2002) identify that capital account liberalization and capital mobility are not synonymous. For example, capital mobility can increase even without capital account liberalization if market developments erode the effectiveness of existing control. Moreover, both terms usually refer to private capital movements, but the term capital mobility has sometimes also been used to cover cross-border financial transactions with sovereign and public sector entities.

exchange rates can precipitate speculative attacks (see Bubula and Ötker-Robe, 2003, IMF, 2003e, IMF, 2004c, Mussa et al., 2000, and Edwards, 2001).

Let see the case of Vietnam. The opening of capital account has implications for the choice of exchange rate regime in Vietnam. To the extent that capital account will be progressively liberalized (see II.2.1.7), the Vietnamese government is still reluctant to allow greater exchange rate flexibility because of the following reasons. First, having a fear that an excessive volatility of the exchange rate will lead to increase in inflation; the SBV has maintained a low depreciation of nominal exchange rate to help reduce the effect of exchange rate volatility on inflation. Second, excessive exchange rate fluctuations will raise transaction costs, thereby affecting capital flows including foreign direct and indirect investment, which plays an important role in economic development in Vietnam. Third, with a weak domestic financial system and unhedged foreign exchange transactions, local business will be suffered from exchange rate exposures through impacts of excessive exchange rate fluctuations over balance sheets of firms and banks (for example by raising the domestic-currency value of foreign-currency-denominated debts in firms with currency mismatch).

However, as mentioned above (see Chapter III, III.2.2.2), the fixed exchange rate is not really a strong nominal anchor to control inflation because it is very difficult to fix inflation expectations due to large inertial inflation in Vietnam and the modest exchange rate pass-through to inflation.

In addition, Eichengreen (1999) shows through Thailand's crisis that authorities' reluctance to allow more flexible exchange rates only make the economy vulnerable to crises. The weakness of the banking sector and opening capital account before adopting flexible exchange rate under speculative attacks on the currency are reasons of the financial crisis. [50] Although Thailand's authorities were warned of the problem with their currency peg and the need for greater exchange rate flexibility, the government hesitated to introduce greater exchange rate flexibility during the period of abundant inflows because the government was worried about durability of the weak financial system in face of exchange rate volatility (Eichengreen, 1999). However, exchange rate stability did not encourage the market participants to hedge their foreign exchange exposures, even banks and corporations agreed to

[50] Goldstein (1998) shows that in addition to the weakness of the financial system, external sector problem and contagion are also reasons of the Asian crisis.

shoulder currency risks to minimize their borrowing costs, thus leading to over-expanded borrowings in short-term foreign currency. The free movement of capital flows into and out of the country facilitated further foreign currency borrowings. These left the market participants more vulnerable when the exchange rate depreciated. Thailand's crisis of 1997-98 is a lesson for Vietnam. The IMF urges Vietnam to allow more flexible exchange rate to avoid external vulnerability and to encourage exchange rate risk management. Vietnam envisages also allowing more flexible exchange rate, but its deed is slow. Vietnam has the same characteristic like Thailand before crisis (weak banking system, fixed peg exchange rate, unhedged exchange rate risks, and opening capital account while maintaining fixed peg - this characteristics will become potential dangers in the coming years if Vietnam continues adopting fixed peg). That means a country should not wait until domestic financial system is completely healthy, rather it should prepare exit strategy from the peg. Indeed, many countries moved to more flexible exchange rate while still in progress of strengthening their financial system (Mexico, India, Turkey and Chile).

In conclusion, Vietnam should move to flexible exchange rate in accordance with progressive capital account liberalization in the years to come. For the time being, Vietnam needs prepare appropriate steps for this way.

III.3.3. Advantages of the adoption of flexible exchange rate regime in Vietnam

Recalling the disadvantages of the fixed exchange rate regime in Vietnam mentioned in the previous chapter (see Chapter II, II.2.3):

- It entails the loss of an independent monetary policy and transmits shocks from the anchor country to Vietnam. For example, although inflation rate is under control, loss of an independent monetary policy becomes a problem under fixed exchange rate regime since the pegging country loses the ability to use monetary policy to respond to domestic shocks that are independent of those hitting the anchor country. For example, if the interest rate in the anchor country (say, USA) increases, the interest rate in the targeting country (Vietnam) must be raised in order to maintain the exchange rate relationship, even if Vietnam is in recession. Increase in interest rate, in turn, aggravates further the recession situations, for example, reduction in investment and then output and price.

- It may incur the credibility problem, thereby increasing the likelihood of speculative attacks if the public doubts about the ability of the central bank to maintain the exchange rate pegging.
- It increases financial fragility and heighten the potential for financial crises if domestic liability is mainly dominated in foreign currency and short-term and the banking system is weak.
- It creates the perception of an implicit guarantee for exchange rate and reduces the sensibility of market participants to exchange rate risks
- It leads to real exchange rate appreciation, thereby deteriorating external competitiveness.
- It, in accordance with weaknesses of banking and financial system, places the central bank in difficult situation to defend the fixed exchange rate regime by raising interest rate.
- It does not help to import price stability if foreign inflation (say, the US as anchor country) is higher than home inflation (say, Vietnam as targeting country).

From my point of view, the flexible exchange rate regime solves all disadvantages of the fixed exchange rate regime:

- It allows the SBV to conduct an independent monetary policy. The monetary policy becomes more independent because it does not need to subordinate to maintain the peg and can focus on what is happening in the domestic economy. When the economy is hit by shocks, under a flexible exchange rate regime, the central banks are freely to expand or contract the monetary policy to respond to the shocks. To stabilize the price level, the central bank can pursue the inflation targeting that becomes clearer responsibility of the central bank than other anchor. Therefore, central bank independence is a key factor that ensures the effectiveness of monetary policy. More importantly, because the task of the monetary policy, i.e. inflation target, is easy for the public to understand, thus it becomes transparent and more credible.
- It facilitates adjustments to shocks (absorb shocks) and rapid structural changes and allows Vietnam to strengthen further its modest international reserve position.
- It restrains speculation because there is no condition for speculation attack to happen. Because the exchange rate is floated, the public has no doubt about whether the central bank can defend the peg or not. There is also uncertain future path of the exchange rate, so that speculation does not happen or successful speculation is not likely. The main problem is how to acquire credibility following the abandonment or collapse of an exchange rate

peg. This requires the country to introduce and implement an alternative monetary policy operating strategy under floating exchange rate regime. The leading candidate is inflation targeting. Inflation targeting entails an institutionalized commitment to price stability as the primary goal of monetary policy. The central bank independence is needed to give the central bank necessary manoeuvring room to achieve the price stability objective.

- Flexible exchange rate together with more freely capital account mobility as well as strengthening the healthy of the banking system constrains the possibility of financial crisis. Not being attracted by stable exchange rate, lending boom in foreign currency is not likely. The firms have to be vigilant in making decision on borrowing. If firms want to borrow in foreign currency, they have to hedge them against exchange rate risks in cases of a reversal of capital flows or exchange rate volatility.
- Greater exchange rate flexibility encourages market participants to manage exchange rate risks, thereby avoiding excessive foreign exchange exposure in the economy.
- Flexible exchange rate will neutralize inflation import.
- The central bank does not need to intervene to limit exchange rate fluctuations, subject to its foreign-exchange-intervention objectives.
- Allowing exchange rate to move closer to its equilibrium value associated with reasonable measures to control inflation will help to reduce real appreciation of the dong against the U.S. dollar. The Vietnamese dong responds to adverse developments in Vietnam's export markets or other shifts in the terms of trade by depreciating, thus achieving the necessary real depreciation even in the presence of sticky prices or wages (Frankel, 2003). Relating to exchange rate equilibrium, there are two scenarios:

  First scenario, real exchange rate is misaligned. From my point of view, real exchange rate misalignment may occur under both flexible and fixed exchange rate regime because the market functions from time to time inefficiently, economic fundamentals is changed, and new information distorts the market process of price discovery. Real exchange rate overvaluation can undermine export competitiveness and weaken the external position, while an undervalued exchange rate may create inflationary pressures. Especially for Vietnam, rapid structural transformation makes the exchange rate more volatile and easily deviate from its economic fundamentals. Therefore, the central bank should find whether exchange rate is misaligned or not (not easy to do it) to correct misalignment. Correct real exchange rate misalignment appears to be easier under flexible exchange rate regime than under fixed exchange rate regime. If real exchange rate is misaligned, the central bank can correct it by changing the nominal exchange rate or by changing price level through

interest rate, spending, wage. Changing interest rate is sensitive if the economy is in good going. Changing spending is more difficult if the economy overheats and the government does not support or has other opinions. Changing wage makes sense if wage is flexible. Due to this reason, changing nominal exchange rate is preferable. Under fixed exchange rate regime, the nominal exchange rate is set at an already determined level, thus changing nominal exchange rate regime is impossible. Under flexible, the central bank can change the nominal exchange rate easier. In fact, real exchange rate overvaluation (or misalignment) under fixed exchange rate is one of the reasons of currency crisis during the 1990s (Edwards, 2001, Agénor 2004, Bernanke, 2005). In addition, intervention under flexible exchange rate is more desirable in terms of international reserves.

Second scenario, real exchange rate is not misaligned. Although the IMF (2006d) finds that REER in Vietnam since 1992 is consistent with Purchasing Power Parity hypothesis, that means there is no evidence that real exchange rate in Vietnam is misaligned under fixed exchange rate (in fact, real exchange rate tends to appreciate), it is not sure that real exchange rate will be misaligned under flexible exchange rate. Moreover, it gives an excellent opportunity to move to flexible exchange rate because there will be no excessive volatility after the exit from the peg (an orderly exit). There is also the need to reform the exchange rate regime because fixed peg is not a long-run solution for financial stability (as mentioned above). Many countries were reluctant to change its exchange rate regime when the going is good. But countries' experiences suggest that "it is better to exit from a peg when times are good and the currency is strong, rather than to wait until times are bad and the currency is under attack" (Frankel, 2004). In addition, sharp real exchange rate appreciation since 2005 will sooner or later undermine export competitiveness, which plays very important role in the economy whose economy performance underpinned by strategy of export-led investment and growth.

- Allowing exchange rate flexibility is a key step that can help improve the depth and efficiency of the foreign exchange market and limit an unavoidable chicken-egg problem: the problem that flexibility requires a deep market, but that a deep market requires flexibility (IMF, 2004c).
- The shift toward more flexible exchange rate regimes together with strengthening the healthy of the banking system as well as moving toward more freely capital account mobility will expand opportunities to deeper involvement in an international financial market.

III.3.4. Consequences of transition to greater exchange rate flexibility

This part reviews IMF's analyses of association between transitions to greater exchange rate flexibility, macroeconomic outcomes and macroeconomic policy frameworks by making comparison between countries making transitions and countries not making transitions (using IMF de facto exchange rate classification system). [51] "A transition is defined as a change from one exchange rate category, in which a country has been for at least two years, to another, in which a country remains for at least one year or which is followed by another shift in the same direction. The transitions to more flexible exchange rates are from pegs to intermediate regimes or from intermediate regimes to free floats", and can be characterized as voluntary or crisis-driven. "A crisis-driven transition is defined as one that is associated with depreciation against the U.S.dollar of more than 20%, at least a doubling in the depreciation rate compared with the previous year, and a depreciation in the previous year of less than 40%". The transitions that are not crisis-driven are defined as voluntary, though some of these transitions occurred under thread of a crisis (IMF, 2004b). The results are as follows:

*** Macroeconomic variables**

The following results are form IMF (2004b). Before making transitions, macroeconomic environment of countries making voluntary transitions was not significantly different from that in countries not making transitions (the control group), [52] e.g. growth, the primary fiscal balance, and the current account balance are broadly similar.

The voluntary transitions were not followed by much change in the levels of real and nominal exchange rate; unlike crisis-driven transitions, real exchange rate further depreciated around the time of transition.

The volatility of real and nominal effective exchange rates increased in the period immediately after a voluntary transition and returned to pre-transition levels after several months. In contrast, volatility of exchange rate after crisis-driven transition was more significant.

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[51] For more details, see IMF (2004b) and Hakura (2005).

[52] The control group represents countries whose exchange rate regimes are the same as the starting regimes of transitioning countries in periods that are not with three years of a transition (IMF, 2004b).

Unlike driven-crisis transition, growth, inflation, the primary fiscal balance, and the current account balance, among other things, were affected a little by voluntary transitions. Indeed, voluntary transitions have been accompanied by higher growth, and lower inflation and exchange rate volatility than those of crisis-driven transitions in the years following the transition.

Similarly, Duttagupta and Ötker-Robe (2003) find that crisis-driven exits are associated with deterioration in economic indicators (e.g. reduction in foreign exchange reserves and export growth, and appreciation of real effective exchange rate) whereas orderly exit could be associated with an improvement of economic health.

In conclusion, voluntary transitions did not result in increase in macroeconomic instability, In comparison with crisis-driven transitions, voluntary transitions were associated with lower vulnerabilities and far less macroeconomic disruption.

*** Macroeconomic policy framework**

As the exchange rate does not fulfil the role of a nominal anchor under floating exchange rate regime, a key issue is how to establish a credible alternative nominal anchor. In this regard, institutional frameworks are important because strong policy frameworks address the key vulnerabilities under the “fear of floating". This part investigates the linkage between transitions to greater flexibility and changes in macroeconomic policy frameworks based on results of the IMF (2004b).

Monetary policy framework

Two measures of monetary policy framework supporting flexible exchange rates are central bank independence and inflation targeting. For example, in 2003, the central banks of emerging countries with free floats are more independent than that with pegs or intermediate regimes. About 90% of countries with free float adopted inflation targeting. Inflation targeting is generally adopted two years after countries made transition (IMF, 2004b). [53]

[53] Inflation targeting is not prerequisite for the transition to free float. In fact, Poland adopted inflation targeting before transition to free float.

Financial sector supervision and development

Developing countries always face problems such as weak balance sheets and a shortage of long-term capital, which involve currency and maturity mismatch that can raise the fear of floating. Thus, an adequate quality of bank supervision helps to recognize and to manage risks, thereby strengthening the balance sheet and further supporting greater exchange rate flexibility. The development of securities market helps to improve long-term funding, thereby reducing maturity mismatch. Therefore, the degree of financial sector supervision and development is represented by two indicators: quality of bank supervision and development of securities market. The following results are from the IMF (2004b).

Perceiving the importance of bank supervision, countries making transitions always prepare for their transitions by strengthening quality of bank supervision. Therefore, countries making transitions to more flexible exchange rates had, on average, better bank supervision than the control group. Countries having voluntary transitions had better on average quality of bank supervision than countries experiencing crisis-driven transition. Crisis-driven transitions had improvements in bank supervision in the period leading up to the exit and after that.

With regard to securities market development, countries making transitions from intermediate regime to free float have better securities market development than control group. Again, crisis-driven transitions had further securities market development around the time of transitions and after that.

In short, financial sector supervision and development in countries with free float are on average stronger than those in countries with pegs and intermediate regimes.

Financial sector liberalization

There is a linkage between financial sector liberalization and financial sector development, i.e. capital account liberalization is associated with deeper financial development in the long run. [54] However, open financial markets can also create financial problems, including financial crises, which are generally associated with both excessive inflows and outflows and

[54] See IMF (2001) for more details.

the volatility of net capital flows. Thus, if financial sector development and supervision are weak, it is desirable to maintain financial control. In other words, financial liberalization and development should be carried out in tandem.

Abiad and Mody (2003) used six measures of financial sector constraint to capture the extent of financial sector liberalization. [55] In such way, the financial sector liberalization can be distinguished between domestic and external financial liberalization. IMF (2004b) shows that countries making crisis-driven transitions from pegs to intermediate regimes had on average greater domestic financial liberalization than countries making voluntary transitions and countries in control group. On the other hand, countries that transited voluntarily from pegs to intermediate regimes, before transition, had less external finance liberalization than countries experienced crisis-transition and countries in control group. Conversely, voluntary transitions from intermediate regimes to free floats were accompanied by higher degree of external financial liberalization than that in the control group.

In short, countries making voluntary transition from pegs to intermediate regimes had less financial liberalization than that in countries experiencing crisis-driven transitions and control group. By contrast, voluntary transitions from intermediate regimes to free floats were associated with a higher degree of external financial liberalization than in the control group, reflecting in part the higher levels of bank supervision and securities market development than in the control group.

In summary, voluntary transitions to greater exchange rate flexibility do not result in greater macroeconomic instability, though a small sample could reflect sample selection bias. Indeed, growth was on average little affected by the transition. Inflation continued to be improved after the transitions. Exchange rate volatility increased a little immediately after the transitions and came back to a level similar to that in the pre-transition period. Transitions to greater exchange rate flexibility were generally associated with a strengthening of monetary and financial policy frameworks, such as more independent central bank, the adoption of inflation

[55] Including credit controls, interest rate controls, entry barriers (such as licensing requirements and limits on the participation of foreign banks), regulations governing financial firms and the establishment of securities markets; dominance of state-owned firms in the financial sector; and restrictions on international financial transactions, including the lack of currency convertibility and the use of multiple exchange rates.

targeting, better financial sector supervision and further developed securities market than other countries (Table III.9).

Table III.9. Consequences of transitions toward greater exchange rate flexibility

	Transition from pegs to intermediate regimes		Transition from intermediate regimes to floats	
	Voluntary	Crisis-driven	Voluntary	Crisis-driven
Macroeconomic instability 1/		+		+
Central bank independence 2/	+	+	+	+
Inflation targeting 3/	+	+	+	+
Bank supervision 4/	+		+	+
Securities market development 5/		+	+	+
Financial liberalization 6/		+	+	

Note: "+" means:

1/, ***increased*** around and after transition

2/, ***increased*** in comparison to control group after transitions

3/, ***more prevalent*** in comparison to control group after transitions

4/, 5/, for crisis-driven transitions, ***improved*** after transitions

4/, for voluntary transitions, ***better*** than the control group before transitions and ***better*** than crisis-driven transitions

5/, for voluntary transitions, ***better*** than the control group before transitions

6/, for voluntary transitions, ***higher*** than the control group

6/, for crisis-driven transitions, ***higher*** than voluntary transitions

Source: Author's summary based on results from IMF (2004b)

To conclude, although having helped anchor inflation expectations since 2004, the fixed exchange rate regime is not a strong nominal anchor to fight inflation pressure. The fixed exchange rate is not a long-run solution for price and financial stability, particularly in the event of free capital flows. Therefore, moving toward more flexible exchange rate together with establishing a credible nominal anchor to control inflation (inflation targeting is a desirable candidate) as well as giving more room for the central bank to conduct an independent monetary policy is encouraged. It is suggested that the exchange rate flexibility becomes more valuable as countries mature in terms of their access to international capital markets and as they develop sound financial systems. Indeed, many countries moved toward greater flexible exchange rates, while continuing strengthening their financial system and

gradually liberalizing their capital account. The economy can reap many advantages from flexible exchange rates. Countries' experiences show that voluntary transitions to greater exchange rate flexibility did not cause increase in macroeconomic instability, contrarily, they were generally associated with a strengthening of monetary and financial policy frameworks, such as more independent central bank, the adoption of inflation targeting, better financial sector supervision and further developed securities market than other countries. With these advantages, I suggest that Vietnam should undergo a transitional process to more flexible exchange rate and inflation targeting.

Chapter IV

BUILDING A STRATEGY FOR A SUCCESSFUL TRANSITION TO GREATER EXCHANGE RATE FLEXIBILITY

The main issue of this chapter is the transition to the flexible exchange rate regime. The strategy for a successful transition to greater exchange rate flexibility (including time, approach and sequencing of exit from the peg) depends on existing Vietnam's circumstances.

The first part of this chapter summarizes four factors guiding for a successful, orderly transition to flexible exchange rate regimes for emerging countries recommended by the IMF and assesses how far Vietnam meets these factors. Those are a deep and liquid foreign exchange market, a coherent intervention policy, an appropriate alternative nominal anchor, and an adequate system to assess and manage exchange rate risk. In case of Vietnam, a liquid foreign exchange market has not yet existed. The preconditions for the adoption of an alternative nominal anchor (inflation targeting) have not yet met. The risk management of banking system and firms is underdeveloped. The intervention policy faces problem in determining the reasons and conditions for intervention as well as difficulty regarding the availability of foreign exchange reserves at a time of distress in association with progressive open capital account. In addition, although the SBV may benefit from its secret intervention in specific objectives of intervention, the transparency is not enough to enhance credibility of the public in the central bank with regard to interventions that the SBV decided to disclose them. In short, Vietnam does not meet all conditions for adopting a flexible exchange rate regime. The existing issues of Vietnam affect the establishment of an exit strategy from the peg and lay the tasks for next chapter "Preparing for an orderly exit from the peg and further steps of reforms".

The second part considers an appropriate, orderly exit strategy for Vietnam in the event of progressive capital account liberalization, including time, approach and sequencing of exit from the peg.

As for time to exit, the transition to greater flexibility should be implemented now (2007), when Vietnam opens its financial market in April 2007. The determinants of the possibility of an orderly exit from peg to greater flexibility (orderly exit) are:

- Length of pegged duration,
- Increase in trade openness and government borrowing,
- Good economic performance (strong economic growth, abundant capital flows, exchange rate appreciation).

With regard to exit approach, the exit form the peg should not over night, rather gradual, over which Vietnam will prepare all necessary conditions to facilitate a smooth exit from the peg. The reasons are:

- Lack of a deep foreign exchange market and developed risk management may expose the economy to vulnerability in face of excessive exchange rate volatility. Gradual exit will give the economic agents more time to develop its risk management and to adapt themselves to structural changes and external shocks.
- Capital account liberalization should be preceded by a modicum of exchange rate flexibility that prevents adverse impacts of excessive capital flows. In contrast, capital account liberalization is prerequisite for greater exchange rate flexibility because more freely capital account fosters the development of deep and liquid foreign exchange markets, which in turn are needed for market participants to hedge their foreign exchange exposures. Vietnam should implement liberalizing the capital account in parallel with introducing greater exchange rate flexibility in a gradual fashion in line with economic conditions.
- The exit step should be as follows. The crawling band (band and crawling central parity) should be established. The central parity should be the current interbank-foreign-exchange-market exchange rate, which is set as the average transaction exchange rates in the interbank foreign exchange market of the previous day. The bandwidth should be wide enough so that the SBV can adjust the rate of crawl (the fluctuation of central parity) without the market's scepticism about exchange rate unsustainability. The bandwidth should be 5-10%. When the exchange rate fluctuations touch the margins, the central bank can use "trial and error" measure to adjust the exchange rate or to intervene in the foreign exchange market.

- When there is a conflict between changes in exchange rate and price stability, the later is prioritized.

The sequencing for an orderly exit from the peg to flexible exchange rate is as follows. Building fundamentals of nominal anchor, establishing exchange rate risk management and strengthening the health of the banking system should be implemented at early stage. Following are developing foreign exchange market and formulating intervention policy.

IV.1. Factors for an orderly exit from the exchange rate peg

IV.1.1. The IMF's guidance

According to IMF (2004c, 2005a) and Duttagupta et al. (2004, 2005), four ingredients for a successful, orderly transition to greater exchange rate flexibility are:

- a deep and liquid foreign exchange market,
- a coherent intervention policy,
- an appropriate alternative nominal anchor, and
- adequate systems to review and manage public and private sector exchange rate risk.

Based on countries' experiences, the IMF concludes that these four factors are considered as an ideal framework for a flexible exchange rate regime, but not every factor needs to be in place before moving toward more flexible exchange rate regimes. The decision on the exit from the fixed exchange rate based on the tradeoff between the benefit of early transition to more flexible exchange rate regime and the cost of delaying in order to meet all necessary conditions. However, in order to manage well the exit from the pegs (to avoid disorderly or crisis-driven exit), countries are encouraged to transit at early stage (IMF, 2005a).

IV.1.1.1. A deep and liquid foreign exchange market

A deep and liquid foreign exchange market is necessary under both fixed and flexible exchange rate regime. However, in contrast to fixed exchange rate, operating a flexible exchange rate regime only works well when foreign exchange market is liquid and efficient enough to determine the exchange rate by the market forces, thereby helping to minimize the

exchange rate deviations from the long-term equilibrium (the rate that is in line with a country's economic fundamentals).[56]

The IMF (2004c) finds that exchange rate rigidity, central bank's market-making role, lacks of market information, regulations on exchange restrictions, and underdeveloped market microstructure will impede the development of foreign exchange market and hinder market participants to manage exchange rate risks. Exchange rate rigidity is perceived as an implicit guarantee for the exchange rate stability, thereby reducing the sensitiveness of market participants to exchange rate risks and their need to trade and hedge against exchange rate risks. The frequent intervention of the central will reduce incentives for market participant to use measures (such as gather information about exchange rate trend, take both short and long position, and manage risks) to protect them from exchange rate risks because they think that the central bank will intervene to stabilize the exchange rate (as lender of last resort). The lack of data on foreign exchange transactions and detailed balance of payments impedes market participants to develop accurate views on monetary and exchange rate policy. Exchange restrictions (e.g. the requirement to surrender foreign exchange receipts to the central bank, taxes and surcharges on foreign exchange transactions, capital account restrictions, etc.) will limit the transactions in foreign exchange market. Underdeveloped market microstructure (including market segmentation, nature of market makers, settlement system, and the external trading of domestic currency) will hinder the development of the price discovery, payments, market intermediaries, and the efficiency of possible market interventions. These factors impeding the development of foreign exchange market should be leaved out in the transition process to greater exchange rate flexibility.

IV.1.1.2. A coherent intervention policy

Countries making transitions toward more flexibility need to develop policies on objectives, timing and amounts, and transparency of intervention.

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[56] Long-run equilibrium real exchange rate is the real rate that, for given values of "economic fundamentals" (technological progress, openness, productivity differentials, terms of trade, public expenditure, direct foreign investment, import-export taxes, composition of government expenditure and revenues, real interest rate, capital control, international interest rates, etc.) is compatible with simultaneous achievement of internal and external equilibrium.

*** Intervention objectives**

The IMF (2004c) notes four main objectives of central banks' intervention under flexible exchange rate regimes:

- to correct misalignment from the long run equilibrium,
- to calm disorderly markets,
- to accumulate reserves, and
- to supply foreign exchange to the market. [57]

However, the IMF (2005a) finds that it is very difficult to identify the reason and the condition for intervention with regard to the first two objectives under flexible exchange rate.

For example, under flexible exchange rates, the intervention is necessary to correct real exchange rate misalignment (deviation from long-run equilibrium value) because real exchange rate overvaluation can deteriorate export competitiveness and real exchange rate undervaluation may create inflationary pressures. Real exchange rate misalignment happens, even under flexible exchange rate regimes, since the market functions from time to time inefficiently, economic fundamentals are changed, and new information distorts the market process of price discovery. Even under well-functioning foreign exchange market, exchange rate misalignment may occur because exchange rate may be influenced by price movements rather than fundamentals such as speculation, panics, contagion, herding [58] and feedback trading. [59] These situations can accelerate price trends and subject the exchange rate to unwarranted and serially correlated changes over time (IMF, 2004c). However, exchange rate misalignments are difficult to detect and measure.

According to Canales-Kriljenko et al. (2003a), a disorderly market is shown by the following symptom of the market illiquidity: an acceleration in exchange rate changes, unwarranted

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[57] For more details, see Canales-Kriljenko et al. (2003a), which provide an overview of official intervention in terms of policy issues, technical issues and administrative issues.

[58] Situations when market participants are heavily influenced by actions of others, especially large or well-informed players, rather than by market fundamentals (IMF, 2004c).

[59] This is trading based on price movements. The momentum of the price change can create pressure for further price changes in the same direction (IMF, 2004c).

increase in exchange rate volatility, a widening of bid-offer spread, and a sharp changes in the level and composition of turnover. Those lead to a tension between foreign exchange supply and demand, which may affect adversely the economy.

Central banks intervene to smooth excessive exchange rate volatility because this volatility may affect badly the economy (discuss later in Chapter V). In contrast, modest and short-term exchange rate volatility may provide useful signals for market participants to learn to manage exchange rate risks. Thus, the central bank intervention may not correct the short-term and modest exchange rate volatility. However, it is very difficult to detect and measure how is the excessive exchange rate volatility and what is real economic cost of exchange rate volatility. Furthermore, countries' experiences (like Chile, Mexico, and Turkey) show that, official intervention may not always be effective in influencing the exchange rate or reducing volatility.

*** Timing and amount of intervention**

It is easier to define timing and amount of intervention concerning reserve accumulation and supply of foreign exchange to the market. In contrast, it is very difficult to determine the appropriate timing and amount of intervention regarding the correction of exchange rate misalignment and calming disorderly market because of the difficulty of detecting exchange rate misalignments and disorderly markets. Therefore, decisions on the timing and amount of intervention are subjective.

The central bank usually uses "trial and error" measure to determine amount of intervention. It depends also on the availability of reserves. The country may need to revaluate its international reserve management policy when it moves to a flexible exchange rate regime. As mentioned above, countries with fixed exchange rate regime need more reserves than those with flexible exchange rate in order to stabilize exchange rate and ensure credibility of the regime. In addition, the improvement in supervising the private sector in terms of foreign currency exposures may reduce reserve needed. However, the elimination of capital controls may require higher reserves to maintain or boost market confidence, reduce the likelihood of crises, increase the effectiveness of intervention, and hence lower exchange rate volatility, while providing funds for the government to invest in longer-term assets with higher returns (IMF, 2004c and Canales-Kriljenko et al., 2003a).

The timing of intervention depends on the analysis of market indicators and market intelligence and the assessment of the central bank of several factors such as the duration and nature of shock, exchange rate misalignment, acceleration in exchange rate changes, bid-offers spread, composition and magnitude of foreign exchange turnovers, exchange rate volatility (more details see Canales-Kriljenko et al., 2003a and 2003b).

Intervention should be selective in the frequency of intervention. Intervention to correct exchange rate misalignment and calm disorderly market is more effective when it is relatively infrequent because by entering the market infrequently, central banks can build market confidence in the official commitment to exchange rate flexibility, maximize the element of surprise, and improve the potential effectiveness of the occasional intervention. Moreover, exchange rate misalignment and excessive exchange rate volatility are difficult to detect and measure. Even when the central bank detects exchange rate misalignment or destabilizing volatility, the central bank may not intervene to correct the problem because the effectiveness of intervention in influencing the exchange rate is mixed and short-lived, as shown by empirical evidence. In addition, a modest and short-lived volatility may provide useful signals for the central bank and market participants to discover the price. Therefore, in the transition to greater exchange rate flexibility, the central bank can use the exchange rate band as a measure to reduce frequent intervention (by widening exchange rate band). However, the intervention under exchange rate band episodes may be more frequent than that under more flexible regimes (IMF, 2004c).

In contrast, intervention to supply foreign exchange and accumulate foreign exchange reserves may be more frequently, when the exchange rate is not under downward pressures.

Because the determination of timing and amount of intervention is highly subjective and depends on changing market conditions, then the intervention of the central bank needs some degree of discretion. Although the central bank intervention is discretionary, sometimes, the intervention policy should be rules-based. For example, if the exchange rate is not under a lot of pressure of one-way fluctuation (either depreciation or appreciation), a rules-based intervention will be useful in supplying foreign exchange or accumulating reserves without affecting the exchange rate (for example, regulating an amount of foreign exchange to be sold in foreign exchange market to compensate balance of payment deficit). Rules-based

intervention policies may be appropriate for a short time, especially in a transition process to greater exchange rate flexibility, as the central bank wants to restore credibility in operating a flexible exchange rate regime by a commitment to a certain level of exchange rate (two parallel nominal anchors will be discussed later). Over time, when the central bank gains enough credibility and experiences to intervene on a more discretionary basis, the rule-based policy will be abandoned or modified to allow some discretion (IMF, 2004c and Canales-Kriljenko et al., 2003b).

In short, decisions on the timing and amount of intervention are subjective and depend on market conditions such as the duration and nature of shock, observable market indicators, market intelligence and available reserves. The central bank should have a degree of discretion in intervention policy. The frequency of intervention should be prudent and selective.

*** Transparency**

Transparency in exchange rate and intervention policy can enhance the credibility of the central bank because the central bank must be accountable for its policy implementation. Transparency also helps build confidence in the new exchange rate regime, especially in the aftermath of a disorderly exit. Many countries, including the Philippines and Turkey, issued statements and policy reports affirming that they were committed to a flexible exchange rate regime and that they would not intervene in the foreign exchange market to target a certain exchange rate level.

Many countries disclose information on intervention with a time lag, which also helps to improve market transparency and central bank accountability. The United Kingdom discloses information on intervention in a monthly press release, the European Central Bank in a monthly bulletin; the U.S. Treasury confirms interventions on the same of intervention and provides additional details in quarterly reports. However, the degree of transparency may be different with the specific objectives of intervention. For example, intervention to create a sense of two-way risk in foreign exchange market should be secret to ensure an element of surprise. An intervention to accumulate foreign exchange reserves should be disclosed (IMF, 2004c and Canales-Kriljenko et al., 2003b).

In conclusion, it is very difficult to identify the reason and the condition for intervention and the appropriate timing of intervention to correct exchange rate misalignment and to calm disorderly market under flexible exchange rates. The decisions on the timing and amount of intervention are subjective and depend on changing market conditions. Thus, a discretionary intervention policy is required. However, a rules-based intervention policy may be appropriate for a short time in a transition process to greater exchange rate flexibility to establish credibility in a new exchange rate regime. Over time, when the central bank gains enough credibility and experiences to intervene on a more discretionary basis, the rule-based policy will be abandoned or modified to allow some discretion. A transparent intervention policy can enhance the credibility of the central bank in the new exchange rate regime. However, the degree of transparency may be different with the specific objectives of intervention. In short, a prudent discretionary and transparent intervention policy may help to enhance the effectiveness of intervention. Intervention should not be used as substitute for implementing prudent policies and structural reform. Intervention during transition to more flexible exchange rate can be used to limit exchange rate pass-through in inflation.

IV.1.1.3. An appropriate alternative nominal anchor

Countries exiting a peg must replace it with a new and credible nominal anchor and redesign the monetary policy framework to accommodate the new one, especially for developing countries, who relied on a rigid exchange rate peg before the exit or had a history of high inflation. It is noted that some countries, say Euro area, Singapore, Switzerland, and the United States, maintain flexible exchange rate without a formal nominal anchor because they enjoy a high level of credibility.

The difficulty in developing a credible alternative nominal anchor has caused many countries to give up the exchange rate anchor slowly and has adopted an intermediate regime, for example, a crawling band, in the transition progress to another nominal anchor over a long period. Chile, Hungary, Israel, and Poland are the case in point. These countries made successfully transition using crawling bands that were gradually widened in response to increases in capital inflows. Some useful lessons from their experiences are (IMF, 2004c):

- Fiscal restraint and wage flexibility are essential to the credibility of the intermediate regime and to the successful transition to the new nominal anchor.

- It is necessary to let the exchange rate move in two ways (depreciate and appreciate) in order to encourage participants to develop hedging instruments and manage exchange rate risk.
- In the context of maintaining two nominal anchors, the exchange rate and the inflation target, if there is a conflict between the two anchors, the central bank prioritizes price stability in order to bolster the public's confidence in its commitment to the inflation target.

The IMF agreed that inflation targeting could be a useful and transparent over the medium term for countries that are floating. The lengthy transition periods have reflected, in part, the time required to fulfil the necessary institutional prerequisites to implement inflation targeting quickly and successfully, including: a central bank mandate to pursue an explicit inflation target as the overriding objective of the monetary policy (priority to price stability over competing objectives); central bank independence and accountability; transparency in the conduct and evaluation of monetary policy that promotes accountability; a reliable methodology for forecasting and measuring inflation; a forward-looking procedure that systematically incorporates forecasts into policy and responds to deviations from targets; a supportive fiscal policy; and a well-regulated, supervised, and managed financial sector.

Until these preconditions for inflation targeting are met, many countries have followed various forms of monetary targeting (such as targeting base money, broad monetary aggregates, or bank reserves), especially after disorderly exits. [60] It is noted that money targeting, not just as a transition to inflation targeting, can also be used to promote creditable anti-inflationary monetary policies that, combined with sound fiscal policy, can provide a solid environment for flexible exchange rate regimes. However, the weak relationship between monetary aggregates and inflation has restricted the effectiveness of the monetary targeting.

[60] For example, several of the countries Korea, the Philippines, and Thailand, adopted monetary targets immediately after exiting from pegged exchange rate regimes to establish a new nominal anchor and restore policy credibility, which laid the groundwork for a fairly rapid move to inflation targeting. Brazil has followed a similar path. The transition from monetary targeting to inflation targeting in Indonesia was slower because the severity of the crisis hampered the country's efforts to move ahead.

The IMF encouraged countries to move forward with core institutional reforms that are helpful for whatever monetary policy regime (inflation targeting or alternative anchors), those are priority to price stability over competing objectives, the promotion of independent central banks, establishment of transparency and accountability for the conduct of monetary policy, and capacity to forecast inflation and to produce policy actions in line with maintaining price stability.

IV.1.1.4. Adequate systems to review and manage public and private sector exchange rate risk

The floating regimes transfer some risks from the public sector (the central bank) to the private sector, as the central bank, to a certain extent, has not intervened any more to fix exchange rate. Countries' experiences show that, disorderly exits often happen because of unmanageable imbalances in the public sector's balance sheets. Thus, determining the scale and scope of exchange rate risk exposures in the financial and non-financial sectors is also key area to achieve an orderly exit from pegs. In this regard, the IMF encouraged countries to strengthen, at an early stage, systems to manage foreign exchange risk in both private and public sector. The IMF stressed that strong bank supervision can help mitigate the direct risks from open exposures in the financial sectors (IMF, 2005a).

The evaluation of exchange rate risk exposures involves detailed balance sheet analysis, focusing on currency composition, maturity, liquidity, and credit quality of foreign currency assets and liabilities. Two risks requiring close attention are maturity mismatches (that expose banks to foreign currency liquidity) and corporate and banking sector exposure to interest risk (that limits central banks' ability to use interest rate, instead of interventions in the foreign exchange market, in conducting monetary policy).

The management of exchange rate risk involves establishing information systems to monitor the sources of risk, designing accounting-based formulas and forward-looking analytical techniques to measure risk, and developing internal risk policies and procedures (of which prudential regulation and supervision of foreign exchange risk, including limits on net open positions, foreign currency lending, overseas borrowing and bond issuance, and foreign exchange operations banks allowed to perform, are complementary and important factors for internal risk management).

The IMF (2004c) notes that facilitating the development of risk-hedging instruments by lifting controls on forward market activity can be a double-edged sword. In addition to improving risk management, developing derivatives products can contribute to the development of the foreign exchange market. However, derivatives can easily be misused. For example, in Thailand, in 1997, investors used them to take highly leveraged bets on unsustainable exchange rates. To use such instrument successfully, first, corporations and financial institutions need to acquire a considerable sophistication in risk management; and the authorities are capable of supervising them. Then, use of such instruments must be closely monitored. Furthermore, bank trading of derivative products must be standardized and accounting standards for fair valuation and a reliable legal system for contract enforcement must be established. Finally, and the central bank should promote market transparency and high reporting standards.

IV.1.2. Assessing Vietnam's drawbacks according to the IMF's criteria

IV.1.2.1. The foreign exchange market

The first ingredient for good operating a flexible exchange rate regime is a sufficiently liquid and efficient foreign exchange market. According Sarr and Lybek (2002), a liquid market tends to exhibit five characteristics:

- Tightness: refers to low transaction costs (explicit and implicit cost). Because the bid-ask spreads capture nearly all of explicit and implicit costs, they are used to measure transaction costs. Relatively narrow bid-offer spreads lead to lower transaction cost.
- Immediacy: represents efficient trading, clearing, and settlement systems to facilitate the swift execution of orders.
- Depth: refers to the existence of abundant orders, either actual or easily uncovered of potential buyers or sellers, both above and below the price at which a security now trades.
- Breadth: means that orders are both numerous and large in volume with minimal impact on price of individual trades.
- Resiliency: is a characteristics of markets in which new orders flow quickly to correct order imbalances, which intend to move prices away from what is warrant by

fundamentals (a wide range of active market participants to ensure that new orders flow quickly to correct order imbalances and misalignments).

In case of Vietnam, the percentage bid-ask spread for spot transaction is extremely narrow (about 0.003%). [61] The spread remains unchanged over a long period. Low transaction is associated with more liquid market. Because of lacking data, the other characteristics cannot be quantitatively measured. However, as noted in chapter II, for example, the settlement system is in process of modernization and its effectives is limited because of low level income of inhabitants and procedures remain complicated (not immediacy). The number of orders in the interbank market is low (shallow) manifested one-way transaction (some banks only bid, other only offers) and the high ratio of the SBV's selling foreign exchange to meet demand for import payments. Turnover volume is small (thin). The number of active market participants is also too small (not resiliency). Therefore, it can be concluded that the Vietnamese foreign exchange market is not liquid.

Moreover, some factors hamper developing a Vietnamese liquid foreign exchange market (based on factors from the IMF, 2004c and Canales-Kriljenko, 2004):

- Fixing the exchange rate stunts the foreign exchange market liquidity and limits the scope for price discovery. A fixed exchange rate regime and exchange rate fluctuations toward upper margin of very small band reduce incentives for market participants to hedge themselves and to manage exchange rate risk, thereby constraining activity in the foreign exchange market.
- Intervention of the SBV in the market to fix exchange rate implies an implicit guarantee for exchange rate stability, thus contributing to restrain the development of hedging instrument, thereby constraining the development of foreign exchange market.
- Information on the sources and uses of foreign exchange and detailed balance of payments data are not disclosed and not sufficient to market participants (lacking transparency of market information). Thus, market participants cannot develop accurate views on the monetary policy and exchange rate policy.

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[61] Using measure by Sarr and Lybek (2002), i.e. $S = \frac{P_A - P_B}{\left(P_A + P_B\right)/2} * 100$, and bid and ask rates quoted daily by Vietnam commercial bank available on www.sbv.gov.vn.

- Although current account transactions are liberalized, administrative procedures are complicated, do not meet the requirement of simplification and the immediacy of the liquid market. Many regulations on capital transactions still exit that stifle market activity, for example, controls on all transactions in capital and money market instruments and in collective investment securities, control on outward and inward direct investment, etc.
- Forward transaction is undeveloped. After piloting in 2003 and 2004, foreign exchange option has been officially implemented since 2005. Foreign exchange, interest rate and funded credit default swap are allowed to pilot in some banks. Lacking of developed foreign exchange derivative market reflects the market shallow or limitations on short-term capital mobility, and the limited exchange rate flexibility.
- Existence of the black market limits attraction of all foreign currency receipts into banking system. Market segmentation (existence of the official and parallel market) reduces market liquidity and affects the financial sector development.
- Activities of dealers (intermediaries, who aggregate the supply and demand of their clients but can also make transactions on their account, may be banks, foreign exchange bureaus, or brokerages that are not allowed to conduct transactions on their own account) contribute to the development of foreign exchange market and the determination of exchange rates in flexible exchange rate regimes. Most of dealers become market makers, i.e. set two-way exchange rates at which they are willing to deal with other dealers. Bid-ask spreads cover the exchange rate risk associated with possible exchange rate fluctuations between the time at which they buy and the time at which they sell foreign exchange. Currency intermediaries in Vietnam are undeveloped. In addition, there is not electronic brokerage system; therefore dealers have no information about exchange rates that are actually transacted in the market, rather only information about exchange rate though Reuter or other news agencies. Absence of electronic brokerage system and developed currency intermediaries constrains the development of foreign exchange market.
- Eliminating or limiting risks from settlement of foreign exchange transactions is one of the preconditions of smoothly functioning market. In Vietnam, settlement risks are increasing because banks face difficulties in management of assets and liabilities, thereby affecting their settlement capacity. Ability of banking staffs to analyse foreign exchange risks, to set position limits, to take position and to deal with data by electronic programs is weak. Furthermore, legal regulation on determination of net open position remains

inadequate. [62] In addition, the modernisation of banks and payment systems are in progress but have some difficulties as mentioned in chapter II.

IV.1.2.2. Official intervention in the foreign exchange market

*** Intervention objectives**

The SBV intervenes in foreign exchange market to stabilize exchange rate, correct exchange rate misalignment, calm disorderly markets, accumulate reserves, and supply foreign exchange to the market.

In Vietnam, one of the objectives of monetary and exchange rate policy is to keep macroeconomic stability, thereby contributing to attract foreign direct investment and hence economic growth. Thus, the SBV always wants to keep nominal exchange rate stability as much as possible. Since 2004, the nominal exchange rate has been allowed to depreciate by 1% per year.

Besides, the SBV has paid much attention to maintain export competitiveness because the economy growth is led by export growth. [63] The SBV has endeavoured to correct prolonged exchange rate misalignment. As noted in chapter II (II.2.1.4), Vietnam's real exchange rate does not appear to be significantly misaligned. After large depreciation in 2002-04, the REER has been reversed by the appreciation since end-2004 and now, it has returned close to the level of 2001. However, the appreciation of REER is assessed not affect external competitiveness (given a data limitation) because Vietnam's export competitiveness depends much on the reduction of production costs and quality of export goods. Therefore, the SBV has given priority to currency stability if there is a tension between currency stability and external competitiveness.

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[62] That is, calculation of foreign exchange position is based on balance on foreign exchange transactions at the end of working day, but regardless of interest and paying interest with regard to assets and liabilities denominated in foreign currency (Decision No 1081/2002/QĐ-NHNN dated 07 October 2002 on foreign exchange position of credit institutions with licence of trading foreign exchange).

[63] The economy performance of Vietnam is driven by a strategy of export-led investment and growth. There has been not yet a reliable figure recommended by economists about the relationship between export growth and output growth in Vietnam, but the authorities believe that the annual export growth must not be lower than 20% in order to reach the annual projected GDP growth of 8.5%.

The SBV has also intervened to calm disorderly market, including smoothing exchange rate volatility and solving the tension between foreign exchange supply and demand. In May 2006, when the nominal interbank-foreign-exchange-market exchange rate surpassed the moral threshold of VND 16,000 per USD, the speculation happened intermediately, leading to exchange rate reaching VND 17,000 per USD in the black market. In such a case, the SBV had to intervene to calm down the market by revaluating the dong under this moral threshold and announcing that the central bank has enough ability to keep the exchange rate stable. As a result, the nominal exchange rate came back to its initial level of lower than VND 16,000 per USD.

The SBV has also intervened in foreign exchange market to solve the tension between the supply of and demand for foreign exchange. Since 2001, the SBV has used swap to meet commercial banks' demand for the Vietnamese dong or the U.S. dollar when banks suffered from shortage of the dong or the dollar. For example, to meet the domestic demand, in July 2001, the SBV implemented dong-foreign currency swap with commercial banks to inject VND 1,200 billion to the economy (Huy Minh, 2001) and VND 9,000 billions in first six months of 2003 (Nguyen, Dac Hung, 2004). In the national holiday *Tet* 2002, when the demand for foreign currency of inhabitants and enterprises increased, the SBV changed US$160 million for VND 2,400 billion for commercial banks (Nguyen, Dac Hung, 2003). Since 2005, sometimes the supply for the U.S. dollar has exceeded the demand; the SBV has bought a number of foreign currencies in foreign exchange market to help balance foreign exchange supply and demand. However, at end-2006, the SBV did not buy foreign exchange from commercial banks because it would raise the money supply ratified annually by the National Assembly; rather the SBV widened the exchange rate band from +/-0.25% to +/-0.5% in January 01, 2007.

The ability of the SBV's intervention in foreign exchange market is limited due to modest foreign exchange reserves. Thus, accumulation of foreign exchange reserves is often a high priority in Vietnam. Since 2003, the SBV has acquired a considerable amount of foreign exchange reserves through foreign currency swap and buying foreign exchange from credit institutions (due to abundant foreign exchange deposits and capital inflows). In addition, the Government issued for the first time governmental bonds in international financial market in 2005. Those have allowed the SBV to increase its international reserves (Figure II.4).

Besides, the SBV is entrusted by the Government to balance strategic demand for foreign currency of the economy, e.g. such as buying foreign currency from crude oil export, selling foreign currency for Ministry of Finance to meet the national strategic demand, and selling foreign currency for some commercial banks to satisfy the demand for petrol, cement, fertilizer, steel import, and so on.

In short, although the SBV has played a good role in lender-of-last resort in foreign exchange market, the SBV sometimes has faced difficulties in correcting exchange rate appreciation (because of maintaining stable nominal exchange rate in context of high inflation and abundant capital inflows) and calming the market (the SBV did not buy foreign exchange because it would raise money supply, rather widened the exchange rate band). Those are also difficulties faced by other countries under flexible exchange rate regime.

*** Amount and timing of intervention**

According to Canales-Kriljenko et al. 2003a, there is no simple rule for determining the optimal amount of foreign exchange intervention. Central banks often determine the "effective" amount through trial and error based on available foreign exchange reserves. However, the SBV's reserves are relative modest. As mentioned in chapter II (II.2.3.4), in the period ahead, in association with opening capital account, the current reserve adequacy of Vietnam may be under pressures in time of stress (i.e. in the event of capital flight out of the country and a run on foreign exchange deposit from banking system in Vietnam).

Determining the timing of intervention is highly subjective. It depends on the ability of central banks to assess related factors such as exchange rate misalignment (very difficult to detect), nature of shocks (permanent or temporary, very difficult to detect, too), bid-offer spread, composition and magnitude of foreign exchange turnovers, and exchange rate volatility (Canales-Kriljenko et al. 2003b). Due to weak assessment of these factors, the SBV's timing of intervention was not on real time as soon as foreign exchange tensions happened. Therefore, foreign exchange tensions always happen, thus causing disorder in the foreign exchange market and hampering the confidence of the public in the SBV.

The SBV does not disclose its intervention policy, so the market participants do not know whether its intervention policy is discretionary or rules-based.

*** Transparency**

Perceiving that transparency in exchange rate and intervention policy helps build confidence in the central bank, the SBV began to announce its intervention objectives and its intervention amount with a time lag. For example, the first time since 1999, the SBV has disclosed its intervention objective, when the SBV Governor in August 2004 and January 2005 announced that the SBV would keep annual exchange rate depreciation by 1% against U.S. dollar. The intervention amounts met demand for Vietnamese dong in 2001 and 2003 and demand for foreign exchange of credit institutions in 2002 were announced at end-year after conducting these interventions.

However, the SBV does not commit to publish all of its interventions. Interventions to create two-way exchange rate movements are not disclosed because the SBV may benefit from its secret foreign exchange intervention when it fears that the market participants will use the disclosed information against the central bank. In such a case, secret intervention may protect the economy against some degree from speculative attacks. Therefore, the SBV has chosen a degree of transparency to what extent that makes intervention more effective. For instance, the SBV has chosen to report only certain interventions with a time lag, such as the intervention to stabilize exchange rate aiming at restraining inflation expectations, accumulate foreign exchange reserves, and supply foreign exchange to the market. However, these announcements seem to be not eligible enough to ameliorate transparency and enhance credibility because information brought by the SBV has been vague for the public. For example, the SBV only announced that it had acquired a number of foreign exchange reserves (without concrete number that can be seen after one year in IFS website) and had have enough foreign exchange reserves to stabilize exchange rate when there was a disorder in the foreign exchange market. This announcement is to calm the market, or a moral suasive solution to the public. The SBV also announced that it would maintain the exchange rate depreciation within 1% but did not disclose how much foreign exchange and how often it had to intervene to defend the fixed peg, even with a time lag. Therefore, the effect of the announcement on improving transparency has not yet been seen.

In conclusion, like other emerging countries, intervention policy of Vietnam faces problem in determining the reasons and conditions for intervention to correct exchange rate misalignment and to calm foreign exchange market. The timing of intervention was not on real time as soon as foreign exchange tensions happened. The amount of intervention also faces difficulty regarding the availability of foreign exchange reserves at a time of distress in accompany with progressive liberalization of capital flows. Although the SBV may benefit from its secret intervention in specific objectives of intervention, the transparency is not enough to enhance credibility of the public in the central bank with regard to interventions that the SBV decided to disclose them.

IV.1.2.3. Developing an alternative nominal anchor

As discussed in the previous chapter, inflation targeting can be a useful and transparent nominal anchor over the medium term for Vietnam when the exchange rate is floating. Vietnam has not met prerequisites recommended by the IMF to implement successfully inflation targeting. Thus, it is suggested that Vietnam should undergo a transition process to inflation targeting. The next chapter will discuss about the preparation for the adoption of inflation targeting in Vietnam.

IV.1.2.4. Exchange rate risk management

According to the IMF, evaluating exchange rate risk exposures should focus on detailed balance sheet such as currency and maturity mismatch, liquidity, and credit quality of foreign currency assets and liabilities. As discussed in the Chapter II, Vietnamese banking system has involved risks including large foreign exchange rate exposure (about 24% of total bank credit being extended in foreign currency), high rate of NPL, double mismatch, and low profitability and competitiveness. In addition, deriving from the fact that fixed exchange rate is considered as an implicit guarantee of the central bank to exchange rate risks, Vietnamese credit institutions face problems in risk management such as poor internal governance and risk management practices, lack of liquid markets and market infrastructure, underdeveloped hedging instruments, weak market discipline and inadequate prudential regulation and supervision. The legal system of banking regulation and supervision has been not yet conformed to international standards. For example, according to results of survey by Ernst and Young in 2006 assessing Vietnam's conformity to 25 Principles of Basel Accord, nine

principles have not been mostly conformed, one principle conformed, two principles mostly not adopted, and three principles not adopted. Most principles for banking supervision are not conformed to Basel Accord. Many developing countries have already implemented capital adequacy ratio according to Basel Accord I and already adopted Basel Accord II before or by 2010, whereas Vietnam has implemented only principles for the management of credit risks and planed to adopted fully Basel Accord I by 2010 (Nguyen, Van Binh, 2007). [64]

In short, the capacity of Vietnamese banks and enterprises to manage and monitor exchange rate risk is weak.

In summary, four factors guiding for a successful, orderly transition to flexible exchange rate regimes for emerging countries recommended by the IMF are a deep and liquid foreign exchange market, a coherent intervention policy, an appropriate alternative nominal anchor, and an adequate system to assess and manage exchange rate risk. For the time being, Vietnam does not meet all conditions for adopting a flexible exchange rate regime. Therefore, Vietnam must choose a gradual transition to flexible exchange rate regime, over which Vietnam will prepare all necessary conditions to facilitate a smooth exit from the peg. This lays the tasks for the establishment of an exit strategy from the peg and for the preparation for an orderly exit from the peg (discussed in the next chapter).

IV.2. Exit strategy to greater exchange rate flexibility

As concluded in the previous chapter, Vietnam should introduce more flexible exchange rate regime in the long run. At present, it is necessary to set forward an exit strategy for successfully transition to greater flexibility. The target is an orderly exit to greater exchange rate flexibility. The exit strategy will address the questions when and how (pace and sequencing of exit to exchange rate flexibility) it may be appropriate to move toward more flexible rate to forestall risks of crises. The preparation for a successful transition to a float will be discussed in the next chapters.

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[64] Basel Accord II was released by the Basel Committee on Banking Supervision in 26 June 2004 and came into effect in 2007. For more details, see www.bis.org.

IV.2.1. Timing of transition to greater exchange rate flexibility

To manage the exit from pegs well, transitions preferably should be made at an early stage (IMF, 2004c). The determinants of the possibility of an exit from peg to greater flexibility (orderly exit) are length of pegged duration, increase in trade openness and government borrowing (Duttagupta and Ötker-Robe, 2003), and good economic performance (strong economic growth, abundant capital flows, exchange rate appreciation) (Eichengreen, 1999, 2006).

IV.2.1.1. Length of pegged duration

According to Klein and Marion (1994), the exchange rate peg is impermanent because the government must often devaluate the currency or even abandon the peg at a time of distress. The devaluation in association with the collapse of the peg is politically costly. The government has to decide how long to maintain a fixed exchange rate to minimize the political costs of a devaluation. Therefore, the duration of the peg is a determinant of the probability of exits.

Duttagupta and Ötker-Robe (2003) show that the pegged spells (that is the time spent for a given peg) in their sample were relatively short-lived. [65] The average duration of all pegged regimes was about two years (8.2 quarters), the median duration was 4 quarters (i.e. 50% of the spells ended before or at one year). When distinguished by type of exit, the average and median duration of spells that exited to less flexible exchange rates is longest (15.5 and 18 quarters, respectively), followed by those of exit to more flexible exchange rates (9.1 and 6 quarters, respectively), those of exit to other regimes (8.8 and 4.5 quarters, respectively), and those of adjustments within the same regime (3.8 and 2 quarters, respectively). Moreover, the average duration of conventional fixed pegs to a currency basket is the longest (10.1 quarters), and that of crawling bands is the shortest (5.6 quarters). This result arises from the fact that the basket regime of Thailand existed for 50 quarters before exit to a float. Thus, the median

[65] Duttagupta and Ötker-Robe (2003) use a sample of 125 exits from the peg in period of 1985-2002, which is identified as 37 adjustments within the prevailing pegged regime, 58 exits to more flexible exchange rate, 14 exits to less flexible exchange rate, and 16 exits to a certain soft pegged regime - called “other regimes” - e.g. between alternative types of conventional fixed pegs, between fixed pegs and crawling pegs.

duration of fixed pegs to a basket is the shortest (2.5 quarters), whereas that of crawling peg is the longest (8 quarters).

Edwards (2001) shows that in countries with an inflationary problem, pegged exchange rate should only be maintained for a short period in an initial phase of anti-inflation program (exchange rate-based stabilization program), then moving toward greater exchange rate flexibility should be adopted at an early stage (before the overvaluation becomes too large). Duttagupta and Ötker-Robe (2003) find that, crises are preceded by a long duration within the pegged spells (e.g. Thailand's pegged regime existed for 50 quarters, and that of Argentina lasted for about 43 quarters), implying inconsistency between the pegged regime and other economic policies.

Let see about the role of the pegged exchange rate in anti-inflation program in Vietnam. The pegged regime has begun since August 2004 as official announcement of the Governor of the SBV. Until December 2006 (before the adjustment of the bandwidth within the same regime in January 2007), the pegged spell has lasted for more than 2 years (9 quarters) that is a little bit longer than the average duration of 8.2 quarters of all pegged regime as shown by Duttagupta and Ötker-Robe (2003). As mentioned in III.2.2.2, the pegged exchange rate in Vietnam is useful in anchoring inflation expectations. However, the role of the fixed exchange rate regime as a nominal anchor to stabilize the price is not strong enough because the inflation in Vietnam is largely inertial and affected by a variety of determinants aside from exchange rate volatility (see III.2.2.2). These lead to the requirement of use of monetary policy in association with other policies (for example fiscal policy) to control inflation, rather exchange rate peg alone. In addition, as mentioned in previous chapter, the maintenance of the fixed exchange rate regime faces difficulties in the event of free capital flows. The exchange rate has appreciated in real terms since 2004, although not significant in comparison with the level in 2001. However, the continuous appreciation of REER will eventually lead to an exchange rate overvaluation, which may trigger a large devaluation of the exchange rate at the time of distress. Therefore, it can be said that the fixed exchange rate regime is not able to be a long-run solution for price and financial stability. These suggest that, at the moment (in 2007), the SBV should consider the time of exit from the peg. Note that 50% of pegged spells that exited to more flexible exchange rate in the sample ended within 6 quarters.

IV.2.1.2. Trade openness

Duttagupta and Ötker-Robe (2003) find that the possibility of the orderly exits to more flexible regimes rises with increase in trade openness. Increase in trade openness may raise exposure to terms-of-trade shocks that flexible exchange rate can absorb better (see III.1.4). As shown in Table IV.1, the trade openness in Vietnam has increased continuously. In addition, the IMF (2006d) finds that the terms-of-trade is one of the determinants influencing the movement of the real exchange rate in Vietnam (a 1-percent increase in terms-of-trade shock results in 0.6-0.7-percent increase in the REER). These factors trigger the possibility of the orderly exit to more flexible exchange rate in Vietnam.

IV.2.1.3. Government borrowing

Similarly, Duttagupta and Ötker-Robe (2003) and Rebello and Vegh (2006) find that the possibility of the orderly exits to more flexible regimes rises with increase in government borrowing from the banks. Fiscal deficit leads to increase in Government borrowing from banking system through issuance of bonds in order to finance fiscal deficit. With a given available loan funded by the banking system, the Government has to compete with the private sector to access this fund by paying higher interest rate. In addition, an excess supply of bonds leads to a reduction in price of bonds and a rise in interest rates. These can lead to crowding-out effect because increase in interest rates results in the displacement of private spending by Government spending. To reduce interest rates, these government liabilities will be monetized by the way that the central bank purchases bonds (by printing money) through open market operations, which in turn raises money supply and hence inflation. Therefore, fiscal deficit undermines the ability of the central bank to achieve the inflation target. If the central bank does not intervene to reduce interest rates caused by fiscal deficit, the high interest rates could lead to recession (investment and output decline) and exchange rate appreciation. Under flexible exchange rate, exchange rate appreciation would deteriorate exchange rate competitiveness. However, it might counteract increasing spending of the Government. Under fixed exchange rate, sterilized intervention by offsetting increase in money supply by selling bonds would make interest rates further increased. If the central bank has to pay high interest rates to get the market absorb sterilization bonds, it may run a problem of liquidity. Unsterilized intervention would raise inflation. Therefore, flexible exchange rate can help to constrain fiscal deficit. In fact, fiscal deficit was a cause of banking and financial crises in

Asian in 1997-98 (Burnside et al., 1998) and Argentina in 2001 (Mishkin, 2004). Burnside et al. (1998) find that the collapse of fixed exchange rates in the Asian financial crisis was preceded by large deficit and rising debts. Mishkin (2004) shows that because the Government got in large budget deficit, banks were are encouraged and forced to buy Government bonds. "With the decline in the value of these bonds as the likelihood of default on this debt increased, bank's net worth plummeted. The likely insolvency of the banks, then led to a classic run on the banks and a full-scale banking crisis by the end of 2001. The result was a collapse of currency, a devastating depression and an initial surge in inflation".

In Vietnam, the fiscal deficit has been large (except 2004) and has increased since 2005 (appendix II.2). [66] The government debt has increased since 2001 (Table IV.1). This triggers the possibility of the orderly exits to more flexible regimes.

Table IV.1. Vietnam: Indicators of external vulnerability, 2000-06

	2000	2001	2002	2003	2004	2005	2006
Trade openness (in % of GDP)	96.5	95.8	103.7	114.5	127.5	131.4	139.0
Export growth (in %)	25.2	4.0	11.2	20.4	31.5	22.4	20.1
External debt stock (in % of GDP)	38.6	37.9	34.9	33.6	34.2	34.2	32.6
o/w public	27.7	28.9	27.6	26.9	27.6	26.8	27.5
Debt service (in % of export)	10.5	10.6	8.6	7.9	6.2	5.2	5.6
Public debt (in % of GDP)	n.a.	37.0	38.2	40.8	42.7	43.7	45.5
o/w foreign currency dominated	n.a.	n.a.	28.0	27.4	27.4	26.6	27.3
Foreign exchange reserves (Bn USD)	3.0	3.4	3.7	5.6	6.3	8.6	11.5
REER (in %, - depreciation, end of period)	2.2	0.4	-5.5	-9.0	1.1	13.0	4.3

Note: On the basis of 2005 CPIA score, Vietnam is considered a strong performer. CPIA's applicable external debt thresholds are the following: NPV of debt-to-exports = 200%, NPV of debt-to-GDP = 50%, and NPV of debt service-to-exports = 25% (IMF, 2006c). Data for 2006 are projected based on data available as of end-August 2006, except REER data as of end-June 2006.

Source: IMF (2006a, 2006c), SBV (2005), and Vietnam Economic Times (2006, 2007).

[66] In 2005 and 2006, the increase in fiscal deficit was attributed to the public wage reform, which has been undertaken by the Government under its public administration reform program (IMF, 2006c).

IV.2.1.4. Good economic performance

Countries are reluctant and confused in deciding when may be appropriate to introduce a greater exchange rate flexibility (or to exit orderly from the peg). Eichengreen (1999, 2006) suggests that countries should exit from a peg while the going is good. That means the possibility of a successful exit strategy is higher if countries take advantage of period when growth is strong, capital inflows are abundant and the exchange rate is under pressure to appreciate to introduce greater flexibility. Agreed with Eichengreen (1999), the IMF Executive of Board notes that "the best time to move to greater exchange rate flexibility would be at a time of relative calm in the exchange markets or when there are pressures for appreciation of the currency". The reasons are as follows:

First, being attracted by good economic growth, a large capital flow pours into the economy, leading to an appreciation of the exchange rate. Appreciation during period of inflows contributes to reduce the excess external demand and speculative bubbles that appear to arise at time of exit (Eichengreen (1999, 2006). Thus, the country should take advantages of this period to introduce greater exchange rate flexibility, thereby mitigating the adverse effects right after the transition.

Second, a stable exchange rate is also a reason to attract capital inflows. Allowing exchange rate fluctuations by creating two-way exchange rate movement risk (exchange rate can depreciate or appreciate) will ease capital inflows. But why capital inflows become a problem? Capital flows can easily flow into the country, but these capital inflows can be readily reversed at the time of distress. Countries' experiences show that, under fixed exchange rate currency, crises were triggered by capital outflows of a scale and rapidity. Therefore, maintaining fixed exchange rate while liberalizing controls on capital outflows will expose the economy to currency crisis. Thus, countries should choose when capital inflows become substantial and while some capital controls remain to allow exchange rate more flexible.

Third, higher exchange rate volatility creates incentives for market participants to hedge foreign exchange exposure, thereby protect themselves against risks when the exchange rate depreciates.

Fourth, the country should avoid exit under depreciation pressure because the central bank may lose control of exchange rate (successful speculative attacks are likely, resulting in exhaust of international reserves), credibility is impaired, the cost of abandonment of fixed exchange rate may be output loss for one or two year (experiences of Asian financial crisis in the 1990s). Thus, countries should exit the peg when there is an expectation for exchange rate appreciation (Chile, Colombia, Israel, and Egypt are the cases in point, Agénor 2004). Real exchange rate appreciation can occur under flexible and fixed exchange rate, when nominal exchange rate appreciates (due to rise in capital inflows. We put aside cause of exchange rate appreciation from change in price level). But the effects of real exchange rate appreciation under fixed exchange rate and under flexible exchange rate are different. We see it as follows.

As a result of an increase in capital inflows, nominal exchange rate appreciates. Under floating exchange rate, the central bank does not intervene to maintain the exchange rate. Exchange rate appreciation worsens the current account balance (increase in trade deficit). To cope with current account deficit, the central bank has to coordinate with the government by tightening fiscal policy to restrain excessive external demand, which in turn reduces imports, thereby reducing current account deficit. To reach this result, the central bank needs to be supported by the Government, which in turn requires policy coordination. In addition, the economy can increase it external competitiveness by increasing quality of product and reducing cost of production.

Under fixed exchange rate, the central bank has to intervene to maintain the peg. If the central bank chooses sterilized intervention, that is, the central bank buys foreign exchange and sells Government bonds in the market. Broad money will not change and the increase in net foreign asset is offset by decrease in net domestic assets. However, sterilized is considered ineffective because it raises the public debts and the central bank may bear interest costs. To attract the public buy the Government bonds, the central bank has to issue bonds with interest rate at a level higher than that in the market. In addition, developing countries always face problem of having underdeveloped domestic financial markets that create facilities for sterilized intervention.

If the central bank intervenes without sterilization, the broad money increases, thus creating inflationary pressure. In such as case, the central bank has to tighten credit growth by raising interest rate. However, such an increase in interest rate may put firms and already-weak banks

in insolvency default and the economy in recessions (output is reduced). If banks suffer from heavy losses of loans (bad debts), increase in interest rate impedes banks from collect debts and raise the burden debt of firms, thereby probably leading to insolvency. In addition, it also aggravates fiscal deficit due to higher interest payments provided fiscal imbalance is large, and public debt is mainly short-term or contracted at floating rates. These lead to a perception of lack of sustainability of the fixed exchange rate regime.

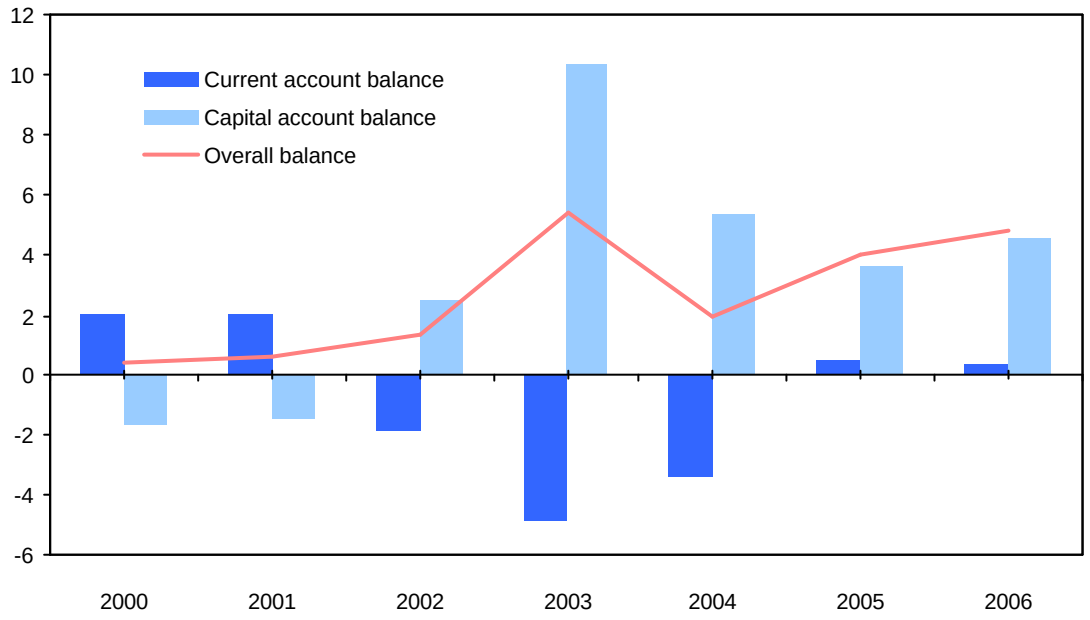
The above analysis shows that in case of capital inflows and exchange rate appreciation, the country should move to flexible exchange rate.

Take the case of Vietnam. The current situation has created incentives to orderly exit to more flexible exchange rate. Being attracted by strong economic performance, capitals are substantially flowing in. The overall balance has remained in surplus, which has been mainly attributed to surplus in the capital account since 2002 and decrease in current account deficit since 2003 (Figure IV.1). Since 2005, the foreign exchange supply and demand have had goods signals. The shortage in the foreign exchange supply for payments has been solved. In the first 6 months of 2006, the supply has exceeded the demand by about USD 2.2 billion, higher than that of USD 0.75 billion in the same period of 2005 (SBV, 2006). At the same time, there have been also some signals initiating the likelihood of disorderly exits, such as a decline of export growth (a signal of the deterioration of economic health, Duttagupta and Ötker-Robe, 2003) and appreciation of REER, have arisen (Table IV.1). In the context of real exchange rate appreciation and abundant capital inflows as well as the openness of financial service market in April 2007 in line with Vietnam's commitments under US-Vietnam bilateral trade agreement and the WTO and progressive free capital flows, I suggest that it is time to let exchange rate move toward greater flexibility.

In conclusion, the role of the fixed exchange rate regime as a nominal anchor to stabilize the price is not strong enough because the inflation in Vietnam is largely inertial and affected by a variety of determinants aside from exchange rate volatility. The pegged exchange rate should only be maintained for a short period in an initial phase of anti-inflation program. In addition, the possibility of an orderly exit to more flexible exchange rate regime rises with the increases in trade openness and government borrowing from banking system. Moreover, the maintenance of the fixed exchange rate regime faces difficulties in the event of free capital flows. The continuous appreciation of REER since 2004 will eventually lead to an exchange

rate overvaluation under fixed exchange rate, which may trigger a devaluation of the exchange rate at the time of distress. In contrast to flexible exchange rate regime, the REER appreciation will place the SBV in difficult situation in ensuring price stability under fixed exchange rate regime. Therefore, it is suggested that, at the moment (in 2007), the SBV should consider the time of exit from the peg. The SBV should make a voluntary transition to more flexible exchange rate. A voluntary transition will be associated with lower vulnerabilities and less macroeconomic disruption than crisis-driven transitions. The SBV could use "trial and error" measure to explore ways to introduce a more flexible exchange rate regime.

Figure IV.1. Vietnam: Balance of payments, 2000-06



Note: in % of GDP. Data for 2006 are projected.

Source: IMF (2006a, 2006c), IMF International Financial Statistics, SBV (2004), and SBV (2005).

IV.2.2. Approach to transit to greater exchange rate flexibility

Countries can choose between gradual and rapid exit from pegs. A rapid exit from pegs to free floating involves fewer intermediate steps than a gradual exit. A gradual exit to free floating involves several steps, for example moving from a fixed peg against a single currency to a fixed or crawling peg against a basket of currencies, and then to an exchange rate band (horizontal or crawling band) (IMF, 2004c). A basket of currency has some advantages. Pegging to a basket of currencies can help to reduce the transmission of external shocks to the

domestic economy arising from the fluctuation of a single currency and to temper the exchange rate's exposure to the potentially erratic movements of a single currency. A crawling peg against a basket of currencies can help to preserve external competitiveness by devaluating effective exchange rate. Moving to a horizontal or crawling exchange rate band can provide greater exchange rate flexibility and monetary policy independence.

Some factors affect pace of exit, including degree of institutional and market development and the openness of the capital account. Countries with appropriate market and institutional framework, including a deep foreign exchange market, and the ability to monitor and manage exchange rate risks, as well as with low foreign exchange exposures and not fundamentally misaligned exchange rate should exit rapidly. Countries having abundant and volatile capital flows can face more difficulties when pursuing a gradual exit.

Take the case of Vietnam. I suggest that Vietnam should exit gradually because of the following issues:

IV.2.2.1. Market and institutional framework

At present, Vietnam lacks a deep foreign exchange market; and its ability to monitor and manage exchange rate risks is very weak. In such a case, Vietnam should follow a gradual exit to help reduce excessive exchange rate volatility and its potentially adverse effects on inflationary expectations while still developing fundamental institutions for operating a flexible exchange rate. Step by step increasing exchange rate flexibility together with creating two-way risks in exchange rate movements will encourage economic agents to improve their management of exchange rate risks and facilitate the economy to adjust to structural changes and exogenous shocks. To these ends, the SBV should limit intervention in the market to address disorderly conditions.

IV.2.2.2. Sequencing of capital account liberalization and exchange rate flexibility

For the time being, Vietnam still maintains capital controls on the capital flows. However, in the next years, Vietnam will open the financial market and facilitate the movement of capital flows into and out of countries. Opening capital account, even under favourable economic conditions, before introducing exchange rate flexibility will make the economy more

vulnerable to a crisis (in the circumstance of overheating economy during the 1990s, Chile and Poland faced heavy capital inflows, which put upward pressure on exchange rate pegs, and had to allow exchange rate flexibility). Therefore, literature and countries' experiences suggest that capital account liberalization should be preceded by a modicum of exchange rate flexibility that prevents foreign exchange speculations. The introduction of exchange rate flexibility could facilitate capital account liberalization because greater exchange rate flexibility encourages the development of foreign exchange market and foreign exchange risk management by developing hedging instruments and derivatives/forward markets, thereby preparing the economy better to deal with adverse impacts of excess capital inflows. In contrast, capital account liberalization is prerequisite for greater exchange rate flexibility because more freely capital account fosters the development of deep and liquid foreign exchange markets, which in turn are needed for market participants to hedge their foreign exchange exposures. Thus, Vietnam should implement liberalizing the capital account in parallel with introducing greater exchange rate flexibility (as New Zealand and Chile), but in a gradual fashion in line with economic conditions. The transition towards exchange rate flexibility can be supported by lifting step-by-step capital controls. Until successful floating, the remaining control can be gradually removed. To these ends, intervention policies and the development of a functioning foreign exchange market with hedging instruments against risks are needed to limit excessive exchange rate volatility and to promote risk management.

IV.2.2.3. Intermediate exit step in the transition to floating polar

Countries' experiences (Chile, Poland, Hungary, and Turkey) show that the crawling band was adopted in response to the increase in capital inflows (IMF, 2004c, Box 3). As choosing a gradual approach to transit to floating exchange rate and in response to currently abundant and potentially excess capital inflows, Vietnam should move from conventional fixed peg to exchange rate within crawling bands before adopting a more flexible exchange rate regime (managed floating, independently floating).

According to the IMF (2005d), a regime is considered as crawling band when "the currency is maintained within certain fluctuation margins of at least ±1% around a central rate - or the margin between the maximum and minimum value of the exchange rate exceeds 2% - and the central rate or margins are adjusted periodically at a fixed rate or in response to changes in selective quantitative indicators. The degree of exchange rate flexibility is a function of the

bandwidth. Bands are either symmetric around a crawling central parity or widen gradually with an asymmetric choice of the crawl of upper and lower bands (in the latter case, there may be no pre-announced central rate). The commitment to maintain the exchange rate within the band imposes constraints on monetary policy, with the degree of policy independence being a function of the band width".

The crawling band regime consists of a central parity, a rule for changing parity (rate of crawl), and a band. We see the following issues in the adoption of the crawling band in Vietnam:

- Single currency peg or basket currency peg
- The central parity
- The band width

*** Single currency peg or basket currency peg**

The first issue is to consider whether it is necessary to move from a single currency peg to a basket currency peg. From my point of view, basket peg or single peg is only issue of technique in expressing the value of the currency. Thus, I do not intend to indicate how to build a basket of currencies in my research. However, I have some considerations about the basket of currencies, including:

- The value of currency can be expressed in terms of a single currency of a basket of currencies. Basket peg per se does not facilitate the monetary policy management very much. Major objectives of monetary policy of Vietnam such as economic development, export competitiveness, domestic price stability, and reserve accumulation are not implemented by the exchange rate policy alone. Some major problems such as differential between domestic and foreign inflation rate, real shocks (supply-side), and currency crises will not be solved by the exchange rate.
- Basket peg does not help to reduce dollarization in the economy. Dollarization can be solved by other government's administrative measures;
- It is suspicious about the SBV's ability to manage the exchange rate policy. When a central bank lacks of credibility in the exchange rate management, it has to anchor to a hard currency. Whether anchoring to a basket of currencies will solve the credibility of the

SBV (Frankel 2003). Asian countries have mistaken in pre-crisis period when the dollar was overweight in their basket of currencies (Rajan, 2002).

- Intra-Asia trade plays an important role in Vietnam's external trade (55% of total external trade except Japan, of which Singapore 10%, China 15%, Korea 8%, Hongkong 3%, Taiwan 9%, and other ASEAN 11%). The currencies basket of Vietnam should include currencies of these countries. East Asia countries have different exchange rare regime. Changes in the exchange rate regime of these countries will affect Vietnam's basket of currencies. Is there also the need to change the weight in response to structural change? It would be harder for Vietnam if these countries tend to revert to put large weight on the dollar (Baig, 2001, Fukuda, 2002, Rajan and Cavoli, 2005, Ogawa, 2000).
- What the central bank does may differ from what it commits. It may announce a basket peg, but in fact, it still put a large weight on the dollar (cases of China after July 21, 2005, Eichengreen, 2006).

*** The central parity**

The current interbank-foreign-exchange-market exchange rate should be chosen as the central parity of the crawling band regime. The rate of crawl (the fluctuation of central parity) should be changed based on a rule that changes the value of the central parity automatically as the case of Korea before Asian crisis (Williamson, 2005) and as the Vietnam's current exchange rate regime. That is the SBV announces the official exchange rate in the interbank foreign exchange, which is set as the average transaction exchange rates in the interbank foreign exchange market of the previous day. This gives the SBV discretion in determining the exchange rate because no one, except the SBV, knows exactly the previous day's average transaction exchange rate in the interbank foreign exchange market.

Note that the nominal exchange rate in Vietnam at end 2006 was VND 16,082 per USD. The real effective exchange rate has appreciated by about 4.3% at the same time. That means the expected exchange rate should have been VND 16,774 per USD (=16,082*1.043). Based on the previous day's interbank-foreign-exchange-market exchange rate, credit institutions set the trading exchange rate within a margin of +/-0.5%. That means the exchange rate is allowed to fluctuate daily within a margin of 1%. Therefore, if the SBV does not intervene to stabilize the exchange rate it could reach sooner or later the rate of around VND 16,700 per

USD. The SBV can use “trial and error” measure to explore the market’s response to changes in central parity.

*** Bandwidth**

The bandwidth should be wide enough so that the SBV does not fall into the situation of defending a disequilibrium exchange rate and the exchange rate can fluctuate in response to market forces. Moreover, it is set to support the credibility of exchange rate regime; that means it allows the SBV to adjust the central parity in line with fundamentals without market’s scepticism about exchange rate unsustainability. In addition, wide bandwidth can help the SBV to conduct a more independent monetary. Last, it helps to neutralize unexpected exogenous shocks, especially in case of excess capital inflows. I suggest that the bandwidth in case of Vietnam should be in the range of 5% to 10% (+/-2.5% to +/-5%).

With regard to measure to determine the bandwidth, I suggest that the SBV should use “trial and error” measure to explore ways to introduce a more flexible exchange rate regime. If the exchange rate hits the upper margin, the central bank can continue widen the band and explore the response of the market. If the exchange rate fluctuates within the margin, that means the current exchange rate has reflected relatively correctly the foreign exchange supply and demand in the market. If not, the central bank can continue widen the band. However, frequent revision of the band will impair the credibility of the market participants and sometimes, scepticism will attack the exchange rate to test the band. In such a case, the central bank can either adjust initially the interbank rate (central parity), and then the band, or choose to defend the band.

IV.2.2.4. Two nominal anchors

Developing a credible nominal anchor is one of the ingredients supporting a transition to a float (IMF, 2004c). However, difficulties in developing the credible nominal anchor led to the fact that some emerging countries (Chile, Hungary, Poland and Israel) gave up exchange rate pegging slowly and adopted an intermediate regime - crawling band - in parallel with the transition to full-fledged inflation targeting. That means there are two nominal anchors, exchange rate target (or current account objective) and inflation target. Pursuing two nominal objectives leads to a situation in which one target must be given priority. Experiences of

Chile, Hungary, Israel, and Poland suggest that the central bank should give priority to the inflation target because it will bolster the public confidence in the commitment toward the inflation target.

Reasons that emerging countries have concerns about exchange rate fluctuations during the transition to floating exchange rate regime and during the transition to inflation targeting are: (i) imperfect credibility in monetary policy will deviate inflation from the target, thus central banks choose to manage the exchange rate to gain credibility for inflation targeting framework (Céspedes and Soto, 2005); (ii) fear that high exchange rate pass-through makes inflation sensitive to changes in exchange rate; (iii) excessive exchange rate fluctuation induces bank failures and crisis; (iv) exchange rate is an instrument of monetary policy; (v) central banks have incentives to use the exchange rate instrument to fulfil its inflation target because the inflation target is usually defined with reference to the CPI inflation, which includes tradable goods. Moreover, real exchange rate affects inflation through two channels: (1) exchange rate affects relative price between foreign and domestic goods, which in turn affects foreign and domestic demand for domestic goods, then aggregate demand for goods; (2) exchange rate influences prices of domestically produced goods through its impacts on domestic currency prices of imported input and nominal wage. Finally, lag of the exchange rate channel is shorter than that of aggregate demand channel (Svensson, 1998).

Take case of Chile, one of successful example in adopting inflation targeting. Because the central bank tried to develop a credible nominal anchor, gaining the credibility of the public in the inflation targeting was very important. In addition to the announcement of explicit inflation target in 1990, the central bank also pursued an exchange rate target from August 1984 until September 1999 (crawling band). The central bank stressed that the purpose of exchange rate band was not to control inflation, rather to keep the real exchange rate in a range of consistent with medium- and long-term external equilibrium, and thus precluded an excessive current account deficit (during 1990-1997, surge in capital inflows caused nominal exchange rate appreciation. Because the central bank tried to keep inflation rate unchanged, this led to real exchange rate appreciation). Therefore, whenever exchange rate target conflicted with inflation target, the latter was given priority by the way that the central bank used interest rate instrument and/or changed the bandwidth and the central parity, which sent signal to the public that the central bank gave priority to keep inflation target unchanged rather than to resist a real exchange rate appreciation. As a result, inflation was reduced from

26% in 1990 to 6.1% in 1997 (Mishkin and Savastano, 2000, Morandé and Tapia, 2002, and De Gregorio et al., 2005).

The case of Chile draws a lesson for Vietnam. Vietnam now attracts a large volume of capital inflows. At present, exchange rate appreciated in real terms. In the next years, capital inflows continue pouring into Vietnam, leading to excess supply of foreign exchange and further exchange rate appreciation. Assume that Vietnam adopts exchange rate band (on the way to move to flexible exchange rate) and is transiting to inflation targeting (like Chile). Because goal of the transition is to develop a credible nominal anchor, gaining the credibility of the public in the inflation targeting was very important. Therefore, the price stability should be prioritized. If the SBV tries to return exchange rate to initial level by nonsterilized intervention, broad money will increase, thereby putting pressure in inflation. By sterilized intervention, the SBV bears the cost of high interest rate in terms of bonds and the market's ability to absorb bonds is limited. In such a case, the central bank must respond by using monetary policy instruments, widening the band and even revaluing the central parity while keeping the inflation rate unchanged to send the signal to the public that the central bank prioritizes the objective of price stability. The real exchange rate appreciation may deteriorate export competitiveness, but the most important things to maintain the export competitiveness in Vietnam are to enhance the quality of products and to reduce the cost of productions (transportation, infrastructure costs, and wages). If the central bank reduces interest rate to counteract exchange rate appreciation, this further hampers inflation. In fact, to cope with high inflation, the SBV raised interest rates during 2005. To cope with real exchange rate appreciation, the central bank widened the exchange rate band at end-2006.

However, it is important to assess the nature of shocks that produce exchange rate changes in order to decide exact monetary response. If a depreciation arises from a portfolio shock, then the appropriate response is a tightening of monetary policy, but if the depreciation derives from a negative terms-of-trade shock, then the appropriate response is an easing.

For example, a positive portfolio shock (rise in demand for valuable papers) entails increase in price of valuable papers, then a reduction in interest rate that in turn raises the demand for investment in goods. Excess demand in goods market leads to increase in price level and then depreciation of exchange rate. In such a case, the central bank can tighten monetary policy by

raising interest rates in order to keep inflation in control, thereby moderating exchange rate depreciation.

If the exchange rate depreciation occurs because of real shocks (shock to productivity or to the terms of trade), for example, a fall in the price of export of a country (a negative terms of trade shock) leads to a reduction in income and a decrease in production and labour of export sector. The exporters have fewer foreign exchanges and fewer people want to sell foreign exchange in the market. As a result, exchange rate depreciates. At the same time, reduction in income leads to drop in aggregate demand, and then a deflation. In this situation, there are two scenarios.

The central bank loosens monetary policy by lowering interest rates to counteract the drop in aggregate demand. However, the reduction in interest rate may further depreciate the exchange rate. In such a case, the central bank can intervene to smooth excessive exchange rate depreciation. Sterilized intervention in foreign exchange market may be implemented to prevent money supply contraction, but at the cost of exhaustion of the international reserve of the central bank if the speculative attacks are successful. On the other hand, the central bank can widen the bandwidth or/and devalue the central parity. Mishkin (2004) suggests that in such a case "the central banks can increase the transparency of any intervention in the foreign exchange market by making it clear to the public that the purpose of the intervention is to smooth excessive exchange rate fluctuations and not to prevent the exchange rate from reaching its market-determined level over longer horizons".

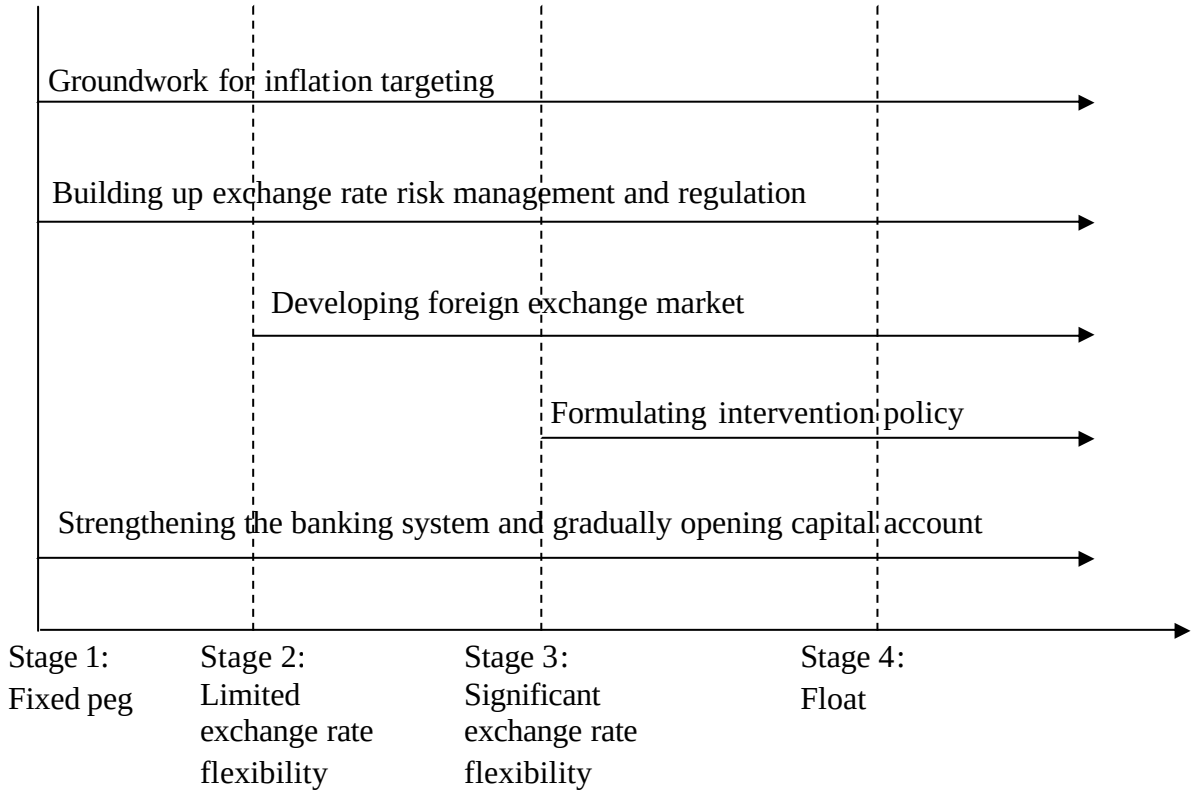
The second choice is that the central bank tightens monetary policy by increasing interest rate to counteract exchange rate depreciation, which further hampers the deflation situation. Inflation target undershoots. The economy comes into recession. These undermine the credibility and the support of the public for the independence of the central bank. This was the case of Chile in face with the negative term of trade shock in 1998.

The first scenario, by which price stability is prioritized, should be chosen because it ensures that inflation rate is kept in control. The second scenario, by which exchange rate is prioritized, will lead to recession of the economy, thereby hampering the credibility of the public in the central bank.

IV.2.3. Sequencing of an orderly exit from a peg

The sequencing of an orderly exit from the peg is recommended by IMF (2004c). The first thing is building fundamentals of an alternative nominal anchor (such as fiscal discipline, operational independence of the monetary authorities to pursue low inflation, credible steps to contain inflationary pressures, and transparency and accountability). Preconditions for the nominal anchor framework do not need to be accomplished before adopting floating; rather they may be fulfilled when countries have already moved to floating exchange rate. Similarly, the establishment of exchange rate risk management is necessary under any exchange rate regime. These two tasks should be carried out at early stage. When countries allow some exchange rate flexibility, it is required to develop foreign exchange market and the two mention-above areas are continued to develop. To what extent is greater exchange rate flexibility, the central bank will intervene to address market disorders or to achieve its monetary objectives (see Figure IV.2).

Figure IV.2. Preparing for an orderly exit from the peg



Source: IMF (2004c) and author

In addition, it is important to know that strengthening the healthy of the banking system plays very important role irrespective of exchange rate regime. However, it is desirable to strengthening the banking system before exiting from the peg if this can be done without waiting too long (Eichengreen, 1999). The country must consider about the trade-off between benefits of additional bank restructuring (avoid the deterioration of banks' balance sheets under undue exchange rate volatility) and costs of delaying exit. We can see the cost of delaying exit through Thailand's experiences (discussed in chapter III, III.3.2). In addition, crises are preceded by a long duration of pegged regimes and inconsistency between the pegged regime and other economic policies, such as opening capital account while maintaining the peg, short-term foreign-currency lending boom with currency and maturity mismatch, weak management of foreign exchange risk because fixed exchange rate is consider as an implicit guarantee for foreign exchange exposures, thereby discouraging risk management and encouraging foreign exchange borrowing. Furthermore, the cost of sterilized intervention under fixed exchange rate may be the difference between interest rates on sterilization instruments (central bank bonds) and interest rates on the investment of foreign exchange reserves (by depositing abroad), by which the fore is always higher than the later. The optimal time to exit is when the marginal benefits of waiting are about to exceed the costs. Note that the marginal benefits of waiting presumably decline and the marginal costs of delaying rise over time.

With regard to capital account liberalization, as mentioned above, Vietnam should implement liberalizing the capital account in parallel with introducing greater exchange rate flexibility in a gradual fashion in line with economic conditions. Until successful floating, the remaining control can be gradually removed.

Chapter V

PREPARING FOR AN ORDERLY EXIT FROM THE PEG AND FURTHER STEPS OF REFORMS

This chapter brings about some solutions and policy implications for the SBV and credit institutions to prepare for an orderly exit from the peg based on developing ingredients mentioned in the previous chapter. In addition, financial sector reforms, and sequencing and coordinating capital account liberalization with financial sector reform to support for the transition toward greater exchange rate flexibility are introduced.

The first part suggests some works that Vietnam should do to improve necessary preconditions for a successful adoption of inflation targeting, including improving institutional conditions to contribute to better inflation performance once the inflation targeting framework has been adopted; improving the capacity of the SBV to forecast inflation; developing economic structures to meet requirements of inflation targeting framework; strengthening the health of financial system and increasing the stability of fiscal institutions; develop a deep and liquid financial market; and building credibility in inflation targeting when the SBV decides to transit to inflation targeting. In addition, I suggest also the institutional and operational framework for inflation targeting in Vietnam.

The second part deals with risk management. In the transition to greater exchange rate flexibility and more freely capital flows, the economy will face some additional risks. The financial institutions should prepare to handle risks by building an internal risk management process. In addition, the risk supervision of independent authorities is also needed.

The third part addresses the development of a liquid foreign exchange market. Among other things, the SBV should increase market information transparency, eliminate underlying problem leading to existence of the black market, enhance the technical infrastructure of the foreign exchange market, and enhance the framework legislation for foreign exchange transactions.

The fourth part formulates an intervention policy. Moving to greater exchange rate flexibility still needs intervention in the foreign exchange market. Three main intervention objectives are

to correct exchange rate misalignment, calm disorderly market and accumulate foreign exchange reserves. The decision to intervene is not easy and depends on the ability of the SBV to detect and to assess the real cost bearing by the economy. The amount of foreign exchange intervention should be carried out by "trial and error". Among other things, timing of intervention depends on the SBV's experiences and background of the SBV in the assessment of a variety of factors, including exchange rate misalignment, nature of shocks, acceleration in exchange rate changes, bid-offer spreads, composition of and magnitude of foreign exchange turnovers, and exchange rate volatility. The SBV should implement a discretionary intervention. The intervention policy should be transparent.

The fifth part lists factors for reforming the banking sector, enhancing the SBV's ability to conduct monetary policy and developing effectively money and capital market.

The last part lists main principles for sequencing and coordinating capital account liberalization with other policies. Three steps are also suggested for sequencing capital account liberalization with financial sector reforms. The first steps lays the foundation for liberalization, under which the liberalization of FDI, the relaxation of restriction on foreigners' purchase of equity shares, the elimination of repatriation requirement for current account proceeds, the limited liberalization of banks' short-term borrowing and lending, and the liberalization of derivatives transactions should be carried out early. In addition, the development of interbank foreign exchange market, OMOs and the long-term public debt and equity market are needed to create conditions for the foreign exchange transactions. A strong and sound prudential regulation and supervision and the improvement of banks' risk management are needed to manage and control the foreign exchange exposures in banks' short-term borrowing and lending and derivatives transactions.

The second stage deepens the liberalization progress in the first stage. All longer term and nondebt-creating capital flows should be liberalized. At this stage, prudential policies and risk management, financial markets and institutions are required to be in a considerable level of sophistication.

At the final stage, all remaining capital controls, including controls on short-term capital flows should be lifted. It is necessary to reassess the process of liberalization and identify remaining and emerging risks.

V.1. Ground work for inflation targeting in Vietnam

V.1.1. Transition to inflation targeting

In 2005, Vietnamese officials expressed its intention to adopt inflation targeting (by 2010 or after) and it called for the IMF's technical assistance (IMF, 2006c, Table 2). In fact, the SBV has implemented a framework similar to inflation targeting. The projected (forecast) inflation is announced annually at the end of the previous year. The projected long-term inflation target has been announced 5 years in advance. It is suggested that inflation targeting was not implemented until after substantial deflation has previously been achieved (Mishkin 1999; Bernanke et al., 1999). In fact, actual inflation is single digit and tends to reduce. In addition, IMF (2006d) finds that inflation inertia in Vietnam is stronger than other Asian countries, monetary factors are likely to affect domestic prices and the current inflation will not correct itself without macroeconomic- policy actions. These lead to the requirement of use of monetary policy (in association with fiscal policy) to control inflation rather exchange rate pegging.

The problem of inflation targeting is that inflation is not easy to control and inflation forecast may have large error. In fact, the SBV has forecasted inflation rate relatively closed to actual inflation rate, except since 2004 (due to unanticipated shocks). If the central bank uses core inflation, the forecast result might be better.

Literature suggests preconditions for successful adoption of inflation targeting, but indicate that no inflation targeters meet all these preconditions before the adoption of inflation targeting framework (Carare et al., 2002, and IMF, 2005c, 2006b). With advantages of inflation targeting and not strict preconditions, I suggest that Vietnam should undergo a transition process to inflation targeting to improve necessary preconditions to adopt successful inflation targeting, especially technical, monetary and fiscal institutional improvements because such improvements send the public a signal about the central bank's commitment to the new framework. The transition period begins when the central bank announces its intention to adopt inflation targeting or announces an inflation target in the context of an exchange rate band. The transition period ends when most of ingredients of a full-fledged inflation targeting framework are in place (Schaechter et al., 2000). Chile, for

example, needs 10-years transition before adopting full-fledged inflation targeting in 2000. Poland needs only short transition (1 year) because inflation rate at time of announcement of inflation target was low.

To transit to successfully inflation targeting, I suggest that Vietnam should:

- Improve institutional conditions to contribute to better inflation performance once the inflation targeting framework has been adopted;
- Improve the capacity of the SBV to forecast inflation;
- Develop economic structures to meet requirements of inflation targeting framework;
- Strengthen the health of financial system and increase the stability of fiscal institutions;
- Develop a deep and liquid financial market; and
- Build credibility in inflation targeting when the SBV decides to transit to inflation targeting.

V.1.1.1. Improving institutional conditions to contribute to better inflation performance once the inflation targeting framework has been adopted

Those are, first, the SBV should have independence in conduct of monetary policy (goal and instrument independence). Second, the SBV should announce that price stability is overriding long-run goal of monetary policy. Third, the SBV should increase transparency and accountability in the conduct of monetary policy, communicate well with the public, thereby ameliorating credibility in the eye of public. Fourth, the SBV should combine with the government to get its strong support to avoid fiscal dominance and time-inconsistency problem and to develop strong fiscal, financial and monetary institutions.

V.1.1.2. Improving the capacity of the SBV to forecast inflation

The success of inflation targeting depends on the capacity of the SBV to forecast inflation, thereby making right policy decisions. Thus, the SBV should improve its capacity to forecast inflation through developing and training experts in inflation forecast and macroeconometric-model construction. In fact, based on the plan submitted by the SBV, the National Assembly has announced annually the projected inflation at the end of the previous year. The projected long-term inflation target has been announced 5 years in advance. The projected inflation rate

was relatively closed to actual inflation rate, except since 2004, inflation forecast error has been relatively large due to unanticipated shocks.

V.1.1.3. Developing economic structures to meet requirements of inflation targeting framework

First, the government must give up regulating prices (administered prices) and liberalizing wage. In fact, the Government has liberalized many administrated prices since 1992. However, administered prices, including electricity, water, petroleum products, air tickets, bus fares, postal services and telecom charges, still make up approximately 10% of CPI basket (IMF, 2006d). When the Government administers key prices to control inflation, the inflation rate may be limited but the Government spending will be increased in order to compensate loss in business of firms in these areas, which in turn has a negative in inflation. In addition, administered prices will affect the price formulation in line with market-based system, thereby influencing negatively the conduction of monetary policy of the SBV.

In Vietnam, the nominal wage is rigid and regulated by the Government. The Government sets a common minimum wage that is a basis for the determination of civil service salaries and pensions and a floor for salaries in SOEs and non-FDI private enterprises. Since 2004, the Government has large adjustments in salary. The civil service wages were raised by 30% in October 2004. The common minimum wage was raised by 21% in October 2005 and by 28.5% in October 2006 (IMF, 2006c). The ratio of increase in nominal wage through Government's adjustments is higher than inflation rate, leading to increase in real wage, thereby having negative effects on output growth. Thus, the rigid nominal wage hinders the effectiveness of usage of wage policy to reduce negative impacts of inflation on output growth in Vietnam. The wage liberalization also helps to reduce negative effects on output when the SBV implements measures to counter inflation (as discussed in chapter III), which creates favourable conditions for the SBV to implement inflation targeting.

Second, dollarization should be reduced because dollarization tends to amplify the importance of exchange rate relative to inflation and interest rate. In countries with high liability dollarization, a depreciation of exchange rate raises the value of liability in terms of domestic currency that makes the net worth of the public fall and the economy more vulnerable to a currency crisis (as experiences of recent crises in emerging countries). Therefore, central

banks pay more attention on exchange rate than on inflation. Hence, inflation control is dimmed. Note that a credible and successful policy of inflation control may help to reduce degree of dollarization.

V.1.1.4. Strengthening the health of financial system and increase the stability of fiscal institutions

First, weak financial system makes the country more vulnerable to high inflation and currency crises as cases of recent crises in Asian and Latin America. Weak banking system prevents the central bank from raising interest rate in response to inflation because increase in interest rate threatens the healthy of banking system. Weakness of banking system worsens the situation of liability dollarization, especially when sudden stops in capital inflows occur that result in exchange rate depreciation and put upward pressure on inflation rate.

Second, if the central bank is not supported by the Government, it cannot be successful under any exchange rate regime and monetary policy framework. Fiscal deficit is a cause of banking and financial crisis under fixed exchange rate, as experiences of Asia and Argentina. Fiscal deficit raises inflationary pressures because financing fiscal deficit by monetization undermines the ability of the central bank to achieve the inflation target. Fiscal deficit leads to increase in Government borrowing from banking system through issuance of bonds in order to finance fiscal deficit. With a given available loan fund, the Government has to compete with the private sector by raising interest rate. In addition, an excess supply of bonds leads to reduction in price of bonds and rise in interest rate. This can lead to crowding-out effect because increase in interest rate results in the displacement of private spending by Government spending. Burnside et al. (1998) find that fiscal deficit puts pressures on the central bank to monetize debt. To reduce interest rate, these government liabilities will be monetized by the way that the central bank purchases bonds (by printing money) through open market operations, which raises money supply and hence inflation. Therefore, fiscal deficit undermines the ability of the central bank to achieve the inflation target. To stabilize fiscal deficit, it is necessary to have an agreement between the Government and the SBV about jointly responsibility to control inflation, by which the Government commits to support the central bank to control inflation by limiting Government's spending and developing a stable fiscal policy. It is not simple to get this agreement but noted that the control of inflation is able to be successful only if the SBV receives the support from the Government.

Flexible exchange rates with inflation targeting and fiscal policy have a reciprocal relationship. Inflation targeting framework helps to strengthen fiscal policy by commitments of the Government. Fiscal reforms support the success of inflation targeting framework. Mishkin (2004) write that "… Because inflation targeting commits the government to keeping inflation low, … it can be argued that inflation targeting can help promote fiscal and financial reforms because it now becomes clearer that the government must support these reforms if the inflation targeting regime is to be successful. Also a commitment to inflation control by the government makes it harder for the government to advocate loose fiscal policy because it is clearly inconsistent with the inflation target. However, institution of an inflation targeting regime by no means insures fiscal and financial reforms. If an inflation targeting regime is to be sustainable, a commitment to and work on these reforms is required when an inflation targeting regime is implemented."

V.1.1.5. Developing a deep and liquid financial market

A deep and liquid financial market helps to convey information to the central bank on economic fundamentals and market expectations about monetary policy stance, and to facilitate the formulation, execution of monetary policy and monetary and exchange rate operations.

V.1.1.6. Building credibility in inflation targeting when the SBV decides to transit to inflation targeting

Some proposals to enhance credibility in the adoption of inflation targeting in Vietnam:

First, the announcement of targeting directly price-stability objective (an explicit numerical target) and inflation control as primary objective of monetary policy will make inflation targeting become clearly understandable and monitorable for the public, thereby helping build credibility and keep inflation expectation in check.

Second, the SBV should increase the transparency in the implementation of monetary policy by increasing the communication with the public and issuing quarterly monetary reports to give the public information about the SBV's stance, intention and implementation of

monetary policy. Conflicting objectives between output and inflation (time-inconsistency problem) is one of the reasons hindered the central bank from constraining inflation. The adoption of flexible inflation targeting in association with increasing transparency would help the central bank achieve two objectives - short-term output stability and long-term price stability. Low inflation in the long run, in turn, improves the perspective of sustained long-term growth (discussed below). These outcomes will enhance the credibility of the public in the central bank.

Third, if the central bank is not able to control money supply it cannot implement monetary targeting as nominal anchor to control inflation. In such a case, the central bank must give priority to price stability objective in implementing monetary policy; even accept the negative effects on output. Thus, giving priority to inflation target means to accept negative impacts on output growth. An empirical study of the IMF (2006d) estimates that the threshold after which inflation has negative impact on growth is 3.6%. That means the central bank can target this threshold, under which inflation rate have no negative effect on output growth. However, it is not easy to reach this target in Vietnam. Therefore, the government can combine macroeconomic policies, for example, the flexible wage policy, to reduce the negative effects on output, which do not depend on the central bank alone. I suggest that the Government should liberalize wage regulations. Wage liberalization will help to reduce the negative impact on output when the SBV implements measures to counter inflation. The less output-inflation trade-off will increase the credibility of both the public and the Government in anti-inflation program of the SBV, thereby helping to increase the credibility of inflation targeting.

Fourth, the adoption of inflation targeting does not establish immediate credibility for monetary policy because monetary policy actions have a certain lag, credibility gains are slow to materialize, and institutional arrangements, say, wage- and price-setting do not change quickly following the adoption of inflation target. However, once the central bank gains credibility, it will bring better economic consequences. For example, after inflation is kept in control for a period of time, inflation expectation will remain low despite the economy in strong cyclical growth. Therefore, the only way to gain credibility is to demonstrate that the monetary authorities have the means and the will to reduce inflation and to keep it low for a period of time (Bernanke, et al., 1999). Those are, (i) appoint a governor of the central bank who is recognized as having lower inflation-tolerance threshold than that of the public. Whenever there is inflationary pressure, inflation expectations will not be affected because the

public is confident that the central bank will take steps to counter this (as discussed in chapter III). (ii) To do this, the central bank must be given goal and instrument independence.

Fifth, to anchor expectations and strengthen policy credibility, it is important to make the public perceive that the central bank is isolated from political pressures to pursue inflation target. This requires a support from the government to avoid fiscal dominance and time-inconsistency problem. In such a way, the central bank must have greater accountability.

Sixth, the central bank must have good communication with the public and high level of transparency to ensure that the public has enough information about monetary policy stance, intention and implementation. For example, the central bank releases a regular inflation report. If the inflation target misses, the central bank can explain causes of the deviation, the measures taken to eliminate it, and the time to return inflation to target. That is the experience of Brazil (Mishkin, 2004)

Seventh, sound and strong fiscal, financial, and monetary institutions are necessary to enhance credibility for any monetary policy strategy.

V.1.2. Institutional framework for inflation targeting

This part introduces an institutional framework for inflation targeting in Vietnam based on suggestion of Schaechter et al. (2000) about the institutional framework in support of inflation targeting for emerging countries, which includes central bank legal framework, choosing and defining the inflation target, and communicating mechanisms (see Table V.1).

V.1.2.1. Central bank legal framework

The legal framework for inflation-targeting central bank defines the objectives of monetary policy and the instruments that the central bank can use to achieve its objectives. The SBV should make clear that the primary objective of monetary policy is inflation target (domestic price stability). This objective should be written in the Law on the State Bank of Vietnam. Other choice is as follows, because Vietnam will move toward greater flexibility exchange rate in a gradual approach, the SBV can pursue the objective of stabilizing the value of currency which includes domestic price stability and exchange rate stability, but it must make

clear that in case of conflict between targets, the SBV will give priority to its primary target (domestic price stability) based on its assessment of nature of shocks leading to fluctuations of the currency, because it will bolster the public confidence in the commitment toward the inflation target (see V.1.1.2).

Independence of monetary policy should be also written in the Law on the State Bank of Vietnam, in which the SBV will be given power and responsibility to define and conduct monetary policy.

V.1.2.2. Choosing and defining the inflation target

Choosing and defining the inflation target include following issues: formal announcement of the inflation target, measures of inflation, target horizon, numerical value of inflation target, target range or point, and escape clause and the flexibility of inflation targeting (Bernanke et al., 1999 and Schaechter et al., 2000).

*** Formal announcement of the inflation target**

At present, the SBV is only the body who develops the monetary policy plan on behalf of the Government to submit the National Assembly for approval according to The Constitution 1992 and the Law of the State Bank of Vietnam. The National Assembly announces annually inflation target. In order to ameliorate credibility in the monetary policy, the announcement of inflation target should be jointly by the Government and the SBV. This co-announcement implies indirect support of the Government in operating fiscal policy to make inflation target be successful.

*** Measures of inflation**

The CPI includes items that are volatile and beyond control of the central bank, for example, food, fuel, administrated prices, terms of trade and indirect taxes, etc. These items relates to fiscal policy, consumers' habits, disturbances, seasonality, prices and epidemic diseases and natural calamity. To facilitate the central bank in conducting of monetary policy, the central bank needs a price index, which reflects the persistent trend of price level. The core CPI excludes these items and concentrates on measuring more persistent rather than transitory

influences on price level. The core CPI shows that not every shock that raises prices will lead to a permanent increase in inflation. By using the core CPI, the central bank indicates the public that it can respond to shocks to control inflation and not manipulate the price index, thereby maintaining the credibility.

In case of Vietnam, targeting core CPI inflation should be adopted. The authorities in fact are working on core inflation index, which is defined as non-food component excluding fuel and fuel-related items. In addition, to increase the impact of monetary actions on inflation and other factors affecting aggregate demand, administrated prices, including prices of electricity, water, petroleum products, air tickets, bus fares, postal services and telecom charges, and other key inputs, which account for about 10% of the CPI's basket of goods, should be liberalized (IMF, 2006d).

*** Target horizon**

Target horizon defines the period over which the central bank commits to achieve the inflation target (Bernanke et al., 1999). Alternatively, target horizon is the period over which monetary actions are expected to bring inflation back to target following a shock (Paulin, 2006). Because time horizon for inflation target reflects the lag between the setting of policy and its effect on the economy, long-term horizons have advantage of giving the central bank more scope to respond to shocks. However, too long a horizon will undermine the public's confidence in the central bank's commitment to targeted inflation rate.

Shorter time horizon can accelerate the pace of disinflation. Short-term horizon inflation targets have some problems, including too short a horizon (i) can lead to too frequent misses of the inflation target, (ii) can result in instrument instability, in which policy instruments are moved around too much in order to try to get inflation to hit its targets over the shorter horizon, (iii) implies that not enough weight is put on output fluctuations in the central bank's loss function (Jonas and Mishkin, 2003).

Table V.1. Proposal for inflation targeting in Vietnam

Institutional framework	
Central bank framework	Price stability is primary objective of monetary policy
Choosing and defining the target • Formal announcement of the inflation target • Measures of inflation • Target horizon • Numerical value of inflation target • Target range or point • Escape clause	 Co-announcement by the government and the central bank Core inflation Multi-year inflation target (medium-term target on the order of two years) Low, more than 3% Target point (3-5%) Yes, stipulating a tolerant level of target misses and time to let inflation back to target or announce a new level
Communicating issues	Publishing a quarterly monetary-inflation report, internal research studies, statistical releases, occasional publications, and seminar documents, and increasing communicating with the public
Operational issues	
Inflation forecasting	Increasing the SBV's ability to forecast inflation
Policy transmission channels	Researching and building mechanism of monetary policy transmissions in the economy, paying attention to exchange rate pass-through to inflation and lags between monetary action and inflation
Policy implementation	Strengthening its ability to use refinancing interest rates and open market operations to conduct monetary policy
Changing economic relationships	Checking this relationship later
Breaches of the inflation target	Considering the cause of inflation to have exact monetary policy action
Responding to economic and financial shocks	Basing on assessment of nature of shock to decide exact monetary response

Source: Author

In industrial countries, lags from monetary policy are estimated to be on the order of two years. Thus, the long-term inflation targets are to be set for period of two years or longer, that means the target for current year will have been set two year previously. The short-term targets will be set and announced yearly and may vary from year to year, depending on the economic circumstance and in response to shocks to the economy, in order to converge with the long-run inflation target. This is called multi-year inflation targets. That means price stability target is achieved in the long run rather than in the short run. The annual inflation target is announced to provide a short-term focus and to respond to shocks. This is the good way to avoid a breach of inflation target. For example, a jump in oil prices pushes inflation above the long-run target. In this circumstance, the short-term inflation target would be adjusted temporarily upward to assure that the target would follow a planned downward path over time (Bernanke et al., 1999, and Jonas and Mishkin, 2003).

In non-industrial countries (such as Czech, Poland, and Hungary), inflation targets were initially set on the order of one year, but faced the problem of target misses, thus the target horizons were changed, for example, Czech had a target horizon of five years, Poland and Hungary have medium-term targets (Jonas and Mishkin, 2003). Brazil, for example, announced multi-year inflation targets, with explicit numerical targets for the 12-month rate of inflation in the years 1999, 2000 and 2001, and a commitment to announce the targets for 2002 two years in advance (Mishkin, 2004).

In case of Vietnam, I suggest that Vietnam should adopt multi-year inflation target. Multi-year inflation target implies that the long-term inflation target will have been set for period of two years (or longer) ahead (because the long lag effect of monetary policy on the economy) and the short-run target will be set annually and vary from year to year. The determination of the horizon for inflation targets should be based on research how long it takes monetary policy to influence inflation.

*** Numerical value of inflation target**

The numerical target itself will influence the credibility of inflation targeting. If it is set too high the central bank may be viewed as not seriously about lowering inflation. In contrast, if it is set too low, the target may be viewed as unrealistic, thereby reducing its impact on inflation

expectation (Paulin, 2006). In choosing a long-term inflation rate, I suggest that the country should not choose very low inflation rate (at or near zero) because following reasons: First, a low inflation rate stunts output and raises unemployment (if nominal wage is rigid). Second, too low an inflation rate will induce a low level of nominal interest rate ($i = r + E\Delta p$), leaving the central bank with very little room to lower nominal interest rate in case of recession because the nominal interest rate cannot be lower than zero (Bernanke et al., 1999 p.29). Third, some researches find that ordinary CPI-based measures of inflation may be biased upward. For example, in the United States, the CPI overstates inflation from 0.5 to 2.0 percentage point per year (Bernanke et al., 1999, p.28). The reasons are fixed-weight index does not reflect the possibility that the consumers change to buy cheaper substitutive goods when the price of goods increases and fails to reflect increase in price of goods due to the improvement in quality which should not be counted as inflation.

Therefore, the choice of the long-run inflation target depends on the extent of upward bias in the target price index and on the degree of rigidities in the economy. A lower long-run inflation rate could be appropriate if the measurement bias is small and wages are flexible, (Schaechter et al., 2000). The inflation targets are suggested in the range from 1% to 3% for industrial countries and somewhat higher for emerging countries (Bernanke et al., 1999, p.30, and Schaechter et al., 2000, Table 3.6).

In case of Vietnam, the government still pays much attention on the economic growth and the nominal wage is rigid. Thus, the monetary policy should not target at very low inflation rate. As developing countries, this rate in Vietnam should be more than 3%.

*** Target range or point**

There are two cases: a target point or a target range (a range around the mid point). A target point is chosen if the central bank focuses on anchoring inflation expectations. A target range allows the central bank more flexibility to respond to shock. The target range with a wide band means a lower commitment of the central bank to achieve its inflation target than the narrower band and may lead the public to doubt about the central bank's commitment to inflation target. The width of the range shows the ability of the central bank to estimate the uncertainty hitting the target and the tolerance of the central bank for fluctuations around the mid point. The disadvantage of target range is the upper and lower band of the range may

attract the attention of the public, so that the central bank will concentrate on keeping the inflation rate within the band rather than hit the mid point. In fact, the upper band of the range may become the target than the mid point. In short, too wide a range makes the public confuse about the central bank intentions, too narrow a range makes the missing of target become inevitable. Therefore, the damage to credibility of breach of a target range is higher than that of breach of a target point (Bernanke et al., 1999 and Schaechter et al., 2000).

Looking at the history of inflation and output of Vietnam, I find that at time that inflation rate was from 3% to 4%, the economy growth was substantial, about 7%-8%. The time horizon over which the inflation rates remained alike or relatively alike was about two to three years. My observation is consistent with an empirical study of the IMF (2006d). That is the threshold after which inflation has negative impact on growth is estimated to be 3.6%. Thus, to avoid a problem of target miss, to provide a nominal anchor for inflationary expectation, and to reduce negative impact of inflation in output growth, I suggest the target point of 3%-5% on the order of two years (long-term horizon for inflation target).

*** Escape clause and the flexibility in inflation targeting**

The escape clause stipulates circumstances under which inflation target misses might be tolerant and requires the central bank to indicate the time frame over which it would attempt to go back to the inflation target or to announce the new target.

Vietnam has faced with a number of supply shocks, such as oil price shock. Oil price is excluded in core CPI, but it affects prices of other items such as construction, transportation, etc. The escape clause (when target misses) gives the central bank some rooms to deviate from the inflation targets without sanction in even of unanticipated shocks. The central bank must make the public distinguish permanent and transitory shock. If the target misses due to transitory and unforeseeable shocks, the credibility of the public in the central bank will not be undermined. In such a case, the central bank must have accountability to the public by increasing transparency of monetary policy and by fostering communication with the public about the rationale and objective of monetary policy. For example, Sweden took a long transition from peg to inflation targeting using escape clause effectively (Bernanke et al., 1999).

We see now the flexibility in inflation targeting.

The flexibility in inflation targeting includes target range (allowing the central bank to loosen monetary policy in face of negative demand shocks without fearing that this action will trigger a rise in inflationary expectations), multi-year inflation targets and multiple objective (giving more concern about output loss and using short-term inflation targets and long-term inflation target), and giving some rooms for central bank to deviate from target (by adopting escape clause and core CPI which excludes some effects of supply shocks out of control of central banks).

I suggest that Vietnam should apply two later elements.

First, flexible inflation targeting brings less output fluctuations and instrument variability (Svensson, 1997).

Why does the central bank remain concerns about other objectives, say output and employment, under inflation targeting? As definition of inflation target, price stability is primary objective of monetary policy. That means price stability is not single objective of monetary policy. Focusing monetary policy on inflation does not imply that other objectives are ignored. Bernanke et al. (1999) find that, monetary policy that have only one objective of controlling inflation would not be supported by the public, central banks and monetary economists. For example, targeting at only inflation and ignoring other objectives may lead to negative economic outcomes in the event of oil price shock. Inflation targeters may achieve lower inflation but cannot avoid loss in output and employment. In fact, Bernanke et al. (1999, p.291) finds that all inflation-targeting central banks still pay attention on output and employment.

Why does flexible inflation targeting bring about less output fluctuations? Svensson (1996) finds that difficulties in implementing and monitoring inflation targeting (because there is a long and variable lag between change in monetary policy instruments and change in inflation, inflation is influenced by many factors than monetary policy) leads the central banks to choose inflation forecast as an intermediate target. Therefore, monetary policy instrument must be set in order to make inflation forecast equal inflation targets. Flexible inflation targeting means the central bank's putting positive weight on output stabilization and

adjusting gradually intermediate target to long-run inflation targeting. On the adoption of inflation targeting, the central bank can set initial inflation targets so that it does not result in unnecessary loss in output and employment. Then the central bank can adjust the speed of convergence of short-term target to long-term target to reduce output fluctuation, whereas remain a strong commitment to long-run price stability. In contrast, a strict inflation targeting means the central bank's putting zero weight on output stabilization and adjusting intermediate target equal to long-run inflation targeting. The strict inflation targeting will cause undue output loss, which is not offset by adjustments in wage setting in case of rigid wage. Thus, I find that flexible inflation targeting is suitable for Vietnam; especially when the Government has more concern about economic growth. In fact, Bernanke et al. (1999, p.291) finds that after adopting inflation targeting, all inflation-targeting central banks, who pay attention on output and employment, undertake deflation gradually to avoid undue effect on the real economy (Australian, Canada, United Kingdom).

In short, short-term flexibility helps the central bank to achieve inflation targets in the long run without abandoning other macroeconomic objectives (at least reducing loss in output and employment in the short run).

Bernanke et al. (1999, p.308) conclude from inflation-targeting frameworks in New Zealand, Canada, the United Kingdom, Sweden, Australia, Spain, and Israel and from inflation targeting as the basis for a monetary targeting regime in Germany and Switzerland that "flexibility and transparency … appear to be the foundations of a monetary-policy strategy that will achieve both output stability in the short run and price stability in the long run without imposing a straitjacket on policy…. The adoption of inflation targets has not forced the central banks to abandon their concerns about other important economic outcomes, such as the level of the exchange rate, or the rate of economic growth in order to achieve low inflation rates. Indeed, there is no evidence that inflation targeting has produced harmful effects on the real economy in the long run; more likely, low inflation have improved the prospects for sustained long-term growth. We conclude that inflation targeting is a highly promising strategy for monetary policy, and we predict that it will become the standard approach as more and more central banks and governments come to appreciate its usefulness".

In summary, flexible inflation targeting (giving more concern about output loss) and escape clause (giving some rooms to deviate from the inflation targets without sanction) create flexibility for the central bank to achieve output stability in the short run and price stability in the long run. Low inflation in the long run, in turn, improves the perspective of sustained long-term growth.

V.1.2.3. Communicating issues: accountability and transparency

As mentioned above, public accountability requires monetary policy under inflation targeting must be transparent to ensure that the public has enough information about monetary policy performance. To maintain credibility in the eye of the public, the SBV needs to provide timely information about the economy and financial development, the monetary policy performance, policy intentions, and outlook for next periods in a quarterly monetary report and a quarterly inflation report. Additionally, it should publish internal research studies, statistical releases, occasional publications, and seminar documents, and take part in forums to communicating with the public such as speeches, press conference, and testimony before the legislature.

V.1.3. Operational issues of inflation targeting

Operational issues in conduct of monetary policy in an inflation targeting framework include inflation forecasting, policy transmission channels, policy implementation, changing economic relationship, responding to economic and financial shocks, and breaches of inflation targets.

V.1.3.1. Inflation forecasting

Because of lag between monetary policy actions and their impacts on the inflation (and other macroeconomic variables), the conduct of monetary policy within inflation targeting framework depends on inflation forecasts. [67] That means, the central bank uses its instrument (interest rate, for example), at each date so that the forecast of inflation equals its target level. Therefore, inflation forecasts can be viewed as intermediate target of monetary policy. Indicators used to forecast inflation rate are aggregate demand and supply, money aggregates, interest rate and exchange rate, inflation, price measures, and expectations. In addition, survey

[67] For more details about operation framework for inflation forecasting, see Canales-Kriljenko (2006).

of inflation expectations, quantitative economic models, discussions with market participants, and qualitative judgment are also useful.

V.1.3.2. Policy transmission channels

Policy transmission channel is one of the operational issues in conducting monetary policy under inflation targeting framework. In conducting monetary policy aiming at inflation target, the central bank can transmit a monetary policy stance to change in inflation through financial transmissions channels. For example, an increase in interest rate through exchange rate channel lead to exchange rate appreciation, thereby lowering imported goods prices and reducing net export and aggregate demand. In the goods market, an excess supply results in decrease in price. In the long-run, an increase in interest rate will dampen expectation and thereby reducing investment, consumption and aggregate demand.

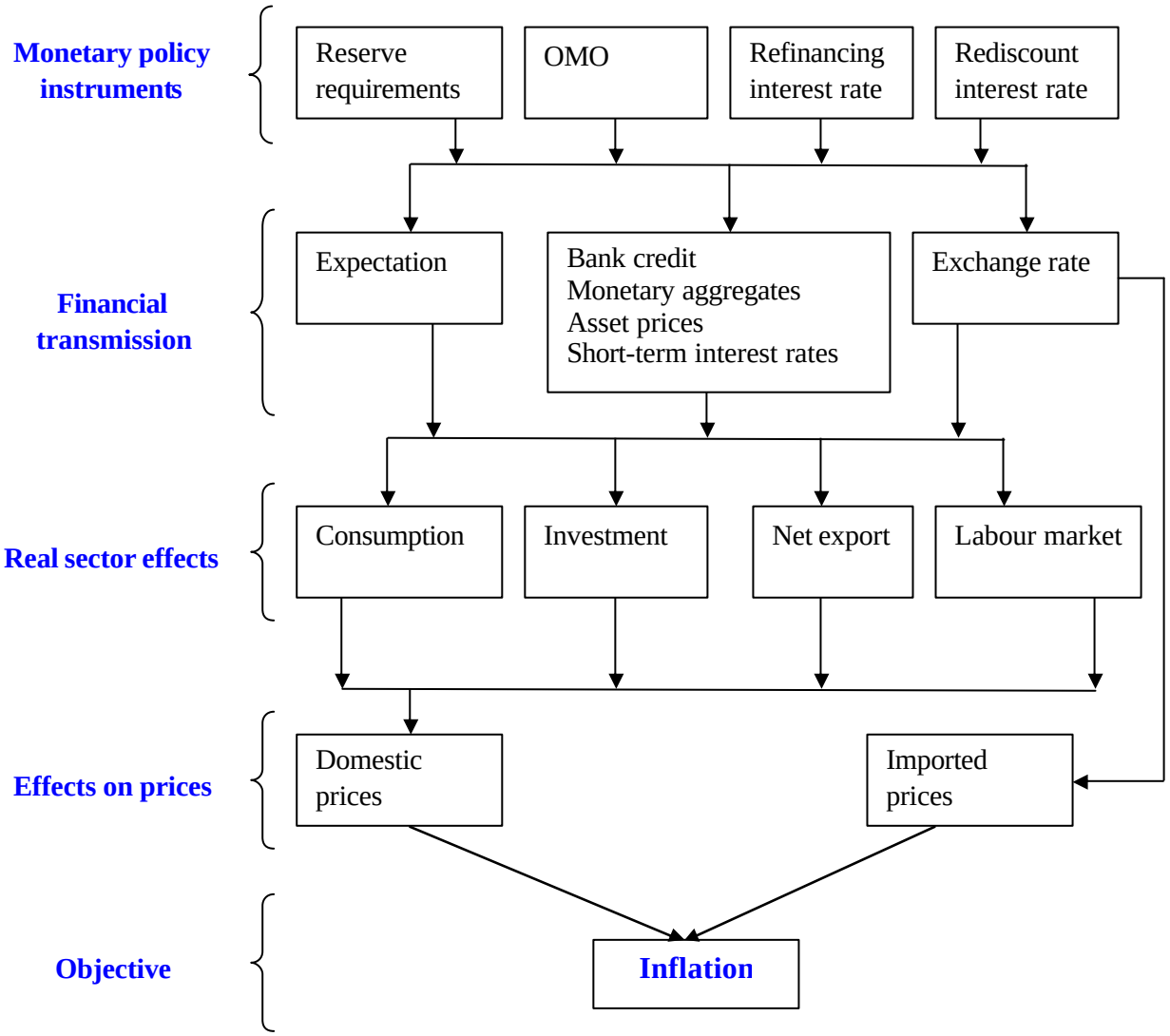
The SBV should research and build a mechanism of monetary policy transmission in the economy (e.g. change in interest rate affects exchange rate, output, price) which is suitable in Vietnam's circumstance and model on exchange rate pass-through to inflation, and should estimate lag between monetary policy change and its impact on inflation. Note that effectiveness of policy transmission is weakened by bank balance sheet problem and underdeveloped financial markets.

The Chart V.1 is a synopsis of monetary policy transmission channels in Vietnam. This figure emphasises that price stability (inflation) should be the major objective of monetary policy; the short-term interest rate should be the operating target, which is operated through indirect instruments such as reserve requirements, OMC, and refinancing interest rate. Direct instrument, which exist in Vietnam, should not be used in conducting monetary policy. Using indirect instrument to affect the operating target, the SBV will construct an institutional framework and quantitative analysis through these transmission channels to transmit monetary policy stance to change major variables of the economy (consumption, investment, net export, and then inflation).

V.1.3.3. Policy implementation

All inflation targeters use a very short-term interest rate as operating target. All inflation targeters also employ market-based instruments such as open market operations to maintain the operating target (interest rate) at desired level (Schaechter et al., 2000). With regard to Vietnam, the SBV should enhance its ability to use refinancing interest rate and open market operations to conduct monetary policy.

Chart V.1. Example of monetary policy transmission channels in Vietnam



Source: Laurens and Maino (2007)

V.1.3.4. Changing economic relationships

Countries' experiences suggest that when inflation targeting framework gains credibility, relationship between inflation and the level of economic activity appears to weaken. Inflation becomes less responsive with level of output and exchange rate. As linkage between inflation and output weakens, the central bank may take an eclectic approach to conduct monetary policy (Schaechter et al., 2000).

V.1.3.5. Breaches of the inflation target

If the inflation rate overshoots the ceiling of the target range or point target, it is clear that the central bank has to bring it back into the target range (see "escape clause" above). If the inflation rate falls below the floor, what should the central bank respond? If inflation undershoots the target but remains still above the level corresponding to price stability, it does no need to let it go up again (Jonas and Mishkin, 2003). Otherwise, disinflation could lead the cost of loss of output. In such case, the central bank should consider the cause of disinflation, which may be a result of external shocks, to decide monetary policy action.

V.1.3.6. Responding to economic and financial shocks

Responses to external shocks range from doing nothing [68] to a mixture of foreign exchange intervention and tighter monetary policy, depending on whether shocks are expected to affect inflation expectations or the stability of the financial system.

V.2. Establishing systems to manage risks

In the context of greater exchange rate flexibility and more freely capital flows, the economy will face some additional risks. The economic agents should prepare to handle risks associated with greater exchange rate flexibility and more freely capital flows. This depends much on how well they are equipped to manage financial risks. In addition, some factors supporting for risk management are prudential regulation and supervision, the effective of

[68] For example, the central bank does not need to tighten monetary policy if inflation rate overshoots the target deriving from increase in world price commodities, because this shock is only temporary and the prices of commodities may decline again.

market discipline, transparency of the entire financial system, and the level of the development of financial markets. An illustrative framework identifying risks following capital account liberalization and the corresponding risk management policies is provided in the study of Ishii and Habermeier (2002) (see Appendix V.7). This section discusses only the risk management process in a financial institution and the risk supervision from independent authorities.

V.2.1. Risk management process in a financial institution

Risk can be defined as the combination of possibility of an event and its consequences (ISO/IEC Guide 73 Risk management - Vocabulary - Guidelines for use in standards). According to the Risk Management Standard, which is developed by the major risk management organisations in the UK - The Institute of Risk Management (IRM), The Association of Insurance and Risk Managers (AIRMIC) and ALARM The National Forum for Risk Management in the Public Sector, "risk management is the process whereby organisations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities". The risk management process in Chart V.2 is considered as a best practice guide throughout the Europe and the world. The risk management process includes the following factors:

- The organization's strategic objectives: All risk management activities must serve the organization's objectives.
- Risk assessment: is composed of risk analysis and risk evaluation.
- Risk identification: is the first element of risk analysis, finds out risks faces the organization.
- Risk description: is the second element of risk analysis, represents identified risk in a structured format.
- Risk estimation: is the third element of risk analysis, provides the quantitative, semi-quantitative and qualitative analysis about the probability of the occurrence and the possible consequences.
- Risk evaluation: compares estimated risks with risk criteria established by the organization (for example, associated costs and benefits of the risks, legal requirements, concerns of shareholders, etc) to answer whether the risks should be accepted or treated.

- Risk reporting: different reports will be sent to different levels within the organization (e.g. Board of Directors, business units, individuals) and outside the Organization (such as shareholders).
- Decision: decides whether and how to treat the risks.
- Risk treatment: selects and implements measures to modify the risks (risk control, risk mitigation, risk avoidance, risk transfer and risk financing, etc.).
- Residual risk reporting: reports the achieved progress in mitigating the risks.
- Monitoring: is a step of improvement and actualization, ensures that the risks are effectively identified and assessed and appropriate controls and procedures are in place. Regular audit should be carried out to identify opportunities for improvement.

Vietnamese agents should adopt the mentioned above risk management process. The following elements should be paid attention to:

*** Risk identification**

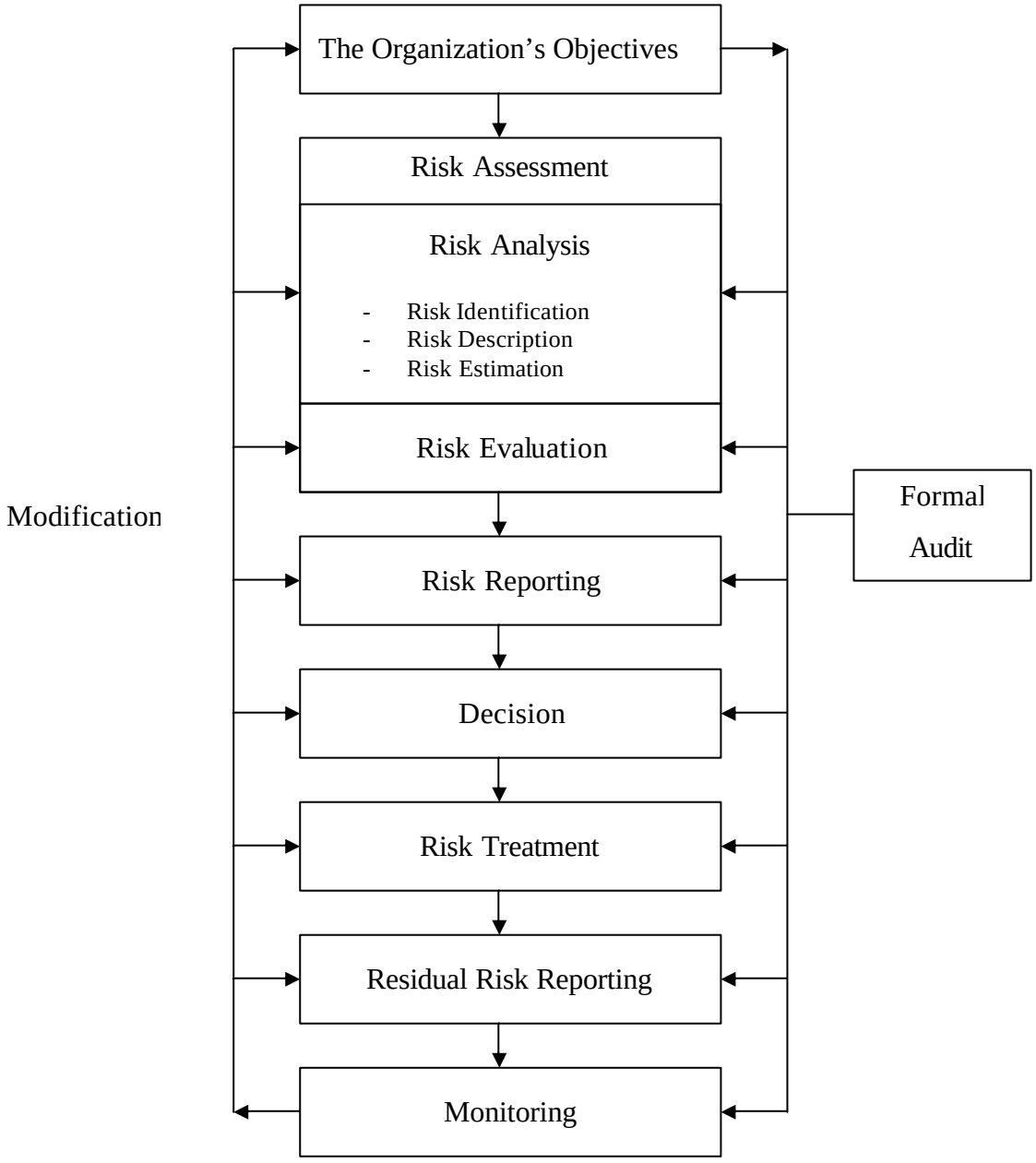
Risks that financial institutions face include credit risks, market risk, liquidity risk (Ishii and Habermeier, 2002), operational risk (Basel Accord II), strategic and reputational risk (Parker, 1995).

Credit risk arises when a counterparty fails to perform a contractual agreement. It applied to loans, bonds and other on- and off-balance sheet exposures such as guarantees, acceptances, and security investment.

Market risk is risk of losses in financial positions (on- or off-balance-sheet positions) arising from movements in market prices that change the market value of an asset or a commitment. This risk can occur with tradable securities, financial derivatives, open foreign exchange positions, and interest-sensitive assets and liabilities, including:

- Foreign exchange risk is risk of losses in on- or off-balance sheet position arising from adverse movements in exchange rates. Financial institutions are exposed to this risk by quoting rates to customers, and by taking unhedged open position in foreign currencies.
- Interest rate risk is risk of losses arising from adverse movements in interest rate, including repricing risk, yield curve risk, and basis risk.

Chart V.2. The risk management process



Source: AIRMIC, IRM, and ALARM (2002)

- Risk in derivatives transactions: derivatives prices respond to changes in market conditions for underlying assets, and for many derivatives products prices are more volatile than underlying prices, reflecting their high implicit leverage. Since many of these transactions are registered off-balance-sheet, supervisors need to ensure that financial institutions active in these conditions are adequately measuring, recognizing, and managing the risks involved.

Liquidity risk is risk arises from the inability to accommodate decreases in liabilities, or to fund an increase in assets at a reasonable cost or liquidate assets at a reasonable price in a timely fashion.

Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes (e.g. bad management, inappropriate credit limit, and embezzlement), people and systems or from external events. It includes legal risk (which includes, but is not limited to, exposure to fines, penalties, or punitive damages resulting from supervisory actions, as well as private settlements), but excludes strategic and reputational risk.

Strategic risk is risk that entire lines of business may succumb to competition or obsolescence. For example, strategic risk occurs when a bank is not ready or able to compete in a newly developing line of business.

Reputational risk is risk of losses resulting from bad clients' assessment about reputation of financial institutions.

With regard to Vietnam, in the context of opening capital account and floating regimes, Vietnamese financial institutions and firms will face some exchange rate risks:

- Exchange rate fluctuations affect economic agents with open position in foreign currency denominated assets and liabilities (market or currency risks). Most Vietnamese commercial banks have remained open foreign exchange positions (change between foreign-currency-denominated assets and liabilities in both on- and off-balance-sheet position) in margin of position limits (30%). However, banks have different positions; some have long position and other have short position (Le, 2005). Therefore, irrespective of exchange rate appreciation or depreciation, Vietnamese banks face risks as exchange rate fluctuates. If exposure is large enough, insolvency may occur. Even if the exposure is small, commercial banks may face problem of liquidity and delay in payment (liquidity and credit risk).
- Exchange rate fluctuations may affect domestic economic agents' business because they have used mainly the U.S. dollar in their business (70%-80% working capital is borrowed from credit institutions, of which foreign currency borrowing makes up a large ratio) and not yet prepared to hedge themselves against exchange rate volatility.

- Exchange rate fluctuations may aggravate exchange rate risk exposures pertaining to balance sheet analysis such as currency- and maturity mismatches, liability dollarization, liquidity and credit quality of foreign-currency-denominated assets and liabilities (foreign exchange risk, liquidity risk, and credit risk), especially when domestic financial system is still weak.
- Capital account liberalization with free movement of capital flows out of and into a country precipitates economic agents' sensitiveness with market risks (foreign exchange rate, interest rate, and price), credit risk, and liquidity risk through buying and selling tradable securities, borrowing and deposit, and using commercial and financial credits.
- Through buying and selling tradable securities by non-residents, capital account liberalization is associated with excessive capital inflows which make the economy more vulnerable to crisis if there is a sudden stop or large-scale reversals in capital flows, especially in the circumstance of weak financial system with inadequate bank supervision and hedging as well as poor credit culture. Vietnam is not immune from this risk (credit risk and foreign exchange rate risk).
- Capital account liberalization is accompanied with increase in asset price misalignment and volatility (stock and property) which undermine the solvency of banks and clients through impacts of unexpected exchange rate depreciation on the balance sheets. This could trigger capital flows reversals.
- Cross-border transactions make collection of, assessment of and analysis of information and clients become more difficult (transfer risk).
- Cross-border transactions raise complication in counterparties' performance of contractual agreements and procedures for their enforcement (countries/sovereign risk).
- Cross-border transactions cause risk when settlement is taken placed through different payments systems in different geographical areas and time zones (settlement risk).

Out of above risk, risks relating to balance sheet analysis (e.g. currency and maturity mismatches, liability dollarization, liquidity and credit quality of foreign-currency-denominated assets and liabilities) and interest rate risk should be paid close attention.

According to AIRMIC, ALARM, IRM (2002), risk identification techniques include:

- Brainstorming
- Questionnaires

- Business studies which look at each business process and describe both the internal processes and external factors which can influence those processes
- Industry benchmarking
- Scenario analysis
- Risk assessment workshops
- Incident investigation
- Auditing and inspection
- HAZOP (Hazard & Operability Studies)

*** Risk estimation**

Once risks have been identified, they must then be assessed in terms of their potential severity of loss and to the probability of occurrence. Formulas and analytical techniques to measure exchange rate risk are, for instance, accounting-based measures of the overall foreign currency position, value-at-risk models, and stress testing (IMF, 2004c). The measurement of risks may be based on financial institutions' internal models or on standard systems prescribed by supervisory authorities.

In Vietnam, banks adopt traditional accounting measures of a foreign exchange position by subtracting foreign currency liabilities from foreign currency assets, and overall foreign currency position by summing all net short and all net long positions. This measure, however, treats foreign exchange position as a sole source of risks; risks relating to exchange rate fluctuations are not included in this measure. Furthermore, this measure does not reflect interest and paying interest arising from foreign-currency-denominated assets and liabilities, rather only foreign currency selling and buying. [69] Thus, it is necessary for financial institutions to adopt more sophisticated measures to assess risks. The SBV should research modern measures (as mentioned above) and enact regulations and standards guiding the implementation of these measures. Financial institutions can build internal models to manage exchange rate risks based on standards stipulated by the monetary authorities.

[69] Decision No.1081/2002/QD-NHNN dated October 7, 2002 on foreign currency position of credit institutions with foreign currency authorization.

*** Risk treatment**

Risk treatment is a step of risk management process. Once risks have been identified and assessed, the financial institution should select and implement measures to modify the risks (risk control, risk mitigation, risk avoidance, risk transfer and risk financing, etc.):

- Avoiding the risk involves not performing an activity that could carry risk (risk avoidance).
- Transferring the risk to another party involves causing other party to accept the risk by a contract or hedging (risk transfer).
- Reducing the negative effect of the risk involves adopting measures that reduce severity of loss (risk mitigation).
- Accepting some or all of the consequences of a particular risk involves accepting the loss when it occurs because the cost of insuring against the risk would be greater than the total losses sustained or risks that are so large that cannot be insured against or the premiums would be infeasible (risk retention).
- Risk financing refers to the mechanisms (e.g. insurance programs) for funding the financial consequences of risk. Risk financing is not generally considered to be the provision of funds to meet the cost of implementing risk treatment (AIRMIC, ALARM, IRM, 2002).

*** Risk monitoring**

Risk monitoring ensures that the risks are effectively identified and assessed and appropriate controls and procedures are in place. Regular audit should be carried out to identify opportunities for improvement. It is noted that to identify and assess risks successfully, say exchange rate risk, it is important to build information systems to monitor the various sources of exchange rate risk, including the sources and uses of foreign currency funds. For example, banks should require borrowers to provide information on their foreign exchange incomes, debts and hedging operations in order to monitor exchange rate risks. The government could audit the public sector to identify and quantify foreign exchange risks. The government should be transparent in reporting to the public its risks, debts, and foreign exchange reserves to cover them (IMF, 2004c).

*** Internal risk supervision**

A risk management process in a financial institution should be complemented by prudential risk regulation and supervision. The objective of internal risk supervision is to detect threat of losses to banks and to evaluate ability to constrain these risks to ensure the stability and security of the institution. This supervision should be implemented by an independent department in the financial institution. Regulations on internal risk supervision should be based on and in line with to principles and standards of Basel Accord. Skilled personnel and technology infrastructure in the financial institution should be paid attention. In addition, the financial institution should conduct the liquidity management and the assessment of effectiveness of risk management.

Account of internal risk policies and regulations should be taken by financial institutions, as follows:

With regard to exchange rate risks, financial institutions should strengthen prudential supervision and regulation to mitigate risks by adopting the following measures:

- Maintaining eligible net foreign exchange position;
- Imposing stricter foreign exchange position limits to various foreign exchange operations (e.g. position limits on time trading, insider trading, USD trading, EURO trading, and forward transaction);
- Developing hedging instruments (forward, swap, option and future) in terms of foreign exchange transactions by allowing all financial institutions acquiring a considerable sophistication in risk management to adopt these instruments through license requirements, enacting legal framework for operation of derivatives markets, establishing a legal system for contract enforcement, verifying products, promoting banks' transparency and high report standards, and enhancing staff's professional proficiency through training;
- Diversifying types of foreign currency that is used in daily transactions, including major foreign currencies such as U.S. dollar, euro, pound sterling, etc.
- Adopting value at risk measure that measures market risk of banks. Value at risk is estimated loss causing by exchange rate fluctuation at which banks can be tolerant (Pham, 2006);

- Enhancing staff's ability to analyze and forecast sources of risks and exchange rate movements;
- Encouraging clients to hedge against exchange rate risks.

Besides, some measures to limit interest rate risks should be taken into account:

- Using flexible interest rate policy;
- Adopting new financial instruments to reduce off-balance risks such as interest rate option, interest rate swap, interest rate future, guarantees, future contract (with regard to securities price index), and option contract (with regard to bond).

Measures to limit credit risks in foreign exchange operations:

- Imposing limits on range of foreign exchange operations banks are allowed to perform through license requirements;
- Imposing limits on concentration in foreign currency loans with regard to one client and a group of clients, limits on foreign currency lending as a percent of foreign currency liabilities, minimum capital requirement against exchange rate risks, limits on overseas borrowing and bond issuance (as a percentage of capital), limits on foreign currency borrowing by sectors that do not generate foreign currency revenues or that are exposed to volatile returns, and limits on using short-term foreign currency capital for medium- and long-term borrowing; [70]
- Imposing requirements for foreign earnings or collateral for borrowers in foreign currency, and specific provisions for the additional credit risks associated with foreign currency lending;
- Building internal system to rank credits, thereby supporting risk management;
- Building policy on foreign exchange operations and foreign exchange risk management procedures, and a system of monitoring compliance;
- Publishing on a regular basis reports on the institution's foreign exchange dealings and oversight of institution's foreign exchange lending to non-banks as well as audited financial statements that reflect institution's financial conditions; and

[70] Minimum capital requirements for credit, market and operational risks and other requirements to ensure banking securities are stipulated in Decision No.457/2005/QD-NHNN dated April 19, 2005 on capital requirements in credit institutions' operations. The minimum capital ratio is calculated in line with Basel Accord I and II by regulatory capital and risk-weighted assets and is not lower than 8%.

- Improving banks' risk management, particularly with respect to derivatives activities and clients' foreign exchange exposures.

V.2.2. Risk supervision from independent authorities

It is important to have independent supervision under both fixed and flexible exchange rate. However, the role of independent supervision under fixed exchange rate appears to be disregarded because fixed exchange rate induces an implicit exchange rate guarantee and reduces the sensibility of the market participants to the exchange rate risks. Under flexible exchange rate, the risk becomes more realistic because it is transferred from the central bank to the private sector. The central bank does not defend the fixed peg anymore and the private sector has to face exchange rate risks. The central bank and the public perceive the necessary of developing hedging measures by the public and risk supervision. Therefore, the role of independent risk supervision has been more emphasized under flexible exchange rate.

As mentioned in previous chapter, the current regulations on banking supervision in Vietnam have been not yet conformed to international standards. The full adoption of Basel Accord I is expected by 2010. The opening of the financial market in conformity with Vietnam's commitments in Vietnam-U.S. Bilateral Trade Agreement, ASEAN Framework Agreement on Services (AFAS), and WTO/GATS as well as the progressive opening of capital account liberalization brings about challenges for domestic banking system. For example, domestic banking system has to compete with foreign banks in a fair playground with many new banking and financial services and new credit institutions. Meanwhile, Vietnam has not yet met international principles and standard in banking supervision. Thus, the danger to lag behind in business, in banking supervision of the banking supervising authorities becomes obvious. Furthermore, the current mechanism of banking supervision is not suitable for supervising a unique financial system of domestic and foreign financial institutions. Additionally, the stability of banking system is threatened because of increase in risks and banking crimes. These elements together with more freely capital flows put domestic banking system in more risky business environment. Therefore, the role of the government in risk supervision becomes more important in this new circumstance.

It is important to note that the objective of banking supervision is not only to inspect the banks' abide by regulations, safety standards and policies of the government and central bank.

Rather, the main objective of banking supervision is to ensure the stability and security of the entire banking sector by detecting and supervising threat of losses to banks and their ability to constrain risks. This supervision is implemented by the SBV through off-site supervision and on-site inspection over the banking sector.

Some measures to increase effectiveness of financial and banking supervision are:

- Determining the objective of financial and banking supervision is to ensure the stability and security of the entire financial institutions, including: (i) licensing requirements to engage in financial and banking activities; (ii) assessing the standing of the financial institutions; (iii) assessing the impact of monetary, fiscal and supervisory policies on the financial institutions; (iv) assessing financial institutions' risks management processes to ensure they are in place; (v) analysing and assessing potential risks that financial institutions will face; (vi) monitoring banks' compliance with safety standards and providing timely; and (vii) providing corrective actions when financial institutions fail to meet prudential requirements, and overseeing the efficiency of rehabilitation and restructuring programs;
- Organizing and building a supervision system by establishing independent agencies under directly the government or the parliament, and assigning a clear mission, permissible activities, responsibilities, and objective to avoid supervision overlapping and to ensure the effectiveness of supervision;
- Upgrading power of the supervision agencies, including empowering the supervision agent to monitor the enforcement of administrative and economic measures;
- Building a new legal framework for supervision that can detect and warn of threats of loss for banks and unifying supervision regulations and process;
- Establishing system of supervision standards in line with international standards (Basel Accord);
- Improving the quality and ability of supervision staffs by training and hiring;
- Implementing arrangements for supervisory cooperation among domestic supervisory agencies and with foreign supervisors;
- Combining with other measures to create good conditions for successful and effective supervision such as renovating the banking audit system in conformity with international standards and modernizing banking technology to create favourable conditions for banking supervision, improving transparency in entire system, developing financial

market in order to take advantages of supervision results from financial intermediaries, and increasing financial support for supervisory activities.

- Developing system of business and banking administrative in conformity with international standards in order to create a business environment in accordance with international business environment to increase market disciplines and accountability, thereby mitigating risk in business.

V.3. Developing foreign exchange market

As mentioned in the previous chapter, a deep and liquid foreign exchange market is necessary under both fixed and flexible exchange rate regimes. However, in contrast to fixed exchange rate, operating a flexible exchange rate regime only works well when foreign exchange market is liquid and efficient enough for price discovery. A well-functioning foreign exchange market allows the exchange rate to respond to market forces and helps to minimize the longer-term deviation from equilibrium. The following measures to be taken to develop a liquid and deep foreign exchange market and enhance price discovery:

First, under fixed exchange rate regime, the SBV was a lender-of-last-resort in foreign exchange market in order to buy or sell foreign exchange, whenever there is a surplus or shortage in foreign exchange. The SBV's intervention implied a guarantee for funding, thereby discouraging banks to find foreign exchange sources through enhancing their professional competence, which in turn reducing the liquidity of the market. Therefore, a very important measure to deal with these problems is reducing the central bank's market-making role; including reducing its trades with banks, limiting the frequency of its intervention, requiring credit institutions to provide two-way price quotations, and taking part in foreign exchange market as a price taker (within a margin).

Second, under fixed exchange rate regime, intervention of the SBV in the market to fix exchange rate implied an implicit guarantee for exchange rate stability, thus contributing to restrain the development of hedging instrument, thereby constraining the development of foreign exchange market. Thus, allowing exchange rate flexibility and creating two-way risk (exchange rate may depreciate or appreciate) to encourage market participants to hedge themselves, to discover price, and to manage exchange rate risks, thereby promoting transactions in the foreign exchange market.

Third, increasing market information transparency on foreign exchange flows and the balance of payments in order to help market participants develop accurate views on the monetary policy and exchange rate policy, thereby making exact decisions on foreign exchange transactions (more details see V.4.2).

Fourth, one of the important measures to develop foreign exchange market is to unify multiple markets by eliminating underlying problem leading to existence of the black market. For example, liberalizing foreign exchange controls, simplifying procedures regarding to buying and selling foreign currency, struggling against corruption and smuggling, and reforming wage system in order to improve quality of life and to reduce legal economic activities.

Fifth, the SBV should develop and improve the effectiveness of market intermediaries, who play an important role in speeding up foreign exchange transaction and in determination of exchange rate. Technical infrastructure to facilitate intermediary's activity should be set up, such as personnel training, equipping electronic brokerage system, and building a legal framework for intermediaries.

Sixth, securing a reliable and efficient settlement system will help foreign exchange market operate smoothly and limit risks from the settlement of foreign exchange transactions. Some measures to be taken are increasing investment to set up a modern and proper functioning payment system, fostering personnel training to ameliorate ability to conduct modern settlement technique, introducing regulations on prudential rules for market participants, and promoting payment versus payment. [71]

Seventh, some measures relating to legal legislation are:

[71] That is, allowing for simultaneous payment of the foreign exchange and domestic currency legs of the transaction, or in other words, a mechanism in a foreign exchange settlement system which ensures that a final transfer of foreign currency occurs if, and only if, the final transfer of the domestic currency takes place, which is the only way of eliminating the risk of losing the entire principal in a foreign exchange transaction (IMF, 2004c and Canales-Kriljenko, 2004)

- Eliminating regulations that stifle market activity, for example, the SBV abandonment of the ceiling forward rates and expanded the forward times in 2004 has positively affected in transaction volume. Besides, the SBV should simplify administrative procedures in current account transactions in order to meet the requirement of simplification and the immediacy of the liquid market (for example, regulations on submission of required documents when bring foreign exchange exceeding USD 7,000 into or out of Vietnam, see Appendix II.4). In addition, gradually lifting control on capital transactions, such as controls on all transactions in capital and money market instruments, in collective investment securities, and derivatives instruments will facilitate capital flows movements.
- Unifying and simplifying foreign exchange legislation. Ad hoc and frequent changes should be avoided. Well-defined, simple, and easily understood foreign exchange laws and regulations can improve market transparency and reduce transaction costs.
- Facilitating the development of risk-hedging instruments by (i) lifting controls on forward market activity once financial institutions achieve adequate risk management capacity, (ii) increasing personnel training, (iii) investing in technological development, and (iv) building a legal framework regulating derivatives market activities. To build a legal framework for derivatives activities, some issues should be paid attention to, including: stipulating credit institutions with foreign exchange authorization to be allowed to take part in derivatives activities; building measures to ensure securities and to limit risks; regulating measures to protect of counterparties' rights; introducing technical process to conduct derivatives activities; allowing credit institutions to sell, purchase derivatives products; and stipulating regulation on supervising derivatives activities.

V.4. Formulating intervention policy

Moving to greater exchange rate flexibility still needs intervention in foreign exchange market. Even in more flexible exchange rate regimes, foreign exchange intervention is prevalent (Canales-Kriljenko, 2003). In a crawling band regime, the central bank has to intervene to ensure exchange rate fluctuations within the band. In a managed floating exchange rate regime without precommitting to a preannounced path for exchange rate, or in an independent floating exchange rate regime, foreign exchange intervention may be conducted to moderate the undue fluctuations in the exchange rate, rather than just let it do it. In addition, the central bank intervenes in foreign exchange market in order to correct real exchange rate misalignment, which may happen under both flexible and fixed exchange rate

regime, especially for emerging countries, where rapid structural transformation makes the exchange rate more volatile and easily deviate from economic fundamentals. Furthermore, when the central bank targets an appropriate level of foreign exchange reserves or supplies foreign exchange to the market, it cannot avoid intervention.

De Beaufort and Kapteyn (2001, p.11) show that although under floating exchange rate, countries tend to manage their exchange rates. The United State sometimes has intervened in the foreign exchange market, although it has no exchange rate objective. Craig and Humpage (2001) find that "…no country (or alliance) has allowed market forces free reign in determining its exchange rates. Even prime candidates for floating, like Canada, the European Monetary Union, Japan, the United States, and the United Kingdom, occasionally have altered their monetary policies, or have bought and sold foreign-exchange in an attempt to affect the exchange value of their currencies". In summer 2000, "the European Central Bank undertook coordinated interventions with Japan, the United Kingdom, and the United States in an effort to stem a depreciation of the euro against the U.S. dollar and the Japanese yen". Schmidt-Hebbel and Werner (2002) indicate that since adopting floating exchange rate regime, Chile, Brazil and Mexico has intervened in the foreign exchange market to facilitate adjustment to sudden reductions in capital inflows, to accumulate reserves; to reduce excessive exchange rate volatility (associated with lower liquidity in foreign exchange markets); and to raise the supply of exchange rate insurance.

The above examples indicate that official intervention in foreign exchange market is an important instrument of the central bank to influence exchange rate. Beside interest rate, exchange rate is still an effective monetary instrument of the central bank to conduct monetary policy. Therefore, the central bank can intervene in foreign exchange market under both flexible and fixed exchange rate regime to implement its monetary policy.

However, the intervention under flexible exchange rate regime differs from that under fixed exchange rate regime. First, under fixed exchange rates, the central bank must intervene in foreign exchange market to constrain exchange rate volatility out of its target. The intervention is obligatory if the exchange rate fluctuates out of the target. In contrast, under flexible exchange rate, intervention is optional, or discretionary, but central banks can still intervene in foreign exchange market for certain reasons, for example to target an appropriate

level of foreign exchange reserves, to smooth disorderly market, and to limit exchange rate pass-through on inflation deriving from excessive exchange rate volatility.

Second, countries with fixed exchange rate regime need more reserves than those with flexible exchange rate in order to stabilize exchange rate and ensure credibility of the regime. For example, De Beaufort and Kaptyen (2001) estimate that countries with independently floating needs no more than between 5 and 10% of M2 to cover short-term external debt (debt falling within 1 year) in the event of capital flight, whereas those with managed float or fixed exchange rate regime need a range of 10 to 20% of M2 (M2 is used for assessing potential demand for foreign assets from domestic sources).

Based on above analysis, intervention under flexible is obviously and is superior to that under fixed exchange rate. Following are some proposals for the SBV's intervention policy in the transition to greater exchange rate flexibility.

V.4.1. Developing policies on objectives, timing and amount of intervention

*** Intervention objectives**

In the transition process to greater exchange rate flexibility, main objectives of the SBV's intervention in foreign exchange market should be correcting misalignment from the long run equilibrium, calming disorderly market, and accumulating foreign exchange reserves. Intervention to supply foreign exchange on behalf of the Government in foreign exchange transaction regarding national strategic goods (such as oil, petrol, cement, fertilizer, and steel) should be omitted because the SBV could not control foreign exchange transactions for the Government, thereby leading to unwanted monetary impulses.

Under specific circumstances, the SBV should define precisely the objectives of intervention. For example, resisting exchange rate depreciation is not appropriate when there are sharp capital outflows and foreign exchange reserves are low. Intervention aiming at correcting exchange rate misalignment and calming disorderly market should take account of nature of shocks causing this disorder, consistency of exchange rate with macroeconomic policy, capital mobility, and level of foreign exchange reserves. Reserve accumulation is prioritized

after currency crisis occurred or when the central bank tries to enhance the public credibility. (Canales-Kriljenko et al., 2003a).

Because export growth is a source of output growth in Vietnam, the SBV has paid much attention to correct exchange rate misalignment to maintain export competitiveness. Under flexible exchange rate regimes, the exchange rate will be determined by market forces; therefore, the possibility of exchange rate misalignment may be reduced. Although as noted in the previous chapter that at the moment real exchange rate appreciation does not affect much export competitiveness, long-lasting real exchange rate appreciation will eventually deteriorate export competitiveness. However, it is very difficult to measure the long-term exchange rate equilibrium because economic fundamentals change overtime and there has not been a consensus on a methodology to estimate the equilibrium exchange rate. [72] Therefore, the decision about the intervention to correct exchange rate misalignment depends on the ability of the SBV to detect and measure exchange rate misalignment and real costs bearing by the economy.

Similarly, intervention to smooth excessive exchange rate volatility also depends on the ability of the SBV to detect whether this volatility is excessive or modest and short-term and to assess its effects on the economy. The SBV should intervene to smooth excessive exchange rate volatility that may affect badly the economy. For example, an exchange rate volatility leading to foreign exchange hoarding and speculation should be smoothen. Undue exchange rate volatility may affect badly the economy by the way that it raises the cost of external trade, dampens trade flows, increases trade deficit, and increases balance sheet exposures to exchange rate risks when hedge is limited. If the exchange rate changes rapidly, investors will become more uncertain about the profitability of their trades and investments, thereby reducing their international business or estimating higher cost of business. Exchange rate appreciation also leads to current account deficit because foreign good become relatively cheaper than domestic goods, thereby stimulating import, while domestic goods will become relatively more expensive than foreign goods, thus reducing exports. In addition, according to IMF (2004c), excessive exchange rate volatility may be costly from a political perspective

[72] Wong (2002) overviews three approaches to estimate long-run equilibrium real exchange rate: (1) simulations based on macroeconomic models, (2) estimates based on partial-equilibrium current account models, and (3) estimates based on cointegrating equations.

because the exchange rate is often considered as a symbolic and visible measure of the government's success in macroeconomic management.

In contrast, modest and short-term exchange rate volatility may provide useful signals for market participants to learn to manage exchange rate risks. Thus, the modest exchange rate volatility should not be intervened. For example, under exchange rate band regime in the transition to greater exchange rate flexibility, an exchange rate volatility creating incentives for market participants to hedge themselves against exchange rate risks does need to be intervened. If it touches the band, the SBV can widen the bandwidth.

Intervention to accumulate foreign exchange reserves should be taken into consideration because it will raise money supply, hence an inflationary pressure. The effect of a sterilized intervention depends on the number of valuable papers hold by the SBV, the ability of the economy to absorb it, and the cost bearing by the SBV. For example, if the SBV wants to accumulate more foreign exchange reserves but it has not enough Treasury bonds to sterilize, the consequence may be an increase in inflation. If the ability of the economy to absorb sterilized intervention is limited, the SBV has to increase interest rate of bonds to make them more attractive, leading to an increase in domestic inflation rate as a whole, then a rise in capital inflows, which in turn puts upward pressure on exchange rate and hence export competitiveness. If the SBV sells Treasury bond to the market, it will lose the interest of bonds that it should have yielded. Therefore, the SBV should take into account the benefit of accumulation of foreign exchange reserves (for example to cover capital flight out of the country in time of distress) and the mentioned above costs.

In short, three main intervention objectives are to correct exchange rate misalignment, calm disorderly market and accumulate foreign exchange reserves. The decision to intervene is not easy and depends on the ability of the SBV to detect and to assess the real cost bearing by the economy.

*** Timing and amount of intervention**

Determining an optimal amount of foreign exchange intervention is often carried out by "trial and error" (Canales-Kriljenko et al. 2003a). The SBV does not appear to avoid this measure. After conducting intervention, the SBV should assess the effectiveness of its intervention. [73]

Additionally, intervention amounts depend, in part, on their effects on exchange rate expectations. The SBV should avoid one-sided intervention; instead, it should create two-way risk (exchange rate depreciation and appreciation) to encourage market participants to review and manage exchange rate risks by the development of risk-hedging instruments (forward, option, and future, etc.).

Furthermore, policies should be adjusted to resolve the underlying causes of imbalances in order flows. However, it is noted that intervention cannot generate permanent changes in exchange rate levels when targeted levels are inconsistent with macroeconomic policies.

Last but not least, the SBV should revaluate its international reserve management policy when it moves to more flexible exchange rate regimes. [74] In the initial years of the transition to greater exchange rate flexibility and more freely capital flows, the IMF (2006d) assesses that Vietnam has low vulnerability to external distress because it has strong balance of payment, adequate current level of reserves (to cover short-term external debts in the event of capital flight out of the country and a run on FCD), low short-term debt, highly concessional debt, limited openness to capital flows and prudent foreign debt management. However, over time, the transition to more open capital flows in association with WTO accession, the equitization of SOEs and SOCBs, and the development of the domestic capital market will increase the

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[73] An example of methodology to define the successful intervention episode introduced by Fatum and Hutchison (2003) is application of three criteria. The first criterion of success is simply whether the direction of the movement in the exchange rate is the same as the direction in which the central bank was intervening ("direction" criterion). The second criterion defines a successful event as one where intervention is associated with a smoothing of the exchange rate movement ("smoothing" criterion). When the "direction" criterion is applied to "leaning against the wind" events only, the resulting measure of success has a clear meaning in terms of reversing the exchange rate trend that prevailed up until intervention occurred ("reversal" criteria). "Leaning with the wind" policy, i.e. if the central banks were to intervene in support of an ongoing exchange rate trend as opposed to "leaning against the wind" when the central banks are trying to slow or reverse the trend.

[74] For more details, see IMF (2004a).

capital inflows, which place pressures on foreign exchange reserves in time of stress. In addition, rapid monetization amplifies pressures on reserves because Vietnam has low reserve coverage of broad money, which is an indicator to indicate vulnerability in case of capital flight by domestic residents and may trigger a loss of confidence in the domestic currency or concerns about the stability of banking system. Therefore, the SBV should be careful in determination an adequate foreign exchange reserves in combination with a prudent reserve management.

Timing of intervention depends on the analysis of market indicators and market intelligence, the SBV's experiences, the country's specific circumstances, and the SBV's assessment of a variety of factors, including exchange rate misalignment, nature of shocks, acceleration in exchange rate changes, bid-offer spreads, composition of and magnitude of foreign exchange turnovers, and exchange rate volatility. [75] The SBV should enhance its ability in the combination of market conditions (such as observable market indicators and available market intelligence, duration and nature of shock, and available reserves) and economic models in decision-making process.

In short, determining an optimal amount of foreign exchange intervention is carried out by "trial and error". Timing of intervention depends on many factors, of which the ability of the SBV to assess these factors plays a key role.

*** Discretionary intervention**

In case of Vietnam, I suggest that the SBV should have some degree of discretion in determining when and in what amounts to intervene. The reasons are: (i) an intervention policy rule is not necessary when a the SBV pursues inflation targeting framework; (ii) it leaves more rooms for the SBV to manoeuvre monetary policy to respond to volatile market conditions; and (iii) it is not easy to build optimal intervention rule, especially as limited ability to collect, interpret, and judge information.

However, in the transition process to greater exchange rate flexibility, difficulty in implementing inflation targeting may allow the SBV to pay attention to exchange rate by a commitment to a certain level of exchange rate (for example, the adoption of exchange rate

[75] For more details, see Canales-Kriljenko et al., 2003a.

band) in parallel with inflation targeting. A rules-based intervention policy may be appropriate for such a time. Over time, when the SBV gains enough credibility and experiences to intervene on a more discretionary basis, the rule-based policy will be abandoned or modified to allow some discretion.

In conclusion, the SBV should implement a discretionary intervention. A rules-based intervention may be appropriate for a short time in the transition to greater exchange rate flexibility.

V.4.2. Increasing transparency

In recent few years, the SBV has wise and vigilant decision on the announcements of its intervention objectives and some interventions with a time lag. However, these announcements have not yet brought results as desired by the public (see Chapter IV, IV.1.2.2).

The SBV can base on following criteria to assess the transparency of its monetary policy and by itself. Those are: (i) clarity of roles, responsibilities and objectives of central banks for monetary policy, (ii) open process for formulating and reporting monetary policy decisions, (iii) public availability of information on monetary policy, and (iv) accountability and assurances of integrity by the central bank (IMF, 2003d). [76]

To enhance the transparency of monetary policy and the SBV, it should consider the following factors:

- Define intervention objectives and announce these objectives. The SBV can choose freely when it will announce that it already intervened in the market.
- Publish quarterly information on foreign exchange reserves, monetary policy instruments, and monetary and exchange rate policy conductions. Explain and interpret the rationale and functioning of policy instruments. Ensure timeliness and frequency of publications as well as quality of information. This requires an explicit legal requirement to report to a legislative body or designated public authority to inform on the conduct of monetary policy and the fulfilment of policy objectives.

[76] See Appendix V.8

- Announce meeting schedules of policy-making bodies and their speeches.

V.4.3. Other factors

Develop a deep and liquid foreign exchange market is a way to improve effective of foreign exchange intervention. Vietnam is also the case in point.

The SBV has used moral suasion and administrative orders to support its foreign exchange intervention. For example, when the SBV let exchange rate fluctuate above moral threshold of VND 16,000 per USD in May 2006, speculation occurred immediately, leading to exchange rate in the black market reach VND 17,000. The SBV has to intervene by selling foreign exchange to the market to meet demand for foreign exchange of importers. The SBV required credit institutions sell on real time foreign exchange to their clients. At the same time, the Governor announced that the SBV had enough foreign exchange to intervene and it had already acquired a considerable amount of foreign exchange. This has appeared to be effective in calming down disorderly market. However, this measure will have not been optimal choice anymore when Vietnam becomes the WTO's member and banking sector will be liberalized. In this context, the public will not believe in words, rather deeds. Moreover, banking activities will have to conform to law of competition.

Some lessons should be taken into account: intervention is not an independent policy tool. Its success depends on the consistency of targeted exchange rates with macroeconomic policies. Efficient foreign exchange market can help minimize exchange rate misalignment and disorderly markets. Institutional and policy credibility is an important determinant of the effectiveness of intervention. These will contribute to enhance the effectiveness of intervention.

V.5. Financial sector reform

At present, Vietnam's structure reform aims at improving efficiency of the state-owned sector, ensuring public debt sustainability, and encouraging private investment (IMF, 2005b). This part focuses on the banking sector reform because the banking system is the dominant weakness of financial system in Vietnam.

With regard to the banking sector reform, the reform strategy for the SBV should aim at enhancing the competitiveness of banking system in the context of opening financial market in line with commitments with WTO members, including: (i) lending is based on commercial objectives and sound appraisals of repayment capacity; (ii) SOCBs are restructured on organization (giving SOCBs more independence in operations and phasing out policy lending), finance (recapitalizing banks to rebuild balance sheets and equitizing banks to increase financial capacity), and banking supervision; (iii) NPLs are resolved and revalued; (iv) risk management of credit institutions is enhanced; and (v) banking services are diversified. The following suggestions should be considered:

- Accelerate equitizing SOCBs and eliminate policy lending to shift the banks' operations to a more commercial basis;
- Phase out appropriately restrictions (quantitative restrictions, scope, equity of foreign partners, and total banking transactions) on market access and financial and banking activities with regard to foreign credit institutions, for example, selling a large share of the bank to a foreign strategic partner as Vietnam's experiences suggest. According to Decree on foreign credit institutions, all foreign investors only allow to hold 30% of total shares of a Vietnamese credit institution, a foreign strategic partner holds only 20%. Many suggest that in order to promote investment attraction into banks, these ratios should be raised to those are stipulated with regard to foreign investors in securities market, i.e., 49% with regard to foreign investors and 30% with regard to a foreign strategic partner. In addition, conditions for being a shareholder of a credit institution are also strict, for example, foreign credit institutions, which are not investment funds, muss have a minimum capital of USD 20 billion. With this condition, buying share of a Vietnamese credit institution becomes more difficult because many investment-fund managing companies operating in Vietnam have only capital of several millions of USD. Therefore, loosening restrictions in buying share will have attract more foreign investors in banking system in order to raise financial capacity of Vietnamese credit institutions and attract modern banking technology, services and management;
- Accelerate banks' loan restructure, NPLs resolution and revaluation, and credit risks treatment to improve quality of banks' operations and clean up banks' balance sheets;
- Limit credit growth to 25% (credit target determined by the SBV);
- Enhance banks' ability to manage risks (see V.2);
- Develop internal risk management of credit institutions (see V.2);

- Develop financial intermediaries;
- Establish effective means of combating money laundering and terrorism financing; and
- Build plan and strategy to improve banks' competitiveness in terms of finance, technology, banking management, and personnel in parallel with completing a legal system of banking system to integrate into international financial market and meet commitments with the WTO (Law on Credit institutions, Law on the SBV, Law in Banking supervision, regulations on foreign exchange management, regulations on accounting system, regulations on non-cash payments, regulations on new banking services such as the management of financial assets, portfolio investments, derivates, electronic banking, etc.). [77]

With regard to central bank reform (aiming at enhancing the SBV's ability to manage monetary policy), the SBV should:

- Enhance the governance and transparency of policy making (see V.4 for some suggestions about ameliorating monetary policy transparency);
- Enhance the ability to forecast risks and changes in the international financial market and build macroeconometric models in order to make exact decisions and mitigate risks with regard to domestic financial market and maintain macroeconomic stability;
- Build a monetary policy transmission mechanism and develop monetary market to enhance effectiveness of monetary policy through market-based monetary policy instruments;
- Be given more independence in the conduct of monetary policy, including goal and instrument independence. Aware that in the context of Vietnam the first thing to build an independent central bank is changing perception and thinking;
- Increase transparency and reliability of data, focusing on the areas of balance of payments, fiscal operations, foreign exchange reserves, national income account, and SOEs and SOCBs, and allowing independent audits at the central bank.
- Develop on-site and off-site banking supervision to ensure security for entire system (see V.2);

[77] Decision No.1879/2006/QD-NHNN of the Governor of the SBV dated 28/09/2006 on Project on Developing Banking sector by 2010 and orientation by 2020.

With regard to capital market reform, the SBV should further develop and operate effectively money and capital market (primary and secondary market, and stock exchanges), including:

- Foster the process of equitization to create more goods for capital market (stock exchange);
- Diversify goods in the capital market through issuing different bonds and bills, developing derivatives;
- Eliminate the restrictions on equity of foreign partners in stock exchange;
- Build a transparent legal system regulating the operation of domestic capital market and the listing of Vietnamese firms in foreign stock exchanges;
- Develop modern technology infrastructure for the operation of capital market;
- Train human resources in stock exchange, such as intermediaries, brokers, investment analysts; and
- Develop foreign exchange market to create favourable conditions for foreign investors to sell foreign exchange to invest in the capital market and buy foreign exchange if they want to draw capital out of Vietnam, thereby contributing to attract more foreign capitals in Vietnam (see V.3).

V.6. Steps of capital account liberalization

V.6.1. General principles for sequencing

Capital account liberalization brings about some benefits for the economy, but it also entails risks, for instance, precipitating a crisis, if opening capital account is not accompanied with necessary and eligible changes in macroeconomic policies and structure of the financial system. Therefore, capital account liberalization needs to be accompanied and coordinated with an appropriate sequencing of other reforms. Some principles help to guide an orderly sequencing and coordination of capital account liberalization with other policies. However, it is important to note that these principles do not help protect the economy from macroeconomic and financial system weakness and also do not imply that liberalization should be unduly delayed. Countries can benefit from access to international capital markets; and orderly capital account liberalization can stimulate desirable changes in financial system as they develop their ability to effectively manage the risks associated with international capital flows (Ishii and Habermeier et al., 2002):

- Capital account liberalization should be carried out on the basis of sound and sustainable macroeconomic policies. In addition, exchange rate regime must be consistent with other macroeconomic policies before removing controls on capital account.
- Specific financial sector reforms that support and reinforce macroeconomic stabilization should be prioritized to reform early, such as market-based monetary arrangements and central banking reforms. Well-functioning monetary arrangements and strong public debt management practices are essential to managing the risks from short-term capital flows.
- Financial sector reforms that are operationally linked and mutually reinforcing should be implemented together. For example, measures to introduce market-based instruments of monetary and exchange rate policy should be taken in parallel with measures to develop money and exchange markets, with reforms of payments and settlements systems, and with improved public debt management.
- Prudential regulation and supervision and financial restructuring policies should be implemented to complement other financial reforms in order to help manage risks in liberalization and foster financial sector stability.
- The liberalization of capital flows by instruments or sectors should be sequenced to take into account the concomitant risks. For instance, liberalizing long-term flows should precede short-term flows because the long-term capital flows are more stable than short-terms ones. If distress happens, the investor cannot immediately withdraw the long-term capital flows, thereby mitigating the adverse effects of capital flows reversals.
- The pace of reforms should consider conditions relating to the financial structure of non-financial corporations and other entities (for example, debt-equity ratios, and foreign currency exposure) and their effects on the quality of the loan portfolios and capital base of financial institutions. These are crucial factors determining the speed with which financial markets and especially foreign borrowing can be liberalized.
- Reforms that require substantial lead time for adequate technical preparations and capacity building should be started early. For example, systemic bank restructuring and reforms of accounting practices and standards may take a long time.
- Reforms need to take into account the effectiveness of the controls on capital flows currently in place. For instance, existing controls on capital flows may be ineffective, because a country lacks the administrative capacity to fully enforce them.
- The pace, timing, and sequencing of liberalization need to take account of political and regional considerations.

- The operational and institutional arrangements for policy transparency and data disclosure need to be adapted to support capital account opening.

V.6.2. Sequencing capital account liberalization with financial reforms

Basing on general principles, methodology for sequencing and coordinating capital account liberalization with other policies recommended by Ishii and Habermeier et al. (2002), current stand of capital account controls and degree of development of financial system, I suggest a scenario of steps of capital account liberalization that is suitable to Vietnam's circumstance as follows (Table V.2).

*** Stage 1: Laying the foundation for liberalization**

The liberalization of FDI – the long-term capital flows – should be implemented firstly because the FDI is also a great source of foreign capital in Vietnam and the economy needs investment capital to develop the economy. In addition, the management of FDI is complex because there is an existence of new economic agent in the economy, foreign investors; thus, it will take a long time to prepare all necessary conditions to accept and treat them as equal as domestic economic agents. The relaxation of restriction on foreigners' purchase of equity shares also helps to attract more capital in Vietnam. It is important to discriminate the foreigners with long-term investment strategy with those having short-term investment strategy. Normally, the foreign investors having long-term investment strategy always take part in Board of Directors of the company.

The elimination of repatriation requirement for current account proceeds indicates the will of the host country in creating favourable conditions for investors to use their foreign exchange incomes, thereby attracting more capital in Vietnam.

To develop a deep and liquid interbank foreign exchange market, it is necessary to liberalize a part of banks' short-term borrowing and lending, subject to prudential safeguards, in order to create goods for foreign exchange market.

Derivatives transactions should be liberalized in order to enhance the ability of economic agents to hedge them against foreign exchange risks, provided these transactions are well managed.

In association with the liberalization of above-mentioned capital flows and banks' short-term borrowing and lending and derivatives transactions is a development of interbank foreign exchange market, OMOs and the long-term public debt and equity market in order to create conditions for the foreign exchange transactions and intervention of the SBV when needed. A strong and sound prudential regulation and supervision and the improvement of banks' risk management are needed to manage and control the foreign exchange exposures in banks' short-term borrowing and lending and derivatives transactions.

*** Stage 2: Consolidating reforms**

The second stage deepens the liberalization progress in the first stage. All longer term and nondebt-creating capital flows should be liberalized. Other restrictions on other money and capital market instruments (sales, purchases, issues of securities locally or abroad by residents and non-residents) should be eased depending on the ability of risk management of economic agents.

At this stage, prudential policies and risk management, financial markets and institutions are required to be in a considerable level of sophistication.

*** Stage 3: Completing and reassessing liberalization and reforms**

At this final stage, all remaining capital controls, including controls on short-term capital flows should be lifted because financial sector conditions and level of risk management have developed to manage effectively risks. Only prudential regulations (such as open foreign exchange position limits) to manage risks should be maintained.

It is necessary to reassess the process of liberalization and identify remaining and emerging risks. The risk management must conform to international standards.

Table V.2. Sequencing capital liberalization with financial sector reforms

Capital account liberalization	Financial sector reforms
1. Stage 1: Laying the foundation for liberalization	
Capital inflows • Liberalization of FDI. • Relax restrictions on non-residents' purchase of equity shares. *Capital outflows* • Eliminate repatriation requirement for current account proceeds. *Banks' short-term borrowing* • Limited liberalization of banks' short-term borrowing and lending to develop a deep and liquid interbank foreign exchange market, subject to prudential safeguards. *Derivatives* • Early liberalize derivatives transactions.	*Markets and systems* • Develop a deep interbank foreign exchange market • Introduce more active open market operations. • Develop the long-term public debt and equity market. *Prudential policies and risk management* • Strengthen prudential regulation and supervision, especially of banks' derivatives operations; introduce reporting on banks' foreign exchange dealings and oversight of banks' foreign exchange lending to non-banks. • Improve banks' risk management, particularly with respect to derivatives activities and corporate clients' foreign exchange exposures. • Preparations for new legal frame work for supervision, with an emphasis on supervisory independence. *Financial sector restructuring* • Foster orderly consolidation and privatization in the banking sector. • Provide supervisors with additional powers to foster bank mergers and restructuring. *Financial safety nets* • Cease lender-of-last-resort support to clearly insolvent institutions. All lender-of last-resort supports should be on a short-term and collateralized basis.
2. Stage 2: Consolidating reforms	
Capital inflows and outflows • Complete liberalization of	*Prudential policies and risk management* • Continue to improve risk management.

inward and outward FDI, except for conditional investment sector. • Lifting restrictions on portfolio investment. • Ease restrictions on other money and capital market instruments.	• Fully implement consolidated supervision of financial groups. • Increase the frequency and depth of on-site banking and insurance supervision. Hire and train needed personnel. • Fully implement arrangements for supervisory cooperation (both among different domestic supervisory agencies and with foreign supervisors). • Place stricter limits on insider trading. • Adopt new legislation strengthening the independence of all supervisory agencies. • Review and address other remaining deficiencies with respect to international supervisory standards. *Financial sector restructuring* • Continue consolidation and privatization in the banking sector, with all systemic problems to be solved during this stage. *Transparency* • Further strengthen the transparency of monetary and financial policies to reduce uncertainty of market participants, particularly non-resident investors.
3. Completing and reassessing liberalization and reforms	
Complete liberalization • Eliminating all remaining capital controls, including controls on short-term capital flows. • Maintaining prudential regulations (such as open foreign exchange position limits) to manage risks.	*Market and systems development* • Review possibilities for further development and seek to identify emerging risks. • Continue to develop multiple, redundant, and robust channels for transforming savings into productive investment, thus reducing reliance on bank intermediation. *Prudential policies and risk management* • With prudential policies now conforming in all important respects to international standards, seek to identify areas in which practices can be improved further. • Continue efforts by supervisors to encourage improved

	risk management by financial institutions. *Financial sector restructuring* • This process should be complete by the end of this stage, with no systemic threats remaining with respect to profitability, capital adequacy, liquidity, or asset quality.

Source: Ishii and Habermeier et al. (2002) and author's assessment.

Chapter VI

CONCLUSIONS

Getting the exchange rate right is essential for economic stability and growth. Opening capital account as well as problems of the current exchange rate arrangement lays the issue in choice of the appropriate exchange rate regime for Vietnam. Starting with the assumption that an appropriate exchange rate regime for Vietnam must meet conditions of achieving the price target, and helping the economy to resist external shocks, I based on analysing theoretical models on credibility, independence of the central bank and role of exchange rate under external shocks to answer the question which exchange rate regime is good for Vietnam. I discussed the following issues:

First, de facto pegged exchange rate system would bring about risks for the economy, including discouraging exchange rate risk managements, deteriorating external competitiveness, loss of monetary policy independence, occurring credibility problem, increasing financial fragility and heightening potential financial crises, and putting the central bank in difficulties in monetary policy implementation, especially as the economy open its capital account.

Second, the choice of an appropriate exchange rate regime for Vietnam was based on the following approaches: country characteristics, role of exchange rate regimes in achieving the price target (credibility and independence of the central bank) and in sustaining the economy in face of a variety of shocks. The results are:

- Vietnam is not a candidate for a fixed exchange rate regime against the U.S. dollar based on OCA theory. Current macroeconomic characteristics are in favour of flexible exchange rate.
- The sustainability of fixed exchange rate regime to bring down inflation in Vietnam faces problem of credibility, thereby the fixed exchange rate becomes vulnerable to speculative attacks. If the central bank is not able to resist speculations, the fixed exchange rate regime will collapse. In this case, the country can introduce a more flexible exchange rate regime. Acquiring credibility following the abandonment or collapse of an exchange rate

peg requires the country to introduce and implement an alternative monetary policy operating strategy. The leading candidate is inflation targeting. Inflation targeting entails an institutionalized commitment to price stability as the primary goal of monetary policy. The central bank independence is needed to give the central bank necessary manoeuvring room to achieve the price stability objective.

- The choice of a flexible exchange rate only makes sense if it assumed that the central bank ability to control the money supply in order to stabilize the domestic price level. If not, the central bank must give priority to the price stability target in combination with other policies to reduce the negative effects on the output.
- To sustain the economy under shocks, flexible exchange rate is more feasible.
- It is suggested that the exchange rate flexibility becomes more valuable as countries mature in terms of their access to international capital markets and as they develop sound financial systems. Indeed, many countries moved toward more flexible exchange rate while continuing strengthening their financial system and gradually liberalizing their capital account. The economy can reap many advantages from the flexible exchange rate. Countries' experiences show that voluntary transitions to greater exchange rate flexibility did not cause increase in macroeconomic instability, contrarily, they were generally associated with a strengthening of monetary and financial policy frameworks, such as more independent central bank, the adoption of inflation targeting, better financial sector supervision and further developed securities market than other countries. Furthermore, the combination between flexible exchange rate regime and inflation targeting framework will be a promising and leading monetary strategy in the long run. Other things equal, it will associate with better macroeconomic performance and an enhancement of credibility. Like other emerging countries at the onset of the adoption of inflation targeting, at present, Vietnam does not meet all prerequisites for inflation targeting and faces a number of challenges. I suggest that Vietnam should undergo a transition process to inflation targeting.

Therefore, it is concluded that Vietnam should introduce more flexible exchange rate regime in the long run. At present, it is necessary to set forward an exit strategy for successfully transition to greater exchange rate flexibility, including:

Firstly, in the context of increase in trade openness and government borrowing, real exchange rate appreciation and abundant capital inflows and the exchange rate is not a long-run solution for financial and price stability, I suggest that it is time (2007) to let exchange rate move toward greater flexibility. The SBV should make a voluntary transition to more flexible exchange rate. A voluntary transition will be associated with lower vulnerabilities and less macroeconomic disruption than a crisis-driven transition.

Second, a gradual exit is suitable for Vietnam's circumstance, when it lacks a deep foreign exchange market, and its ability to monitor and manage exchange rate risks is very weak. A gradual exit helps reduce excessive exchange rate volatility and its potentially adverse effects on inflationary expectations while Vietnam still develops fundamental institutions for operating a flexible exchange rate.

Third, capital account liberalization should be preceded by a modicum of exchange rate flexibility that prevents adverse impacts of excessive capital flows. Vietnam should implement liberalizing the capital account in parallel with introducing greater exchange rate flexibility in a gradual fashion in line with economic conditions. Until successful floating, the remaining control can be gradually removed.

Fourth, as choosing a gradual approach to transit to floating exchange rate, Vietnam should an exchange rate band. The exchange rate band should be introduced in response to currently abundant and potentially excess capital inflows. The central parity should be the current average interbank-foreign-exchange-market exchange rate. The bandwidth should be wide, 5-10%. The SBV could use "trial and error" measure to explore ways to introduce a more flexible exchange rate regime.

To support for an orderly transition to greater flexibility, some suggestions and policy implications for the SBV and credit institutions are:

First, I suggest that Vietnam should undergo a transition process to inflation targeting to improve necessary preconditions to adopt successful inflation targeting, especially technical, monetary and fiscal institutional improvements. In addition, I suggest also the institutional

and operational framework for inflation targeting in Vietnam. To transit to successfully inflation targeting, I suggest that Vietnam should:

- Improve institutional conditions to contribute to better inflation performance once the inflation targeting framework has been adopted;
- Improve the capacity of the SBV to forecast inflation;
- Develop economic structures to meet requirements of inflation targeting framework;
- Strengthen the health of financial system and increase the stability of fiscal institutions;
- Develop a deep and liquid financial market; and
- Build credibility in inflation targeting when the SBV decides to transit to inflation targeting.

Second, in the context of greater exchange rate flexibility and more freely capital flows, the economy will face some additional risks. The economic agents should prepare to handle risks associated with greater exchange rate flexibility and more freely capital flows. This depends much on how well they are equipped to manage financial risks. The Vietnamese economic agents can adopt the risk management process according to the Risk Management Standard by the UK. It also needs to increase role of independent authorities in risk supervision.

Third, to develop a liquid foreign exchange market, the SBV should:

- Reduce the central bank's market-making role.
- Allow exchange rate flexibility and creating two-way risk to encourage market participants to hedge themselves, to discover price, and to manage exchange rate risk, thereby promoting transactions in foreign exchange market.
- Increase market information transparency on foreign exchange flows and the balance of payments.
- Unify multiple markets by eliminating underlying problem leading to existence of the black market.
- Develop and improve the effectiveness of the market intermediaries who play an important role in speeding up foreign exchange transaction and in determination of exchange rate.
- Secure reliable and efficient settlement system to help foreign exchange market operate smoothly and to limit risks from the settlement of foreign exchange transactions.

- Adopt some measures relating to legal legislation such as eliminating regulations that stifle market activity; unifying and simplifying foreign exchange legislation; facilitating the development of risk-hedging instruments by lifting controls on forward market activity once financial institutions achieve adequate risk management capacity, increasing personnel training, investing in technological development, and building a legal framework regulating derivatives market activities.

Fourth, formulate an intervention policy:

- Moving to greater exchange rate flexibility still needs intervention in the foreign exchange market. Three main intervention objectives are to correct exchange rate misalignment, calm disorderly market and accumulate foreign exchange reserves. The decision to intervene is not easy and depends on the ability of the SBV to detect and to assess the real cost bearing by the economy.
- Determining optimal amount of foreign exchange intervention often carried out by "trial and error". The SBV should avoid one-sided intervention; instead, it should create two-way risk to encourage market participants to hedge against exchange rate risks. Furthermore, policies should be adjusted to resolve the underlying causes of imbalances in order flows. Last but not least, the SBV should revaluate its international reserve management policy when it moves to a flexible exchange rate regime
- Timing of intervention depends on the SBV's ability to analyse market indicators and market intelligence, on the background of the SBV's experiences, on country specific circumstances, and on the SBV's assessment of a variety of factors, including exchange rate misalignment, nature of shocks, acceleration in exchange rate changes, bid-offer spreads, composition of and magnitude of foreign exchange turnovers, and exchange rate volatility.
- The SBV should implement a discretionary intervention. A rules-based intervention may be appropriate for a short time (as adopting exchange rate band) in the transition to greater exchange rate flexibility.
- To enhance the transparency of monetary policy, the SBV should define intervention objectives and announce these objectives (it does not mean that the SBV must announce on real time and whenever its presence in the market); publish quarterly information on foreign exchange reserves, monetary policy instruments, and monetary and exchange rate

policy conductions; and announce meeting schedules of policy-making bodies and their speeches.

Fifth, Vietnam's structure reform aims at improving efficiency of the state-owned sector, ensuring public debt sustainability, and encouraging private investment.

- With regard to the banking sector reform, the reform strategy for the SBV should aim at enhancing the competitiveness of banking system in the context of opening financial market in line with commitments with WTO members, including: (i) lending is based on commercial objectives and sound appraisals of repayment capacity; (ii) SOCBs are restructured on organization (giving SOCBs more independence in operations and phasing out policy lending), finance (recapitalizing banks to rebuild balance sheets and equitizing banks to increase financial capacity), and banking supervision; (iii) NPLs are resolved and revalued; (iv) risk management of credit institutions is enhanced; and (v) banking services are diversified.
- The SBV's ability to conduct monetary policy should be enhanced, including: transparency in policy making and data, independence of the central bank, the central bank's ability to forecast, the adoption of macroeconometric models in monetary policy implementation, building a monetary policy transmission mechanism to enhance effectiveness of monetary policy through market-based monetary policy instruments; and off-site banking supervision to ensure security for entire system.
- The SBV should further develop and operate effectively money and capital market, including: fostering the process of equitization and diversifying goods to create more goods for capital market, eliminating the restrictions on equity of foreign partners in stock exchange, building a transparent legal system regulating the operation of domestic capital market and the listing of Vietnamese firms in foreign stock exchanges, developing modern technology infrastructure for the operation of capital market; training human resources in stock exchange; and developing foreign exchange market.

Sixth, Vietnam should implement liberalizing the capital account in parallel with introducing greater exchange rate flexibility, but in a gradual fashion in line with economic conditions. The transition towards exchange rate flexibility can be supported by lifting step by step capital controls. Until successful floating, the remaining control can be gradually removed. To

these end, capital account liberalization needs to be accompanied and coordinated with an appropriate sequencing of other reforms.

Author's Certification

I certify that the substance of this thesis has not already been submitted for any degree and is not being currently submitted for any other degrees in other universities.

I certify that any help received in preparing this thesis and all sources used have been acknowledged in this thesis.

I certify that the substance of this thesis has not yet been publicized.

Mai Thu Hien
Halle (Saale), July 2007

Bibliography

1. Abiad, Abdul and Ashoka Mody (2003), "Financial Reform: What Shakes It? What Shapes It?", *IMF Working Paper* No.03/70.
2. Agénor, Pierre-Richard (2001), "Monetary Policy under Flexible Exchange rates: An Introduction to Inflation Targeting", *Central Bank of Chile Working Papers No.124*, November.
3. Agénor, Pierre-Richard (2004), "Orderly Exit from Adjustable Pegs and Exchange Rate Bands", *Policy Reform*, June, Vol. 7(2), p.83-108.
4. Aghion, Philippe, Philippe Bacchetta, Romain Ranciere and Kenneth Rogoff (2006), "Exchange Rate Volatility and Productivity Growth: The Role of Financial Development", *NBER Working Paper* No. 12117, March.
5. AIRMIC, ALARM, IRM (2002), "A Risk Management Standard", Available on the Internet at www.theirm.org
6. Alesina, Alberto (1989), "Politics and Business Cycles in Industrial Democracies", in Sylvester C.W Eijfinger (ed.), *Independent Central Banks and Economic Performance*, The International Library of Critical Writing in Economics, An Elgar Reference Collection, ISBN 1-85898-447-5, p.117-60.
7. Alesina, Alberto and Lawrence H. Summers (1993), "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence", *Journal of Money, Credit and Banking*, Vol.25, No.2 (May 1993), p.151-162.
8. Alexander, William E., Tomas J.T. Balino, and Charles Enoch (1996), "Adopting Indirect Instruments of Monetary Policy", *Finance and Development*, March.
9. Arestis, Philip and Kostas Mouratidis (2003), "Credibility of Monetary policy in four Accession Countries: A Markov Regime-Switching Approach", *Levy Economics Institute Working Paper* No. 371, New York, February.
10. Asian Development Bank (2000), "Key Indicators of Developing Asian and Pacific Countries 2000", www.adb.org
11. Asian Development Bank (2001), "Key Indicators of Developing Asian and Pacific Countries 2001", www.adb.org

12. Asian Development Bank (2002), "Key Indicators of Developing Asian and Pacific Countries 2002", www.adb.org.

13. Baig, Taimur (2001), "Characterizing Exchange Rate Regimes in Post-Crisis East Asia", *IMF Working Paper* WP/01/152, October.

14. Bank of Thailand (1998), Annual Economic Report.

15. Barro, Robert J. and David B. Gordon (1983), "Rules, Discretion and Reputation in a Model of Monetary Policy", in Sylvester C.W Eijfinger (ed.), *Independent Central Banks and Economic Performance*, The International Library of Critical Writing in Economics, An Elgar Reference Collection, ISBN 1-85898-447-5, p.22-42.

16. Bernanke, Ben S. (2005), "Inflation in Latin America: A New Era?" Remarks at the Stanford Institute for Economic Policy Research Economic Summit, Stanford, California, February 11, 2005.

17. Bernanke, Ben S., Thomas Laubach, Frederic S. Mishkin, and Adam S. Posen (1999), "Inflation Targeting: Lessons from the International Experience", Princeton University Press, ISBN 0-691-05955-1.

18. Bubula, Andrea and Inci Otker-Robe (2002), "The Evolution of Exchange Rate Regime since 1990: Evidence from De Facto Policies", *IMF Working Paper* WP/02/155, September.

19. Bubula, Andrea and Inci Otker-Robe (2003), "Are Pegged and Intermediate Exchange Rate Regimes More Crisis Prone?", *IMF Working Paper* WP/03/223.

20. Burnside, Craig, Martin Eichenbaum and Sergio Rebelo (1998), "Prospective Deficits and the Asian Currency Crisis", *NBER Working Paper* No.6758, October.

21. Calvo, Guillermo A. and Carmen Reinhart (2000), "Fear of Floating", *NBER Working Paper* No.7993, November.

22. Calvo, Guillermo A. and Frederic S. Mishkin (2003), "The Mirage of Exchange Rate Regime for Emerging Market Countries", *NBER Working Paper* No.9808, June.

23. Canales-Kriljenko, Jorge Ivan, Turgut Kisinbay, Rodolfo Maino, and Eric Parrado (2006), "Setting the Operational Framework for Producing Inflation Forecasts", *IMF Working Paper* WP/06/122, May.

24. Canales-Kriljenko, Jorge Iván (2003), "Foreign Exchange Intervention in Developing and Transition Economies: Results of Survey," *IMF Working Paper* 03/95, May.

25. Canales-Kriljenko, Jorge Iván (2004), "Foreign Exchange Market Organization in Selected Developing and Transition Economies: Evidence from a Survey," *IMF Working Paper* 04/4, January.

26. Canales-Kriljenko, Jorge Iván, Roberto Guimarães, Shogo Ishii and Cem Karacadag (2003a), "Official Intervention in Foreign Exchange Market: Elements of Best Practices", *IMF Working Paper* WP/03/152, July.

27. Canales-Kriljenko Jorge Iván, Roberto Guimarães, Shogo Ishii and Cem Karacadag (2003b), "Riding the Tiger: How Central Bank in Developing Countries Can Best Intervene in Volatile Foreign Exchange Markets", *Finance and Development*, September.

28. Caramazza, Francesco and Jahangir Aziz (1998), "Fixed or Flexible? Getting the Exchange rate Right in the 1990s", *IMF Economic Issues* 13, April.

29. Carare, Alina, Andrea Schaechter, Mark Stone, and Mark Zelmer (2002), "Establishing Initial Conditions in Support of Inflation Targeting", *IMF Working Paper* WP/02/102, June.

30. Céspedes, Luis F. and Claudio Soto (2005), "Credibility and Inflation Targeting in an Emerging Country: The Case of Chile", *Central Bank of Chile Working Papers* No. 312, April.

31. Chinese University of Hongkong, "Historical Exchange Rate Regime of Vietnam", available on the Internet at www.intl.econ.cuhk.edu.hk.

32. Chinn, Menzie D. (1998), "Before the Fall: Were East Asian Currencies Overvalued?", *NBER Working Paper* No. 6491.

33. Coletti, Don, Jack Selody, and Carolyn Wilkins (2006), "Another Look at the Inflation-Target Horizon", Bank of Canada Review, Summer.

34. Coudert, Virginie and Marc Dubert (2004), "Does Exchange Rate Regime Explain Differences in Economic Results for Asian Countries", Centre D'etudes Prospectives Et D'informations Internationales, *CEPII Working Paper* 2004-05, May.

35. Craig, Ben and Owen Humpage (2001), "Sterilized Intervention, Nonsterilized Intervention, and Monetary Policy", *Working Paper* 01-10, Federal Reserve Bank of Cleveland, July.

36. Cukierman, Alex (1992), "Central Bank Strategy, Credibility, and Independence: Theory and Evidence", The MIT Press, Cambridge, Massachusetts, London, England, ISBN 0-262-03198-1, Second Printing.

37. Cukierman, Alex (1993), "Central Bank Independence, Political Influence and Macroeconomic Performance: A Survey of Recent Development", *Cuadernos de Economía*, 30 (91), December, p. 271-91.

38. Cukierman, Alex (2006), "Central Bank Independence and Monetary Policy Making Institutions – Past Present and Future", *Central Bank of Chile Working Papers* No. 360, April 2006.

39. De Beaufort Wijnholds, J. Onno and Arend Kaptyen (2001), "Reserve Adequacy in Emerging Market Economies", *IMF Working Paper*, WP/01/143, IMF.

40. Debelle, Guy and Standley Fisher (1994), "How Independent Should a Central Bank Be?", in Sylvester C.W Eijfinger (ed.), *Independent Central Banks and Economic Performance*, The International Library of Critical Writing in Economics, An Elgar Reference Collection, ISBN 1-85898-447-5, p.462-88.

41. De Gregorio, José, Andrea Tokman, and Rodrigo Valdés (2005), "Flexible Exchange Rate with Inflation Targeting in Chile: Experience and Issues", *Inter-American Development Bank Working Paper # R-540*, August.

42. Domaç, Ilker and Maria Soledad Martinez Peria (2000), "Banking Crisis and Exchange Rate Regimes: Is There a Link?", ECSPE and DECRG-FI, The World Bank.

43. Dornbusch, Rüdiger (2001), "Fewer Monies, Better Monies", *NBER Working Paper* No. 8324.

44. Dubas, Justin M., Byung-Joo Lee and Nelson C.Mark (2005), "Effective Exchange Rate Classification and Growth", *NBER Working Paper* No.11272, April.

45. Duttagupta, Rupa and Inci Ötker-Robe (2003), "Exit from Pegged Regimes: An Empirical Analysis", *IMF Working Paper* WP/03/147, July.

46. Duttagupta, Rupa, Gilda Fernandez, and Cem Karacadag (2004), "From Fixed to Float: Operational Aspects of Moving Toward Exchange Rate Flexibility", *IMF Working Paper* WP/04/126, July.

47. Duttagupta, Rupa, Gilda Fernandez, and Cem Karacadag (2005), "Moving to a Flexible Exchange Rate: How, When, and How Fast?", *Economic Issues* 38, ISBN 1-58906-476-3, December.

48. Eijfinger, Sylvester C.W (1997), "Independent Central Banks and Economic Performance", *The International Library of Critical Writing in Economics*, An Elgar Reference Collection, ISBN 1-85898-447-5.

49. Eichengreen, Barry J. (1994), "International Monetary Arrangements for the 21st Century", Washington, DC, Brookings Institution.

50. Eichengreen, Barry J. (1998), "Exchange Rate Stability and Financial Stability", Open Economies Review, Vol. 9, pp. 569-607.

51. Eichengreen, Barry J. (1999), "Kicking the Habit: Moving from Pegged Rates to Greater Exchange Rate Flexibility", *The Economic Journal*, Vol.109, No.454, Conference Paper, March, pp. C1-C14.

52. Eichengreen, Barry J. (2002), "International Monetary Option for the Twenty-First Century", *ANNALS, AAPSS*, 579, January.

53. Eichengreen, Barry J. (2006), "China's Exchange Rate Regime: The Long and Short of It", Revision of Paper for Columbia University's Conference on Chinese Money and Finance held in New York on February 2-3, 2006, University of California Berkeley, March, 2006.

54. Eichengreen, Barry J. and Ricardo Hausmann (1999), "Exchange Rates and Financial Fragility", *NBER Working Paper* No.7418, November.

55. Edwards, Sebastian (2001), "Exchange Rate Regimes, Capital Flows and Crisis Prevention", *NBER Working Paper* No.8529.

56. Edwards, Sebastian (2006), "The Relationship between Exchange Rates and Inflation Targeting Revisited", *NBER Working Paper* No.12163.

57. Edwards, Sebastian and Igal Magendzo (2003a), "A Currency of One's Own? An Empirical Investigation on Dollarization and Independent Currency Unions", *NBER Working Paper* No.9514.

58. Edwards, Sebastian and Igal Magendzo (2003b), "Strict Dollarization and Economic Performance: An Empirical Investigation", *NBER Working Paper* No.9820.

59. Fatum, Rasmus, and Michael M. Hutchison (2003), "Effectiveness of Official Daily Foreign Exchange Market Intervention Operations in Japan", *NBER Working Paper* No.9468, April.

60. Fischer, Stanley (2001), "Exchange Rate Regimes: Is the Bipolar View Correct?", Distinguished Lecture on Economics in Government, *Journal of Economics Perspective*, Vol.15, No.2 (Spring), pp.3-24, January.

61. Fleming, J. Marcus (1971), "On Exchange Rate Unification", *Economic Journal*, Vol.81, No.323 (Sept., 1971), pp. 467-88.

62. Frankel, Jeffrey A. (1999), "No Single Currency Regimes Right for All Countries or at All Time", *NBER Working Paper* 7338, September.

63. Frankel, Jeffrey A. (2003), "Experience of and Lessons from Exchange Rate Regimes in Emerging Economies", *NBER Working Paper* N.10032, October.

64. Frankel, Jeffrey A. (2004), "On the Renminbi: The Choice Between Adjustment under a Fixed Exchange Rate and Adjustment under a Flexible Rate", Paper for a High-Level Seminar on Foreign Exchange System held in Dalian, China, May 26-27.

65. Fukuda, Shin-ichi (2002), "Post-crisis Exchange Rate Regimes in East Asia", November.

66. General Statistical Office (1994), "Statistical Yearbook 1986-1992", Statistical Publishing House, Hanoi.

67. General Statistical Office (1995), "Statistical Yearbook 1995", Statistical Publishing House, Hanoi.

68. General Statistical Office (2000), "Statistical Yearbook 2000", Statistical Publishing House, Hanoi.

69. General Statistical Office (2007), Available on the Internet at www.gso.gov.vn.

70. Ghosh, Atish, Anne-Marie Gulde, Jonathan D. Ostry, and Holger Wolf (1996), "Does Exchange Rate Regime Matter for Inflation and Growth?", IMF Economic Issue 2, ISBN: 1-55775-614-7, September.

71. Ghosh, Atish R., Anne-Marie Gulde, and Holger Wolf (2002), "Exchange Rate Regimes: Classification and Consequences". Available on the Internet at: http://cep.lse.ac.uk/events/conferences/dollarization/Wolf.pdf.

72. Goldstein, Morris (1998), "The Asian Financial Crisis: Causes, Cures, and Systemic Implications", *Policy Analyses in International Economics* 55, Institute for International Economics.

73. Grauwe, Paul De, and Gunther Schnabl (2004), "Exchange Rate Regimes and Macroeconomic Stability in Central and Eastern Europe", *CESifo Working Paper Series* No.1182, Centre for Economic Studies and Ifo Institute for Economic Research,

74. Grilli, Vittorio, Donato Masciandaro, and Guido Tabellini (1991), "Political and Monetary Institutions and Public Financial Policies in the Industrial Countries", in Sylvester C.W Eijfinger (ed.), *Independent Central Banks and Economic Performance*, The International Library of Critical Writing in Economics, An Elgar Reference Collection, ISBN 1-85898-447-5, p.161-212.

75. Haas, Markus, Stefan Mittnik, and Bruce Mizrach (2005), "Assessing Central Bank Credibility during the ERM Crisis: Comparing Option and Spot Market-Based Forecasts", *CFS Working Paper No. 2005/09*, Center for Financial Studies, Frankfurt am Main, February.

76. Hakura, Dalia S. (2005), "Are Emerging Countries Learning to Float", *IMF Working Paper*, WP/05/98, May.

77. Hausman, Ricardo, Michael Gavin, Carmen Pages-Serra and Ernesto Stein (1999), "Financial Turmoil and the Choice of Exchange Rate Regime", *Inter-America Development Bank Working Paper No.400*, Washington, D.C.

78. Hernández, Leonardo and Peter Montiel (2003), "Post-crisis Exchange Rate Policy in Five Asian Countries: Filling in the 'Hollow Middle?'"

79. Horvath, Julius (2003), "Optimum Currency Area Theory - a Selective Review", Bank of Finland, Institute for Economies in Transition, *BOFIT Discussion Papers* No.15, November.

80. Huy Minh (2001), "Swap, phuong thuoc ha nhiet con sot tien dong " (Swap, a Remedy for the Vietnamese Dong "fever"), *Banking Review*, Hanoi, No.9/2001, p.16-17.

81. Husain, Aasim, Ashoka Mody, and Kenneth S. Rogoff (2004), "Exchange Rate Regime Durability and Performance in Developing versus Advanced Economies", *NBER Working Paper* No.10673, August.

82. IMF (1997), "World Economic Outlook".

83. IMF (1998), "Vietnam: Selected Issues and Statistical Annex", *IMF Staff Country Report* No.98/30, April, www.imf.org.

84. IMF (1999a), "Vietnam: Selected Issues", *IMF Staff Country Report* No.99/55, July, www.imf.org.

85. IMF (1999b), "Vietnam: Statistical Annex", *IMF Staff Country Report* No.99/56, July, www.imf.org.

86. IMF (2000a), "Exchange Rate Regimes in an Increasingly Integrated World Economy", *IMF Issues Brief by IMF Staff* No.00/06, June, www.imf.org.

87. IMF (2000b), "Vietnam: Statistical Appendix and Background Notes", *IMF Staff Country Report* No.00/116, August, www.imf.org.

88. IMF (2001), "World Economic Outlook: The Information Technology Revolution", October.

89. IMF (2002a), "Vietnam: 2005 Article IV Consultation and First Review under the Poverty Reduction and Growth Facility and Request for Waiver and Modification of Performance Criteria - Staff Report; Staff Statement; Public Information Notice; News Brief; and Statement by the Executive Director for Vietnam", *IMF Country Report* No.02/4, January, www.imf.org.

90. IMF (2002b), "Vietnam: Selected Issues and Statistical Appendix", *IMF Country Report* No.02/5, January, www.imf.org.

91. IMF (2003a), "Vietnam: 2003 Article IV Consultation - Staff Report; Staff Statement; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for Vietnam", *IMF Country Report* No.03/380, December.

92. IMF (2003b), "Vietnam: Selected Issues", *IMF Country Report* No.03/381, December, www.imf.org.

93. IMF (2003c), "Vietnam: Statistical Appendix", *IMF Country Report* No.03/382, December, www.imf.org.

94. IMF (2003d), "Assessment of the IMF Code of Good Practices on Transparency in Monetary and Financial Policies-Review of Experience", December.

95. IMF (2003e), "The IMF and Recent Capital Account Crises: Indonesia, Korea, Brazil", *Evaluation Report*.

96. IMF (2004a), "Guidelines for Foreign Exchange Reserve Management", ISBN 1-58906-260-4, IMF.

97. IMF (2004b), "World Economic Outlook: The Global Demographic Transition", September.

98. IMF (2004c), "From Fixed to Float: Operational Aspects of Moving Toward Exchange Rate Flexibility", *IMF Staff Paper*, November.

99. IMF (2005a), IMF Executive Board Discusses "Fixed to Float: Operational Aspects of Moving towards Exchange Rate Flexibility", *IMF Public Information Notice* No.04/141.

100. IMF (2005b), "Vietnam: 2004 Article IV Consultation - Staff Report; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for Vietnam", *IMF Country Report* No.05/148, May.

101. IMF (2005c), "World Economic Outlook: Building Institutions", September.

102. IMF (2005d), "IMF Annual Report on Exchange Rate Arrangements and Exchange Rate Restrictions 2005".

103. IMF (2006a), "Vietnam: 2005 Article IV Consultation - Staff Report; Staff Statement; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for Vietnam", *IMF Country Report* No.06/22, January.

104. IMF (2006b), "Inflation Targeting and the IMF", March.

105. IMF (2006c), "Vietnam: 2006 Article IV Consultation - Staff Report; Staff Statement; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for Vietnam", *IMF Country Report* No.06/421, November.

106. IMF (2006d), "Vietnam: Selected Issues", *IMF Country Report* No.06/422, November.

107. IMF (2006e), "Vietnam: Statistical Appendix", *IMF Country Report* No.06/423, November.

108. International Financial Statistics (2007), IMF, Database available on the Internet at www.imfstatistics.org.

109. Ishii, Shogo, and Karl Friederich Habermeier (2002), "Capital Account Liberalization and Financial Sector Stability", *IMF Occasional Paper* No.211.

110. Jonas, Jiri and Frederic S. Mishkin (2003), "Inflation Targeting in Transition Countries: Experience and Prospects", *NBER Working Paper* No.9667, April.

111. Khan, Mohsin S. (2003), „Current Issues in the Design and Conduct of Monetary Policy", *IMF Working Paper* WP/03/56, March.

112. Kim, Soyoung, Sunghyun H. Kim and Yunjong Wang (2005), "Fear of Floating in East Asia", *Department of Economics Working Paper 07/2005*, Tufts University, Korea.

113. Klein, Michael W. and Jay C. Shambaugh (2006), "The Nature of Exchange Rate Regimes", *NBER Working Paper* No. 12729, December.

114. Klein, Michael W. and Nancy P. Marion (1994), "Explaining the Duration of Exchange-Rate Pegs", *NBER Working Paper* No. 4651, February.

115. Kuttner, Kenneth N. and Adam S. Posen (2001), "Beyond Bipolar: A Three-Dimensional Assessment of Monetary Frameworks", Institute for International Economics, *International Journal of Finance and Economics*, 2001, Vol.6, Issue 4, pp. 369-87, Available on the Internet at: http://iie.com/publications/wp/2001/01-7.pdf.

116. Kydland, Finn E., and Edward C. Prescott (1977), "Rules Rather than Discretion: The Inconsistency of Optimal Plans", in Sylvester C.W Eijfinger (ed.), *Independent Central Banks and Economic Performance*, The International Library of Critical Writing in Economics, An Elgar Reference Collection, ISBN 1-85898-447-5, p.3-21.

117. Latter, Tony (1996), "The Choice of Exchange Rate Regime", Handbooks in Central Banking No.20, Bank of England, ISBN 1 85730 024 6, May.

118. Laurens, Bernard J. and Rodolfo Maino (2007), "China: Strengthening Monetary Policy Implementation", *IMF Working Paper* WP/07/14, January.

119. Le, Thi Huyen Dieu (2005), "Rui ro ti gia cua cac Ngan hang thuong mai Viet Nam: Mot so giai phap va kinh nghiem phong ngua" (Vietnamese Commercial Banks' Exchange Rate Risks: Solutions and Precaution Experiences), *Banking Review*, Hanoi, Special issue, p.65-70.

120. Le, Hung (2006), "Nghiep vu thi truong mo: Thuc trang va giai phap hoan thien" (Open Market Operations: Reality and Solutions to Accomplish), *Financial Review*, Hanoi, No.06/2006, p.43-46.

121. Le, Van Tu and Quoc Khanh Nguyen (1999), "Mot so van de ve chinh sach ti gia hoi doai cho muc tieu phat trien kinh te Vietnam" (The exchange rate policy with the target of Vietnamese economic development), Statistical Press, Hanoi, p.32-228.

122. Le, Xuan Nghia, (2006), "Independence, Transparency and Communication Responsibility – the Crucial Factors of a Successful Central Bank", *Speech at the Conference on the Reforming the State bank of Vietnam*, Hanoi, March 2006,

123. Ledesma-Rodrýguez, Francisco, Manuel Navarro-Ib¸n˜ez, Jorge PÐrez-Rodrýguez, and Simãn Sosvilla-Rivero (2005), "Assessing the credibility of a target zone: Evidence from the EMS", *Applied Economics*, 2005, 37, p.2265-87.

124. Leiderman, Leonardo, Rodolfo Maino, and Eric Parrado (2006), "Inflation Targeting in Dollarized Economies", IMF Working Paper WP/06/157.

125. Legal Documents of Vietnam (various issues), Available on the Internet at www.luatvietnam.com.vn.

126. Levy-Yeyati, Eduardo and Federico Sturzenegger (2001), "Exchange Rate Regimes and Economic Performance", *IMF Staff Papers*, Vol.47, Special Issue.

127. Levy-Yeyati, Eduardo and Federico Sturzenegger (2002a), "Classifying Exchange Rate Regimes: Deeds vs. Words", Mimeo, Universidad Torcuato Di Tella, Available on the Internet at www.utdt.edu/~fsturzen, January.

128. Levy-Yeyati, Eduardo and Federico Sturzenegger (2002b), "To Float or to Fix – Evidence on Impact of Exchange Rate Regime on Growth", Forthcoming American Economic Review, March.

129. Levy-Yeyati, Eduardo and Federico Sturzenegger (2003), "A de facto Classification of Exchange Rate Regimes: A Methodological Note", posted at: http://www.aeaweb.org/aer/contents of American Economic Review, Vol.93, No.4, September, Available via the Internet at: www.utdt.edu/~ely/AppendixAER.pdf.

130. Levy-Yeyati, Eduardo and Federico Sturzenegger (2005), "Classifying Exchange Rate Regimes: Deeds vs. Words", European Economic Review, Vol.49, pp.1603-1635.

131. Lybek, Tonny and JoAnne Morris (2004), "A Central Bank Government - A Survey of Boards and Management", *IMF Working Paper* WP/04/226, December.

132. Masson, Paul R. (2000), "Exchange Rate Regime Transitions", Brookings Institution, Georgetown University, and IMF.

133. Masson, Paul R., Miguel A. Savastano, and Sunil Sharm (1997), "The Scope for Inflation Targeting in Developing Countries", *IMF Working Paper* WP/97/130, October.

134. McKibbin, Warwick J., and Hong-Giang Le (2002), "Which Exchange Rate Regime for Asia?", Paper prepared for AJRS, SSER Conference on "Future Financial Arrangements in East Asia" held in Beijing on March 24-25.

135. McKinnon, Ronald I. (1963), "Optimum Currency Areas", *American Economic Review*, Vol 53, No.4, (Sept., 1963), pp. 717-25.

136. Mishkin, Frederic S. (1997), "The Causes and Propagation of Financial Instability: Lessons for Policymakers", in *Maintaining Financial Stability in a Global Economy*, Federal Reserve Bank of Kansas City.

137. Mishkin, Frederic S. (1999), "International experiences with different monetary policy regimes", *Journal of Monetary Economics* 43 (1999) 579-605.

138. Mishkin, Frederic S. (2000), "From Monetary Targeting to Inflation Targeting: Lessons from Industrialized Countries", Paper prepared for the Bank of Mexico Conference, "Stabilization and Monetary Policy: The International Experience", Mexico City, November 14-15, 2000.

139. Mishkin, Frederic S. (2004), "Can Inflation Targeting Work in Emerging-Market Countries?", Paper for Presentation in a Conference in Honor of Guillermo A. Calvo held on April 15 and 16, 2004 at the International Monetary Fund in Washington, DC.

140. Mishkin, Frederic S., and Miguel A. Savastano (2000), "Monetary Policy Strategies for Latin America", *NBER Working Paper* 7617, March.

141. Morandé, Felipe G. and Matías Tapia (2002), "Exchange Rate Policy in Chile: From the Band to Floating and Beyond", *Central Bank of Chile Working Paper* No.152, April.

142. Mundell, R. A. (1961), "A Theory of Optimum Currency Areas", *American Economic Review*, Vol. 51, No. 4, September, pp.657-65.

143. Mussa, Micheal, Paul Masson, Alexander Swoboda, Esteban Jadresic, Paolo Mauro, and Andy Berg (2000), "Exchange Rate Regimes in an Increasingly Integrated World", *IMF Occasional Paper* 193.

144. Nguyen, Cong Nghiep, Le Hai Mo, and Vu Dinh Anh (1998), "Tiep tuc doi moi chinh sach tai chinh phuc vu muc tieu tang truong" (Continuing renovating the fiscal policy with the target of economic development), Financial Press, Hanoi, p.10-18, 87-105, 138-220.

145. Nguyen, Dac Hung (2003), "Nhin lai cong tac quan li ngoai hoi va dien bien thi truong ngoai te nam 2002" (Foreign exchange management and foreign exchange market developments in 2002), Banking Review, Hanoi, No.1+2/2003, p.48.

146. Nguyen, Dac Hung (2004), "Chinh sach tien te thuc day tang truong" (Monetary policy at promoting economic growth), Vietnam and the World Economy 2003-2004, a special publication from Vietnam Economic Times, p.18-24.

147. Nguyen, Dac Hung (2007), "Dieu hanh chinh sach tien te linh hoat" (Flexible implementation of monetary policy), Vietnam and the World Economy 2006-2007, a special publication from Vietnam Economic Times, p.38-41.

148. Nguyen, Ngoc Tuan (2005), "Doi mat va lam quen voi su bien dong cua gia ca tren thi truong the gioi" (Facing and accustoming oneself to price fluctuations in international market), Financial Review, Hanoi, No. 01/2005, p.22-23.

149. Nguyen, Quang Thep (2006), "Central Bank Governance and Current Issue Facing the State Bank of Vietnam", Paper for *Conference on Reforming the State Bank of Vietnam* held on March 22-23, 2006 in Hanoi, The State Bank of Vietnam.

150. Nguyen, Thanh Ha (2003), "Mot so van de ve can doi co cau tien te cua cac Ngan hang thuong mai Viet nam" (Some issues on balancing monetary structure of Vietnam commercial banks), Banking Review, Hanoi, No. 4/2003, p. 34-37.

151. Nguyen, Van Binh (2007), "Mot so thach thuc doi voi he thong thanh tra giam sat ngan hang trong tinh hinh moi" (Challenges to the system of banking supervision and inspection in the new context), *Banking Review*, Hanoi, No.1/2007, p.20-5, January.

152. Nguyen, Van Tien (2002), "Thi truong ngoai hoi Viet Nam trong tien trinh hoi nhap quoc te" (The Vietnamese foreign exchange market in the process of international integration), Statistical Press, Hanoi, p.141-272.

153. Nitithanprapas, Isriya, and Thomas D. Willett (2002), "Classifying Exchange Rate Regimes", Available at: http://econ.claremontmckenna.edu/papers/2002-22.pdf.

154. Noland, Marcus (2005), "South Korea's Experience with International Capital Flows", *Institute for International Economics Working Paper* 05-4, Washington DC.

155. Obstfeld, Maurice and Kenneth S. Rogoff (1995), "The Mirage of Fixed Exchange Rates", *NBER Working Paper* No.5191, July.

156. Obstfeld, Maurice and Kenneth S. Rogoff (1996), "Foundations of International Macroeconomics", The MIT Press, ISBN 0262150476, Cambridge, Massachusetts,

157. Obstfeld, Maurice, Jay C. Shambaugh and Alan M. Taylor (2004), "The Trilemma in History: Tradeoffs among Exchange Rates, Monetary policy, and Capital Mobility", *NBER Working Paper* No.10396, March.

158. Ogawa, Eiji, and Tokatoshi Ito (2000), "On the Desirability of a Regional Currency Basket", *NBER Working Paper* No.8002, November.

159. Parker, George (1995), "Dimensions of Risk Management: Definition and Implications for Financial Services", in William H. Beaver and George Parker (ed.), *Risk Management: Problems and Solutions*, McGraw-Hill, ISBN 0-07-048588-7, 1995.

160. Perrier, Patrick and Robert Amano (2000), "Credibility and Monetary Policy", *Bank of Canada*, Spring, p.11-17.

161. Pham, Bao Khanh (2006), "Han muc gia tri chiu rui ro trong quan li ti gia hoi doai" (Value at Risk in Exchange Rate Risk Management), *Banking Review*, Hanoi, No.03/2006, p.22-24.

162. Pham, Quang Trung and Thi Mai Huong Nguyen (2005), "Kiem soat no kho doi tu goc do ngan hang" (Bad debts supervision of SOCBs), *Banking Review*, Hanoi, No.4/2005, p.29-33

163. Pham, Thuy Ngoc (2006), "Mot vai y kien ve xu ly no xau ngan hang" (Dealing with bank's bad loans), *Financial Review*, Hanoi, No.502, August 2006, p.33-4.

164. Paulin, Graydon (2006), "Credibility with Flexibility: The Evolution of Inflation-Targeting Regimes, 1990-2006", Bank of Canada Review, Summer 2006,

165. Rajan, Ramkishen S. (2002), "Exchange Rate Policy Options for Post-crisis Southeast Asia: Is There a Case for Currency Baskets", Blackwell Publishers Ltd.

166. Rajan Ramkishen S., and Tony Cavoli (2005), "Have Exchange Rate Regimes in Asia Become More Flexible Post Crisis? Revisiting the Evidence", The University of Adelaide, Australia, School of Economics, WP 2005-2006 ISSN 14448866, January.

167. Rebelo, Sergio and Carlos A. Vegh (2006), "When Is It Optimal to Abandon a Fixed Exchange Rate*?", NBER Working Paper* No. 12793, December.

168. Reinhart, M. Carmen, and Kenneth S. Rogoff (2004), "The Modern History of Exchange rate Arrangement: A Reinterpretation", *The Quarterly Journal of Economics*, Vol. CXIX, Issue 1, February.

169. Rogoff, Kenneth S. (1985), "The Optimal Degree of Commitment to an Intermediate Monetary Target", *The Quarterly Journal of Economics*, Vol. 1000, No. 4 (Nov., 1985), 1169-1189.

170. Rogoff, Kenneth S. (1998), "The Risk of Unilateral Exchange Rate Pegs", in Bank of Korea (ed.), The Implications of Globalization of World Financial Market, Conference Proceedings, Seoul, p. 153-70.

171. Rogoff, Kenneth S., Aasim M.Husain, Ashoka Mody, Robin Brooks, and Nienke Oomes (2004), "Evolution and Performance of Exchange Rate Regimes", *IMF Occasional Paper*.

172. Rødseth, Asbjørn (2000), "Open Economy Economics", ISBN 0521783046, Cambridge University Press.

173. Sarr, Abdourahmane, and Tonny Lybek (2002), "Measuring Liquidity in Financial Markets", *IMF Working Paper* WP/02/232.

174. Schaechter, Andrea, Mark R. Stone, and Mark Zelmer (2000), "Adopting Inflation Targeting: Practical Issues for Emerging Countries", *IMF Occasional Paper* 202.

175. Schiemann, Jürgen (1993), "Central Bank Autonomy, Reputation, and Economic Performance", at http://www.ecsanet.org/conferences/ecsaworld2/Schiemann.htm.

176. Schmidt-Hebbel, Klaus and Alejandro Werner (2002), "Inflation Targeting in Brazil, Chile, and Mexico: Performance, Credibility, and the Exchange Rate", Central Bank of Chile Working Papers N° 171, July.

177. Schuler, Kurt (2005), "Classifying Exchange Rates", Available on the Internet at: http://users.erols.com/kurrency/classifying.pdf.

178. State Bank of Vietnam (1993), "Annual Report 1993"

179. State Bank of Vietnam (1994), "Annual Report 1994".

180. State Bank of Vietnam (1995), “Annual Report 1995”.

181. State Bank of Vietnam (1996), “Annual Report 1996”.

182. State Bank of Vietnam (1997), “Annual Report 1997”.

183. State Bank of Vietnam (1998), “Annual Report 1998”.

184. State Bank of Vietnam (1999), “Annual Report 1999”.

185. State Bank of Vietnam (2000), “Annual Report 2000”.

186. State Bank of Vietnam (2001), “Annual Report 2001”.

187. State Bank of Vietnam (2002), “Annual Report 2002”.

188. State Bank of Vietnam (2003), “Annual Report 2003”.

189. State Bank of Vietnam (2004), “Annual Report 2004”.

190. State Bank of Vietnam (2005), “Annual Report 2005”.

191. State Bank of Vietnam (2006), “Dien bien cung cau ngoai te tiep tuc co dau hieu kha quan” (Foreign exchange rate supply and demand has continuously satisfactory signals), Daily News available on the Internet at www.sbv.gov.vn.

192. Stone, Mark R., and Ashok J. Bhundia (2004), “A New Taxonomy of Monetary Regimes”, *IMF Working Paper* No.04/191, October.

193. Summers, Lawrence H. (2000), “International Financial Crises: Causes, Prevention, and Cures,” *American Economic Review*, Papers and Proceedings, Vol. 90, (May), pp. 1–16.

194. Svensson, Lars E.O. (2002), “Inflation Targeting: Should It Be Modeled as an Instrument Rule or a Targeting Rule?”, *NBER Working Paper* No. 8925, May.

195. Svensson, Lars E.O. (1999), “Inflation Targeting as a Monetary Policy Rule”, *Journal of Monetary Economics*, 43 (1999), 607-645.

196. Svensson, Lars E.O. (1998), “Open-Economy Inflation Targeting”, *NBER Working Paper* No.6545, May.

197. Svensson, Lars E.O. (1997), “Inflation Targeting: Some Extensions”, *NBER Working Paper* No.5962, March.

198. Svensson, Lars E.O. (1996), “Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets”, *NBER Working Paper* No.5797, October.

199. Svensson, Lars E.O. (1990), "The Simplest Test of Target Zone Credibility", *NBER Working Paper* No.3394, June.

200. UNDP, "Exchange rates data in Asia", Socio-economic statistical bulletin, http://www.undp.org.vn/.

201. Vietnam Economic Times (2001), "Vietnam's economy though statistical indicators", Vietnam and the World Economy (2000-2001), The Special Publication of Vietnam Economic Times.

202. Vietnam Economic Times (2002), "Vietnam's economy though statistical indicators", Vietnam and the World Economy (2001-2002), The Special Publication of Vietnam Economic Times.

203. Vietnam Economic Times (2003), "Vietnam's economy though statistical indicators", Vietnam and the World Economy (2001-2003), The Special Publication of Vietnam Economic Times.

204. Vietnam Economic Times (2004), "Vietnam's economy though statistical indicators", Vietnam and the World Economy (2003-2004), The Special Publication of Vietnam Economic Times.

205. Vietnam Economic Times (2005), "Vietnam's economy though statistical indicators", Vietnam and the World Economy (2004-2005), The Special Publication of Vietnam Economic Times.

206. Vietnam Economic Times (2006), "Vietnam's economy though statistical indicators", Vietnam and the World Economy (2005-2006), The Special Publication of Vietnam Economic Times.

207. Vietnam Law Database (2007), Available on the Internet at www.luatvietnam.com.vn

208. Vo, Tri Thanh (2000), "Exchange rate arrangement in Vietnam: Information content and policy options", East Asian Development Network, Hanoi, December 2000.

209. Volz, Ulrich (2005), "Pegs, Basket, and the Importance of Policy Credibility: Lessons of the 1992-93 ERM Crisis", Hamburg Institute of International Economics, *HWWA Discussion Paper 323*, June.

210. Williamson, John (1999), "Whether and When to Liberalize Capital Account and Financial Services", *WTO Staff Working Paper* ERAD-99-03, September.

211. Williamson, John (2001), “From Bretton Woods to Bipolarity: The Evolution of Thought in Exchange Rate Regimes, 1971–2001,” Paper Prepared for Presentation to the *30th Anniversary Conference of the Monetary Authority of Singapore*, July.

212. Williamson, John (2005), “The Choice of Exchange Rate Regime: The Relevance of International Experience to China’s Decision”, China and World Economy/17-33, Vol.13, No.3, 2005.

213. Wong, Chorng-Huey (2002), “Adjustment and the Internal-External Balance” in *Macroeconomic Management: Programs and Policies* edited by Mohsin S. Khan, Saleh M. Nsouli, and Chorng-Heuy Wong, IMF, April 19.

Appendix II.1

Summary of exchange rate arrangements and foreign exchange controls

Before 1989: Fixed and multiple-exchange-rate system

- Commercial, non-commercial, and internal exchange rate of VND against TR (Transferable Ruble); as well as exchange rates of VND against convertible and nonconvertible currencies including exchange rate in external payment, in daily trading of Vietcombank, and in the black market.
- Exchange rates were fixed discretionary by the Government or pursuant to Agreements signed by Vietnam and other countries.
- The Government monopolized foreign trade and controlled strictly foreign exchange.

March 1989: Single and floating exchange rate

- Multiple exchange rates were unified into a single official exchange rate.
- Floating exchange rate and pegging to the dollar.
- Exchange rate policy aimed at devaluating the value of the dong.
- Trading band for spot transaction was +/-0.5% (August 1991).
- The Government continued strict controlling over foreign exchange by issuing a wide range of regulations on foreign exchange management (Decree 161/HDBT on 18/10/90 on foreign exchange rate management, Order 330 in 1990, Decision 337 in 1991, Decision 396 in 1994). All foreign exchange earnings had to be deposited with or sold to banks.

1992-1998: Fixed exchange rate

- Fixing exchange rate and pegging to the dollar.
- One official exchange rate was announced by the SBV based on the exchange rate at two foreign exchange transaction centres (1991-94), and then that in the inter-bank foreign exchange market (since September 1994).
- Exchange rate policy aimed at stabilizing the exchange rate to stabilize macro-economy.
- Exchange rate depreciated by 16.3% from VND 11,175 (October 1997) to VND 11,800 (February 1998), and to VND 12,998 per USD (August 1998).

- Trading band for spot transaction was widened from +/-1% (November 1996) to +/-5% (February 1997), to +/-10% (October 1997); and then narrowed to 7% (August 1998).
- The SBV launched forward and swap transaction in inter-bank market (January 1998). Bands between spot and forward transaction were widened 4 times in 1998.
- Decree 161 on foreign exchange management was replaced by Decree 63 (August 1998) to improve foreign exchange management toward liberalization and integration.
- Total negative and positive foreign currency position of commercial banks did not exceed 30% of total equity at closing hour, 15% as for USD alone (Decree 18 in January 1998).

Since 1999: Managed floating exchange rate

- Official exchange rate was replaced by inter-bank exchange rate that is managed floating according to market factors, but in fact unofficially pegged to the dollar. SBV intervenes through foreign exchange purchase and selling in inter-bank market and trading band.
- Trading band for spot transaction was tightened to +/-0.1% (February 1999) and broadened to +/-0.25% (July 2002) and +/-0.5% (January 2007). Bands between spot and forward transaction were widened (August 2000, September 2001, and July 2002).
- Foreign exchange surrender requirement was gradually reduced from 80% (Sep-1998) to 50% (August 1999), 40% (May 2001), 30% (June 2002), and to 0% (April 2003).
- Decree 170 on promoting inward remittances (officially) was promulgated (August 1999).
- Decree 1216 on regulation of bureau de exchange (October 2003), under which bureau de exchange is allowed to buy foreign exchange of individuals but not to sell except the person having licence.
- Regulation on banks' USD position of 15% was rejected (October 2002).
- The nominal exchange rate depreciation had been limited to 1% by official announcement by the Governor in August 2004 and January 2005. Since 2005, the IMF has classified the exchange rate regime as a de facto conventional fixed peg.
- Current account transactions are liberalized by accepting the obligations of Article VIII, Section 2, 3 and 4 of the IMF's Articles of Agreement with effect from November 8, 2005.
- The Ordinance on foreign exchange management was enacted in December 2005 with effect from June 1, 2006, which indicates the liberalization of current account transactions and relax of control over capital account transactions.

Appendix II.2

Vietnam: Selected economic indicators, 1986-2006

Year	Real GDP growth (%)	CPI (%) Dec-Dec	VND/USD		Export growth (%)	Import growth (%)	Current account balance (in % of GDP) 3/	Capital account balance (in % of GDP) 3/	FDI (Bn US$)	ODA (Bn US$)	Inward remitta-nces (Bn US$) 2/	Govern-ment budget balance (in % of GDP) 3/	External debt (in % of GDP) 3/	Gross official reserves 3,4/
			End of period	Change Dec-Dec (%) 1/										
1986	2.84	774	80	-433.3	-	-	-4.4	-	-	-	-	-6.2	33.7	0.3
1987	3.63	373	368	-360.0	8.4	13.92	-3.3	-	-	-	-	-4.7	34.4	0.3
1988	6.01	223	3,000	-715.2	21.6	12.3	-3.3	-	0.32	-	-	-7.1	68.2	0.3
1989	4.68	34.7	4,300	-43.33	87.4	-6.9	-6.9	3.6	0.53	-	-	-9.9	246.4	0.5
1990	5.09	67.1	6,500	-51.16	23.5	7.3	-3.2	1.5	0.74	-	-	-7.2	290.7	0.5
1991	5.81	67.5	12,742	-96.03	-13.9	-15.1	-1.6	-0.7	1.29	-	0.04	-2.3	246.1	0.6
1992	8.70	17.5	10,719	15.88	23.7	8.7	0.1	0	2.21	-	0.06	-3.2	183	9.6
1993	8.08	5.2	10,841	-1.14	15.7	54.5	-10.6	3.4	3.35	1.81	0.07	-4.6	152.3	5.1
1994	8.83	14.4	11,003	-1.49	35.8	48.5	-11.5	9.1	4.53	1.94	0.25	-2.4	122.6	8.7
1995	9.54	12.7	11,021	-0.16	34.4	35.0	-12.8	11.2	7.70	2.26	0.29	-4.1	86.1	5.2
1996	9.34	4.5	11,040	-0.17	33.2	36.6	-9.9	8.4	9.74	2.43	0.47	-3.0	78.1	6.4
1997	8.15	3.6	11,175	-1.22	26.6	4.0	-6.2	6.2	6.06	2.40	0.40	-3.9	74.5	7.2
1998	5.76	9.2	12,986	-16.21	1.9	-0.8	-3.9	0	4.88	2.20	0.95	-3.4	75.3	6.8
1999	4.77	0.1	14,008	-7.87	23.3	2.1	4.5	-1.2	2.26	2.21	1.20	-4.6	71.4	8.1
2000	6.79	-0.6	14,498	-3.50	25.5	33.2	2.1	-2.5	2.70	2.40	1.76	-5.0	38.6	8.9
2001	6.89	0.8	15,056	-3.84	3.8	3.4	2.2	-1.0	3.23	2.40	1.82	-5.0	37.9	8.3
2002	7.08	4.0	15,361	-2.03	11.2	21.8	-1.2	5.9	2.96	2.50	2.10	-4.7	34.9	7.2
2003	7.34	3.0	15,601	-1.56	20.8	27.8	-4.9	9.0	3.15	2.84	2.70	-6.4	33.8	8.7
2004	7.79	9.5	15,732	-0.84	31.5	26.5	-2.0	6.0	4.22	3.44	3.20	-2.8	33.9	8.5
2005	8.43	8.4	15,867	-0.86	22.4	15.7	0.5	6.2	5.81	3.74	3.80	-5.9	32.5	9.8
2006	8.17	6.6	16,082	-1.35	22.1	20.1	0.3	4.5	10.2	4.45	4.70	-6.3	32.6	13.0

Note: 1/"-" depreciation

2/ Inward remittances of foreign currencies by overseas Vietnamese to their relatives in Vietnam

3/ Data for 2006 is projected

4/ Including Gold (in weeks of next year's imports). Data for 2006 is estimated.

Source: IMF (1999-2006), ADB (2000-2002), GSO (1994, 1995, 2000, 2007), SBV (1993-2005), Vietnam Economic Times (2001-2007), and author's calculation.

Appendix II.3

Conditions to be member of the inter-bank foreign exchange market and to be allowed to conduct foreign exchange activities

To be member of the inter-bank foreign exchange market, credit institutions must meet the following conditions:

- Have foreign exchange licences;
- Have good history of foreign exchange trading and not violating Laws;
- Have good enough equipments to enable good and safe network connection; and
- Have good human resource and expertises in foreign exchange.

Before June 01, 2006, to be allowed to conduct foreign exchange activities, organizations and individuals must apply for foreign exchange licence to receive foreign currency payments in some fields such as export-import payment, supplying international services such as aviation, maritime, tourism, telecommunications, and insurance. Credit institutions, who want to trade in foreign exchange, must apply for licence, and then the SBV will issue the foreign currency license. If they want to carry out further operations, i.e. international payments and trading in foreign exchange overseas, following conditions have been met:

- Duration of operation is at least 3 years;
- Legal capital complies with regulations of the Prime Minister (for example, VND1100-2200 billion as for SOCBs, VND70 billion as for Joint Stock Banks);
- Sound financial activities, profitable operation within the last 3 years;
- Good business management, facilities and human resource satisfied in foreign exchange trading; and
- Not violates Laws.

However, since June 01 2006, according to the Ordinance on foreign exchange management No.13/2005/PL-UBTVQH 11 dated 13 December 2005, residents and non-residents (except credit institutions who want to provide foreign exchange services) stipulated in this Ordinance are allowed to take part in foreign exchange market in fields determined by the SBV without

any SBV's licences for foreign exchange. All transactions must be implemented through account with banks.

Source:

- Decision No.101/1999/QD-NHNN13 dated March 26, 1999 on Regulations on organization and operation of inter-bank foreign exchange market
- Circular No. 01/1999/TT-NHNN7 dated April 16, 1999 on guiding the implementation of the Decree No.63/1998/ND-CP on foreign exchange management.

Appendix II.4

Regulations on foreign exchange management

1. Current account: is liberalized	
Control on exports and imports of banknotes	
Export	Amount in excess of regulated amount (USD 7000 at present) must be declared upon departing Vietnam and submitted documents as specified by the SBV
Import	Amount in excess of regulated amount (USD 7000 at present) must be declared upon entering Vietnam
Export proceeds	All receipts originating from exports by resident entities must be repatriated immediately through an account with a bank with foreign exchange authorization, otherwise must be permitted by the SBV.
2. Capital account	
Control on FDI	
Outward direct investment	Outward direct investment requires a permit. Enterprises engaged in these investments must open an account with a bank with foreign exchange authorization and must register such accounts with the SBV. All related transactions must go through these accounts.
Inward direct investment	The authority to grant foreign investment licenses is entrusted to the MPI for projects more than VND 300 billion; for projects less than VND 300 million, authority is granted by the provincial authorities concerned. The forms of foreign investment are regulated by law on investment. Investors are required to open specific foreign

	currency accounts at authorized banks for all capital transactions.
Control on capital market securities	
Shares/securities of a participating nature:	
Purchase locally by non-residents	Foreign individuals and organizations are allowed to hold, in aggregate, up to 49% of an issuer's listed current shares.
Sale or issue locally by non-residents	SBV approval is required. Non-resident engaged in these transactions must open an account with a bank with foreign exchange authorization and must register such accounts with the SBV. All related transactions must go through these accounts and in Vietnamese dong.
Sale or issue abroad by residents	Meet some required conditions. SBV approval is required with regard to non-credit institutions. Resident engaged in these transactions must open an account with a bank with foreign exchange authorization and must register such accounts with the SBV. All related transactions must go through these accounts.
Purchase abroad by residents	Meet some required conditions. SBV approval is required with regard to non-credit institutions.
Bonds or other debt securities	
Sale or issue locally by non-residents	Meet some required conditions.
Purchase abroad by residents	Meet some required conditions. SBV approval is required with regard to non-credit institutions.
Sale or issue abroad by residents	Meet some required conditions. SBV approval is required with regard to non-credit institutions.
Control on money market instruments	Controls apply to all transactions in money market instruments.
Control on collective investment securities	Controls apply to all transactions in collective investment securities.
Control on derivative and other	SBV approval is required.

instruments	
Sale or issue locally by non-residents	Yes.
Purchase abroad by residents	Yes.
Controls on credit operations	Enterprises are subject to annual overall external borrowing ceilings and the fulfilment of certain other conditions.
Commercial credits	
By residents to non-residents	Yes.
To residents from non-residents	For short-term credit, borrowing enterprises must observe the required conditions of the SBV. For medium- and long-term credit, enterprises may sign contracts and then register the borrowing and repayment schedules with the SBV before disbursement, based on conditions required by the SBV. Borrowing contracts of state-owned enterprises must be approved by the SBV. Borrowing enterprises must report the borrowing and repayment schedules to the SBV.
Financial credits	
By residents to non-residents	Yes.
To residents from non-residents	The regulations governing commercial credits apply.
Guarantees, sureties, and financial backup facilities	
To residents from non-residents	SBV provides guarantees on credit institutions' borrowing abroad. The MOF provides guarantees for enterprises' borrowing abroad.
Controls on real estate transactions	Land may not be owned by foreign investors and must be leased from the state
Controls on personal capital transactions	
Settlement of debts abroad by immigrants	Yes
Transfer of assets	

Transfer abroad by emigrants	An emigrant may transfer or physically export foreign currency not exceeding USD 10,000 or the equivalent a year. For amounts exceeding USD 50,000, the limit is 20% of the total transfer abroad.
Transfer into the country by immigrants	No control.
Provisions specific to commercial banks and other credit institutions	
Borrowing abroad	Registration with the SBV is required and must meet some required conditions of the SBV
Maintenance of accounts abroad	Yes, but must meet some required conditions of the SBV.
Lending to non-residents (financial or commercial credits)	Registration with the SBV is required.
Lending locally in foreign exchange	Authorized credit organizations may extend loans to residents for the following purposes only: (1) borrowing to pay for imports of goods and services; (2) investment projects approved by the prime minister; (3) export projects involving manufacturing or trade; (4) borrowing under the terms of export documents; (5) borrowing to repay external loans in advance that have been guaranteed by domestic credit institutions and that meet certain criteria; (6) borrowing by temporary guest workers from foreign countries as regulated by the SBV; and (7) short-term borrowing for manufacturing or other businesses that do not earn foreign exchange proceeds.
Differential treatment of deposit accounts in foreign exchange	
Reserve requirements	For most banks, reserve requirements of 8% and 5% apply to deposits in foreign and domestic currency, respectively, with maturity of less than

Interest rate controls Open foreign exchange position limits	12 months. For deposits with maturity of 12 to 24 months, the reserve requirements for deposits in foreign and domestic currency are unified at 2%. Credit institutions' lending rates must not exceed a prime rate periodically announced by the SBV. The aggregate open position limit is 30% but the SBV may exempt banks from this limit in special circumstances. Forward and swap positions are included in the calculation of open position limits. These regulations apply to all authorized banks.
Other controls imposed by securities laws	To sell or purchase listed securities at the stock exchange, foreign organizations and individuals are required to open a securities-trading account denominated in Vietnamese dong. All payments for and receipts from securities transactions must be effected through these accounts.

Source: IMF annual report on exchange rate arrangements and exchange restrictions 2005, and legal documents (various documents), including:

- Law on investment No.59/2005/QH 11 dated 29 November, 2005
- Ordinance on foreign exchange management No.13/2005/PL-UBTVQH 11 dated 13 December, 2005
- Decision No.238/2005/QD-Ttg of Prime Minister dated 29, September, 2005 on participating nature of non-residents in Vietnamese securities market
- Decision No.1081/2002/ QD-NHNN of the SBV on the regulations on foreign exchange position of credit institutions with foreign exchange authorization in Vietnam except join venture banks and branches of foreign banks
- Decision No.796/2004/QD-NHNN of the SBV dated 25 June, 2004 on adjustment on reserve requirements of credit institutions
- Circular No.09/2004/TT-NHNN of the SBV dated 21 December, 2004 on guidance of borrowing and payment aboard of enterprises
- Decision No.921/2005/QD-NHNN of the SBV dated 27 June, 2005 on amendment of clause a and b of Article 1 of Decision No.337/1998/QD-NHNN7 dated 10 October, 1998 on carrying foreign exchange and Vietnamese dong into and out of Vietnam.

Appendix II.5

Ceiling of forward rates, 1998-2004 1/

	From 10.01.98 to 28.02.98	From 28.02.98 to 06.08.98	From 06.08.98 to 26.08.98	From 26.08.98 to 30.08.00	From 30.08.00 to 18.09.01	From 18.09.01 to 01.07.02	From 01.07.02 to before 28.05.04
Under 1 week	+ 1.0%	+ 0.25%	+ 0.19%	-	-	-	-
From 1-2 weeks	+ 1.0%	+ 0.50%	+ 0.38%	-	-	+ 0.40%	+ 0.5%
From 2-3 weeks	+ 1.0%	+ 0.75%	+ 0.57%	-	-	+ 0.40%	+ 0.5%
From 3-4 week	+ 1.0%	+ 1.0%	+ 0.82%	-	-	+ 0.40%	+ 0.5%
30 days	+ 1.0%	+ 1.0%	+ 1.64%	+ 0.58%	+ 0.20%	+ 0.40%	+ 0.5%
From 31-44 days	+ 1.5%	+ 1.5%	+ 1.64%	+ 0.87%	+ 0.25%	+ 1.50%	+ 1.2%
From 45-59 days	+ 1.5%	+ 1.5%	+ 1.64%	+ 1.16%	+ 0.40%	+ 1.50%	+ 1.2%
From 60-74 days	+ 2.0%	+ 2.0%	+ 2.45%	+ 1.45%	+ 0.45%	+ 1.50%	+ 1.5%
From 75-89 days	+ 2.0%	+ 2.0%	+ 2.45%	+ 1.75%	+ 0.65%	+ 1.50%	+ 1.5%
From 90-104 days	+ 2.5%	+ 2.5%	+ 3.25%	+ 2.04%	+ 0.79%	+ 1.50%	+ 2.5%
From 105-119 days	+ 2.5%	+ 2.5%	+ 3.25%	+ 2.33%	+ 1.01%	+ 1.50%	+ 2.5%
From 120-134 days	+ 3.0%	+ 3.0%	+ 4.05%	+ 2.62%	+ 1.14%	+ 2.35%	+ 2.5%
From 135-149 days	+ 3.0%	+ 3.0%	+ 4.05%	+ 2.92%	+ 1.26%	+ 2.35%	+ 2.5%
From 150-164 days	+ 3.5%	+ 3.5%	+ 4.84%	+ 3.21%	+ 1.38%	+ 2.35%	+ 2.5%
From 165-179 days	+ 3.5%	+ 3.5%	+ 4.84%	+ 3.50%	+ 1.48%	+ 2.35%	+ 2.5%
180 days	+ 3.5%	+ 3.5%	+ 4.84%	+ 3.50%	+ 1.50%	+ 2.35%	+ 2.5%

Source: Vietnam Law Data base

1/ Forward rate ceiling = Spot rate ceiling + band

Appendix II.6

Role of the SBV in monetary and exchange rate management

SBV's scope of authority in the monetary policy			
	SBV	Government	National assembly
Monetary policy			
National monetary policy plan	Develop the plan of national monetary policy to propose to the Government to submit to the National Assembly	Submit the national monetary policy plan to the National Assembly for approval	Make decision and conduct surveillance over implementation
Inflation target	Project annual inflation rate and submit the Government	Make a projection (based on the submission from SBV) and submit to the National Assembly	Decide the projected annual inflation rate
Money supply	Project and submit the Government	Decide the annual supplement money supply and its purposes	
Monetary policy instruments	Monitor the money market: • Decide on refinancing and rediscount rate • Conduct refinancing facility • Conduct OMO • Set reserve requirement ratio.	Decide other specific policies and implementing measures	
Budget financing		The Prime Minister makes decision on the advance provided to the State budget during the fiscal year.	The Standing Committee of the National Assembly makes decision on special cases.

	SBV	Government	National assembly
Exchange rate policy			
Exchange rate regime		Determine exchange rate policy	
Official exchange rate	Determine and announce VND exchange rate		
Market transaction exchange rate	Determine and announce		

Source: Nguyen, Quang Thep (2006)

Appendix V.7

Liberalizing specific capital flows and policies to manage the risks

Type of Risks	Key Policy Measures
1. Tradable securities (equity shares, bonds, and money market instruments)	
Sales or purchases by non-residents can result in sudden or large-scale reversals in capital flows, with a boom-bust pattern in asset prices that can spill over to domestic demand and the exchange rate, and entail the risk of an external or financial crisis if market access is curtailed.	• Develop deep and liquid domestic markets in these instruments, with efficient payments and settlements systems, well integrated with monetary operations. • Diversify funding sources and improve maturity structure of liabilities. • Develop efficient insolvency procedures to facilitate foreclosure and debt restructuring. • Closely monitor non-resident investors' demand for domestic financial assets, including bank deposits on an ex post basis. • Establish appropriate lender-of-last-resort facilities to maintain market liquidity.
Sales or purchases by residents involve exposure to market risk (foreign exchange, interest rate, and price), credit risk (except for equity), and liquidity risk.	• Establish prudential safeguards, including limits on shareholdings of domestic banks and other financial institutions, and limits on lending against shares. • Ensure that financial institutions appropriately value these instruments (for example, by marking to market). • Enhance financial institutions' capacity to monitor and manage their direct and indirect (through their clients and counterparties) exposure to these instruments.
Mispricing of securities owing to inadequate information.	• Improve accounting, transparency, and disclosure standards.

Securities fraud.	• Strengthen law enforcement.
2. Derivatives and related instruments	
Counterparty credit risk, which can change substantially with market conditions for underlying assets.	• Strengthen supervision capacity, including oversight to limit excessive exposures, to assess the risks associated with derivatives.
Liquidity risk, legal risks regarding collateral and failed enterprises.	• Develop deep and liquid markets for the underlying assets and liabilities. • Develop risk management capacity in financial institutions, including through hiring and training skilled personnel. • Strengthen accounting rules to properly measure the risks. • Strengthen reporting by financial institutions on derivatives risks, and disclosure of counterparty exposures
3. Commercial and financial credits, and deposit transactions	
Liquidity or solvency risk related to borrowing by residents.	• Diversify funding sources and improve maturity structure and debt-equity mix. • Improve financial institutions' liquidity management and disclosure.
Credit risk related to lending to non-residents, which may be compounded by foreign exchange risk.	• Limit financial institutions' exposure to a single borrower or a country. • Implement internationally recognized supervisory practices for capital adequacy, asset classification, and provisioning. • Implement sound practices for credit risk assessment and management. • Develop securitized markets for credits.
Mismanagement and fraud.	• Increase transparency and market discipline through strong accounting and disclosure rules.
Slow resolution of creditors' claims	• Strengthen insolvency procedures that allow

undermines credit culture and reduces market access.	rapid foreclosure of assets.
4. Foreign direct and real estate investment	
Outward and inward foreign direct investment or real estate investment is often financed by financial institutions, and can give rise to credit risk that may be compounded by various other risks, including in particular foreign exchange risk. Moreover, real estate has proven to be susceptible to price bubbles.	• Adequate risk management practices by financial institutions, reinforced by prudential regulation and supervision, are needed to mitigate these risks. • Strengthen accounting practices to ensure appropriate valuation, especially for collateral. • Improve insolvency regime.
Unsound ventures or fraudulent activity.	• Increase transparency and market discipline through strong accounting and disclosure rules

Source: Ishii and Habermeier (2002).

Appendix V.8

Main weaknesses in the transparency practices of central banks and monetary policy

1. Clarity of roles, responsibilities and objectives of central banks

- A general lack of clarity in the hierarchy among a multiplicity of monetary policy objectives and how potential conflicts among them would be resolved.
- Potential conflicts in the policy objectives as provided for in different statutes.
- Lack of clarity in the responsibility over foreign exchange policy.
- Absence of specifics and conditions under which governments may override central bank policy decisions.
- The existence of legal provisions to use various instruments is often encumbered by the need to seek approval from another authority, e.g., the ministry of finance.
- Disclosure of certain information is often limited by strict interpretations of secrecy rules governing operations of some central banks.
- Accountability of some central banks is weakened by the absence of an explicit legal requirement to report to a legislative body or designated public authority to inform on the conduct of monetary policy and the fulfilment of policy objectives.
- Unclear institutional relationships between central banks and governments and associated agency roles and financial transactions.

2. Open process for formulating and reporting monetary policy decisions

- Poor or nonexistent explanations for the rationale and functioning of its policy instruments.
- Insufficient frequency of disclosures (with some authorities arguing that the guidelines are not clear in that regard).
- Reservations about announcing meeting schedules for policy making bodies.

3. Public availability of information on monetary policy

- Many countries subscribe or plan to subscribe to the International Monetary Fund's data dissemination standard (Special Data Dissemination Standard—SDDS, and the General

Data Dissemination System, GDDS), but there remain weaknesses in that some countries exclude items such as international reserves in their templates.

- The timeliness and frequency of publications is a common problem.
- There are some concerns about the quality of some of the information that is disclosed.

4. Accountability and assurances of integrity by the central bank

- Some deficiencies were identified in some of the procedures in the areas of auditing and accounting.
- There were many cases of nondisclosure of internal governance procedures including the standards for the personal conduct of staff.
- Nondisclosure and/or lack of explicit legal protection for officials and staff in the conduct of their official duties.

Source: IMF (2003d)