

The South East Asian Central Banks (SEACEN)  
Research and Training Centre



**Efficacy of Monetary  
Transmission Mechanism:  
Experiences in the  
SEACEN Countries**



**Song Ouk-Heon**



The SEACEN Centre  
*Kuala Lumpur, Malaysia*

**EFFICACY OF MONETARY  
TRANSMISSION MECHANISM:  
EXPERIENCES IN THE SEACEN COUNTRIES**

**Song Ouk-Heon**



**The South East Asian Central Banks  
Research and Training Centre  
(The SEACEN Centre)  
Kuala Lumpur, Malaysia**

© 2003 The SEACEN Centre

Published by The South East Asian Central Banks (SEACEN)  
Research and Training Centre  
Lorong Universiti A  
59100 Kuala Lumpur  
Malaysia

Tel. No.: (603) 7958-5600  
Fax No.: (603) 7957-4616  
Telex: MA 30201  
Cable: SEACEN KUALA LUMPUR

**EFFICACY OF MONETARY TRANSMISSION MECHANISM:  
EXPERIENCES IN THE SEACEN COUNTRIES**  
**Song Ouk-Heon**

ISBN: 983-9478-33-8

*All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any system, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright holder.*

Printed in Malaysia by Graphic Stationers Sdn. Bhd.

# TABLE OF CONTENTS

## *PART 1*

### Overview

	<i>Page</i>
Foreword	v
Executive Summary	vi
1. Introduction	1
2. Changes in the Financial Environment in the SEACEN Countries	2
2.1 Conduct of Monetary Policy	2
2.2 Financial Development	3
2.2.1 Interest Rate Policy	4
2.2.2 Credit Policy	6
2.2.3 Capital Mobility	8
2.2.4 Development of the Financial Market	12
2.2.5 Appraisal on Charges in the Financial Environment	18
2.3 Stability of the Money Demand Function in Selected SEACEN Countries	19
3. Monetary Transmission Mechanism in SEACEN Countries	24
3.1 Theoretical Background	24
3.1.1 Interest Rate Channel	24
3.1.2 Credit Channel	24
3.1.3 Exchange Rate Channel	26
3.1.4 Other Asset Price Channel	26
3.2 Survey of Results on Empirical Studies on Transmission Channels in SEACEN Countries	26
4. Concluding Remarks	35
References	37

## *PART II*

### **Responses to SEACEN Questionnaire**

	<i>Page</i>
5. Indonesia	39
6. Korea	54
7. Malaysia	64
8. Myanmar	75
9. Nepal	77
10. Phillipines	86
11. Singapore	101
12. Sri Lanka	122
13. Taiwan	133
14. Thailand	140
Appendix I: Questionnaire on Monetary Transmission Mechanism	153

## FOREWORD

In the mid-1970s, many developed and developing countries used monetary targeting as an intermediate mean to achieve the final goal of price stability or economic growth. In order for monetary targeting to be effective, there must be a stable relationship between monetary target and the final target, which implies that velocity of money is constant or at least predictable.

Since the mid-1980s, financial liberalisation has led to structural changes in financial system, consequently affecting the stable relationship between the intermediate target and the final target. In addition, many of these countries were generally not well prepared for the financial liberalisation process as they had weaknesses in the banking system and domestic and external sectors. Some of these problems contributed to vulnerabilities in the Asian economies and culminated in the Asian financial crisis in 1997. This Paper attempts to answer the question as to whether monetary targeting is still viable and to assess the effectiveness of various monetary transmission mechanisms.

This in-house project was undertaken by Dr. Song Ouk-Heon, Senior Economist of the SEACEN Centre seconded from The Bank of Korea. He would also like to acknowledge the useful comments and suggestions of Mr. Robert N. McCauley, Deputy Chief Representative, BIS Representative Office for Asia and the Pacific; Dr. Subarjo Joyosumarto, Executive Director; and, Mrs. Kanaengnid T. Quah, Acting Assistant Director (Research). He is also indebted to Miss Seow Yun Yee, Senior Research Associate, for research assistance.

The Centre is also grateful to member central banks and monetary authorities for their useful comments and suggestions on the draft paper. The views expressed in this Paper are, however, those of the author and do not necessarily reflect those of the SEACEN Centre or the SEACEN member central banks.

Dr. Subarjo Joyosumarto  
The SEACEN Centre  
Executive Director  
Kuala Lumpur

July 2003

## EXECUTIVE SUMMARY

Some countries in the SEACEN region switched from monetary targeting to inflation targeting after the financial crisis as a result of rapid changes in the financial environment while others have continued to use monetary targeting. To enhance the effectiveness of monetary policy, central banks need to find out which transmission channel(s) is suitable or more effective in their countries. Four channels are normally analysed academically, namely the interest rate channel, the credit channel, the asset price channel and the exchange rate channel. This paper aims to assess the effectiveness of the different channels based on empirical results of studies recently conducted in some SEACEN member banks.

Based on a survey of the empirical results on the monetary transmission mechanism studies in SEACEN countries, the common effective channels are found to be the interest rate channel and the credit channel, particularly in Korea, Taiwan and Thailand. Another finding is that a marked decline in bank lending in the aftermath of the financial crisis, amplified the real effect of monetary tightening policy and that a substantial excess demand for bank loans was caused by a capital-induced credit crunch. This conclusion has important implications for policy-makers in that if a credit crunch is due to supply constraint, interest rate policy may not be effective in stimulating output. These results were confirmed by studies undertaken in Bank Indonesia, The Bank of Korea and the Bank of Thailand.

The effectiveness of transmission channels may change over time and this is shown to be true by empirical evidence. The challenge for central banks would therefore, be to constantly seek effective channels of transmission mechanism for the effective transmission implementation of monetary policy.

## 1. Introduction

In the mid-1970s, many developed and developing countries used monetary targeting as an intermediate mean to achieve the final goal of price stability or economic growth. In order for monetary targeting to be effective, there must be the existence of a stable relationship between monetary target and the final target, which is based on the assumption that velocity of money is constant or at least predictable. The predictability is dependent on the existence of a stable money demand function. There have been numerous empirical studies to establish a stable money demand function but the results have not been very encouraging. Financial liberalisation is often cited as a possible reason of why the money demand function is unstable.

In the Asian region, countries started with financial liberalisation in the mid-1980s and 1990s as authorities recognised that a more market-based financial system would benefit from investment efficiency and economic growth, as proposed by McKinnon (1973) and Shaw (1973). However, many of these countries were generally not well prepared for the financial liberalisation process as they had weaknesses in the banking system and domestic and external sectors (capital account). The deregulation in the financial system led to increased competition in the banking system from non-bank financial institutions which are generally less regulated and subject to weaker supervision. In addition, the regulatory and supervisory frameworks did not adapt fast enough to changing circumstances (ADB/World Bank, 1998). Some of these problems contributed to vulnerabilities in the Asian economies and culminated in the Asian financial crisis.

Some countries in the SEACEN region, namely, Indonesia, Korea, Philippines and Thailand, switched from monetary targeting to inflation targeting after the financial crisis as a result of the rapid changes in the financial environment while other countries are still using monetary targeting, focusing on interest rates or the exchange rate. To enhance the effectiveness of monetary policy, the central banks need to find out which transmission channel(s) is suitable or more effective in their countries. Four channels are normally analysed academically, namely, the interest rates channel, the credit channel, the asset price channel, and the exchange rate channel. In this Paper, these transmission channels will be discussed by a survey method, for which a questionnaire was distributed to the SEACEN member banks. In Section 2, the recent changes in the financial environment will be introduced. In Section 3, effective monetary transmission channels of each country and their theoretical background will be described. Section 4 will contain the concluding remarks.



## **2. Changes in the Financial Environment of the SEACEN Countries**

Financial deregulation coupled with improvements in information processing technology has transformed the financial sector profoundly. While the efficiency of financial intermediation has improved as a result of these changes, there are concerns regarding the relationship between financial market efficiency and the effectiveness of monetary policy, which may be affected by these changes, and therefore the ability of central banks to influence the markets may be reduced. The effectiveness of monetary policy may be impacted by two causes as a result of disintermediation. Firstly, the possible elimination of the special role of commercial banks as credit providers and secondly, the reduction in the volume of central banks' balances that banks must hold to satisfy reserve requirements. However, Woodford (2001) has argued that the effectiveness of monetary policy does not depend on the ability of central banks to manipulate significant market distortions. Nor does effective central bank control over the pace of nominal expenditure depend on the creation of an artificial demand for central bank balances through the imposition of legal reserve requirements.

### **2.1 Conduct of Monetary Policy**

One of the main objectives of monetary policy among the SEACEN countries is price stability. For Korea, Malaysia, Nepal, Philippines, Singapore and Sri Lanka, it is the sole objective or one of monetary policy objectives while the stability of the currency is the objective for Indonesia, Taiwan, and Thailand.

To achieve the final objective(s), an intermediate target is commonly adopted. The targeting can take the form of monetary targeting, exchange rate targeting, interest rate targeting and so on, depending on the country situation. Among these various targeting methods, monetary targeting has widely used in many SEACEN countries since the 1970s. However, as a result of financial liberalisation and technological advances which has contributed to the lessening of the effectiveness of monetary policy, some countries have switched to other targets. Four countries (Mongolia, Nepal, Sri Lanka, and Taiwan) still use monetary targeting while four others (Indonesia, Korea, Philippines, and Thailand) has adopted inflation targeting in the aftermath of the financial crisis. Malaysia and Myanmar, on the other hand, are focusing on the interest rate targeting, while Singapore undertakes exchange rate targeting.

## **2.2 Financial Development**

Many developing countries have regulated the financial sector quite strictly until 1970s. Regulations on reserve requirements and obligatory holdings of government bonds were imposed to tap savings at low-cost from the public while the growth of the private bond and equity markets were thwarted through taxes and stamp duties as the extraction of seigniorage from private bonds and equities are difficult. Financial regulation consisted of various measures such as interest rate ceilings, foreign exchange controls, high reserve requirements, and directed credit policies that impose discriminatory taxes on financial intermediation. Successful financial restriction is exemplified by a higher proportion of funds from the financial system being transferred to the public sector. Successful financial restriction produces a low and falling income velocity of money.<sup>1</sup> As examples of a successful financial restriction, velocity of money (M2) in Portugal fell from 1.46 in 1962 to 1.09 in 1973 and in Turkey, it fell from 5.26 to 3.66 between 1963 and 1970 (Fry, 1995). Financial repression was challenged in seminal papers of McKinnon (1973) and Shaw (1973). Their model shows that financial repression reduces both the quantity and the quality of investments in the economy and that financial repression reduces the real rate of growth and the real size of the financial system relative to non-financial magnitudes. In all cases this strategy has stopped or gravely retarded the development process. Hence, they conclude that financial liberalisation can increase economic growth by increasing investments and productivity. Since 1973, the McKinnon-Shaw financial repression paradigm has exerted considerable influence on macroeconomic policies of developing countries, especially through the recommendations of the International Monetary Fund (IMF) and the World Bank. In relation to this issue, we will examine whether there is any change in the financial environment of the SEACEN countries, which will be described in the interest rate policy, the credit policy, capital mobility and the development of the financial market. Any change in the financial environment will possibly influence the effectiveness of monetary policy through changes in the transmission channels.

---

1. For a detailed discussion, refer to Fry (1995).

### **2.2.1 Interest Rate Policy**

In Indonesia, interest rates were determined by the market mechanism since the financial liberalisation of 1983. Thus, banks were free to determine the interest rates for deposits and lending. However, due to the Asian financial crisis, the government needed to recover public confidence in the banking system and it thus, introduced a blanket guarantee programme in which the government sets a “maximum guaranteed interest rate,” i.e., the ceiling on deposit rates and inter-bank rates guaranteed by the government. This guarantee rate policy will be abandoned when the establishment of the deposit insurance institution is realised.

In Korea, the government and The Bank of Korea (BOK) announced a plan to implement a four-phased interest rate deregulation in August 1991. The plan called for the liberalisation of all interest rates, except those of some short-term deposits including demand deposits, by the end of 1996. It also sequenced the liberalisation of interest rates on loans earlier than those on deposits, and the deregulation of interest rates on long-term and large-value products earlier than on short-term and lower-value products. Based on this interest rate deregulation plan, the government implemented deregulation on a step by step basis from November 1991. With the interest rates on savings deposits with maturity of less than three months being freed up in July 1997, almost all interest rates, except those on short-term deposits such as demand deposits and lending rates on credits supported from fiscal funds, were deregulated.

Malaysia fully deregulated all deposit rates in 1987, while the Basic Lending Rate (BLR) is computed according to the BLR formula, using the intervention rate of Bank Negara Malaysia (BNM) and the statutory reserve requirement (SRR). The BLR for the commercial banks is denoted as (BNM, 1999):

$$\frac{(\text{Intervention Rate} \times 0.8)}{1 - \text{SRR}} + 2.5\%$$

The BLR for the finance companies is calculated as

$$\frac{(\text{Intervention Rate})}{1 - \text{SRR}} + 2.5\%$$

However, as a long-term objective, BNM remains committed to liberalising the BLR framework as outlined in the Financial Sector Master Plan.

In Myanmar, the Central Bank of Myanmar (CBM) has been making efforts to make its interest rate policy as flexible as possible to reflect the market situation and has changed the CBM rate according to the needs of the economy in accordance with the CBM Law of 1990. The Central Bank Rate has been changed several times since 1995 and was last fixed at 10 percent in April 2000. Based on the Central Bank rate, the minimum deposit rate was fixed at 3 percent below this rate and the maximum deposit rate at 6 percent above this. The lending rate for special projects is 13 percent. This measure is aimed at stimulating investments by providing local entrepreneurs, who are investing in agriculture, industry and other productive sectors with cheaper loans.

Nepal Rastra Bank (NRB) has fully deregulated interest rates since 1989. Since then, commercial banks are completely free to decide their own deposit rates and lending rates. As most of the commercial banks were able to keep the weighted interest rate spread within the prescribed limit, NRB did away with the limits since the beginning of fiscal year 2002.

In the Philippines, interest rates are market-determined and not regulated by the Bangko Sentral ng Pilipinas (BSP). Interest rate ceilings briefly existed in the 1970s in support of monetary and credit policies that were oriented towards development financing. The ceilings served as a complement to the selective credit and directed lending programmes of the government, which were abandoned by the early 1980s, and interest rates were completely deregulated by 1983.

The Monetary Authority of Singapore (MAS) does not set or control interest rates. Short-term interest rates in Singapore are endogenous outcomes of the exchange rate centred monetary policy. Domestic interest rates are largely determined by foreign rates and market expectations of the movement of the S\$. Notably, the 3-month domestic interest rate has closely tracked its US\$ interest rate equivalent over the years. Long-term interest rates in Singapore can also be described as a function of US long-term interest rates, expected S\$ appreciation against the US\$, and a risk premium, given Singapore's monetary policy and integrated financial markets.

At present, all interest rates in Sri Lanka are market determined. However, interest rates on lending by commercial bank and other financial institutions, to

specific sectors and projects for which the refinance credit facilities are provided by the CBSL under the foreign funded project loans, are administratively determined by the bank.

In Taiwan, restrictions on interest rates have been sequentially removed since the mid-1980s. At present, all interest rates are market-determined. One of the implications of interest rate liberalisation is that the Central Bank has to rely more on market-oriented tools to conduct its monetary policies.

Thailand embarked on the process of financial liberalisation in the early 1990s with emphasis in the early stages on increasing competition in the financial system. Three key reforms were implemented namely interest rate liberalisation, relaxation of financial regulation, and relaxation of capital controls. Ceilings on lending rates were abolished in June 1992 and all interest rates are now market determined.

### **2.2.2 Credit Policy**

Indonesia does not have a lending policy directed at a particular sector. However, banks are expected to extend credit to small business. The Bank of Korea implements a lending policy known as the Aggregate Ceiling Credit System to control the money supply by rediscounting commercial bills discounted by banks. It was introduced in March 1994 to expand loans to small- and medium-sized companies and encourage balanced regional development. The Monetary Policy Committee sets the aggregate credit ceiling every quarter, taking into account the monetary and financial situation. As of the end of September 2001, the Bank of Korea applied an annual 2.5 per cent interest rate to aggregate ceiling credits, much lower than the market rate, in order to achieve its policy objective. The aggregate loan ceiling was set at 11.6 trillion won.

In Malaysia, there are two directed lending policies in place, namely, loans to the Bumiputra Community and Housing Loan Commitments. The main purpose of these policies are to ensure that the Bumiputra Community and prospective house owners from the lower-middle income group continue to have access to credit at reasonable cost from the banking institutions.

In Nepal, all commercial banks presently have to compulsorily provide 12 percent of their outstanding loans to the defined priority sector. This programme at present includes agriculture, industry, services, hydropower etc., for limited amount of credit. As such, the focus of the programme is sector and purpose

oriented with the project based collateral approach rather than other security orientation.

The Bangko Sentral ng Pilipinas does not have any directed lending policies. The New Central Bank Act, which established the BSP in 1993, specifically prohibits the BSP from engaging in development finance activities. Directed and selective developmental credit policies were pursued for a time in the 1970s through the use of the Central Bank rediscounting window and other facilities. More recently, however, the BSP approved amendments to its rediscounting policy aimed at refocusing the use of the rediscounting facility from selective credit policy to monetary policy that will complement open-market operations in managing liquidity in the financial system. The removal of the selective credit nature of rediscounting is in accordance with the BSP's adoption of price stability as the dominant objective of monetary policy. However, Philippine law provides certain directions for bank lending in support of the social policy of the government. In particular, the Agri-Agra Law of 1975 requires Philippine banks to allocate at least 25 percent of their loan portfolio to agriculture and agrarian reform credit.

Sri Lanka implemented directed lending policy which included selective credit controls, ceiling on credit to non-priority sectors and refinance credit facilities at subsidised interest rates, throughout the 1960's to 1980's and early 1990s. These credit controls were gradually eliminated and fully removed by 1992. At present, there is no directed lending policy in Sri Lanka, other than the refinance credit facilities provided to various development projects under the foreign funded project loans or grants.

In Taiwan, the Central Bank of China (CBC) occasionally makes use of directed lending policies whenever necessary. From August 2000 to August 2001, to help stimulate the real estate market and relieve the burden of home owners, the CBC in joint effort with the Ministry of Finance and the Ministry of the Interior, allocated a total of NT\$ 520 billion from financial institutions in the form of Preferential Housing Loans to the youth and general home buyers. In this programme, the Ministry of the Interior subsidised 0.85 percent of the mortgage rates, of which NT\$120 billion was exclusively distributed to the youth with credit guarantees. An additional amount of NT\$ 200 billion was earmarked for the programme in April 2002, while the mortgage rate subsidy was cut to 0.425%. By the end of August 2002, banks had altogether extended a total of NT\$ 565.8 billion under this package.

In Thailand, successive governments have pursued directed lending in varying degrees. These are conducted primarily through Specialised Financial Institutions (SFIs) under the supervision of the Ministry of Finance (MOF). The main players are the Export-Import Bank of Thailand (EXIM Bank), the Small Industry Finance Corporation (SIFC) and the Bank for Agriculture and Agricultural Cooperatives (BAAC), which provide loans to exports companies, small industries, the agricultural sector and others.

### **2.2.3 Capital Mobility**

Indonesia has adopted a free foreign exchange system since 1982. The system has been strengthened by the enactment of the new "Foreign Exchange Flows and Exchange Rate Law of 1999." Under the system, there is no restriction on capital mobility, including that of offshore borrowings by private firms.

The Korean government accelerated the speed of capital account liberalisation, following the financial crisis which unfolded in November 1997. The ceiling on foreign investment in Korean equities was entirely abolished and both the local bond markets and money markets were completely opened to foreign investors in May 1998. In June 1998, the government announced a plan to liberalise all foreign exchange transactions in two stages. The primary goals of this plan were to upgrade Korea's foreign exchange system to international standards, facilitate the flow of foreign capital, and to further promote overseas business activities of the private sector in the current open market environment. The first stage was the introduction of the new "Foreign Exchange Transaction Act." This included the full liberalisation of current account transactions by corporations and banks, conversion of regulations on the capital account into a negative system and so on. The second stage of liberalisation which took effect from January 2001, eliminated the remaining ceilings on many foreign exchange transactions, such as the ceilings on overseas travel expenses, emigration expenses and withdrawals of domestic assets by nonresident nationals and deposits and trusts abroad.

In Malaysia, exchange control measures were introduced on 1 September 1998, which were part of a series of pre-emptive measures implemented to reduce several areas of vulnerabilities in the economy. A major concern that emerged after April 1998 was the increase in the rate of internationalisation of the ringgit, resulting in an outflow of ringgit to offshore markets due to the attraction of higher interest rates. The strong demand and the build-up of offshore ringgit increased the vulnerability of the ringgit and if left unchecked, would have

undermined the prospects for recovery and the ability to conduct monetary policy, resulting in fundamental damage to the real economy. Malaysia imposed selective measures, directed mainly at reducing the internationalisation of the ringgit. This was achieved by eliminating access to the ringgit by speculators, both at home and abroad. The key exchange control measures involved the following:

- Short-term capital flows by requiring such inflows to remain in the country for a minimum period of one year;
- Import and export of ringgit by travelers, both residents and non-residents, are restricted for amounts exceeding RM1,000;
- Malaysian investments abroad exceeding the equivalent of RM10,000 require prior approval.

These control measures were modified or lifted step by step till the end of 2000, in line with the changing environment.

In Myanmar, the functions of foreign exchange control formerly undertaken by the Myanmar Foreign Trade Bank, a state owned bank mainly operating foreign exchange dealings, has been handed over to the central bank for more effective implementation. Foreign exchange control is administered by the Controller of Foreign Exchange of the Foreign Exchange Management Department in the Central Bank of Myanmar in accordance with the instructions from the Ministry of Finance and Revenue.

Nepal has been adopting capital controls with some exceptions based on its priority in the case of outflows. However, Nepal has reformed the rules and regulation for attracting capital inflows and as such, has a policy to welcome capital inflows in the form of foreign direct investment (FDI) with the emphasis on joint venture collaboration and portfolio investment. An individual or firm with foreign income sources can open a foreign currency account in local banks while foreign investors are permitted to repatriate their share investment, dividend, principal and interest amount of foreign loan and authorised foreigners working as specialists could repatriate up to 75 percent of their salaries and allowances in convertible currency. Private firms seeking to borrow offshore would have to be granted permission from the government.

In the Philippines, after four decades of exchange controls, foreign exchange reforms began to be implemented in 1991 leading to the lifting of restrictions on



current account transactions and the relaxation of certain capital account controls. The BSP's liberalisation efforts, however, were tempered or guided by the need to consider the economy's absorptive capacity to guard against massive foreign capital inflows. To manage risks attendant to substantial inflows and outflows of capital, the following restrictions on the capital account remain:

- Outward investments in which the foreign exchange (FX) will be sourced from the banking system and in excess of US\$6 million per investor per year need prior BSP approval;
- Foreign loans and investments by the private sector in which the FX requirements (for future debt servicing and repatriation of capital and remittances of dividends and profits) are to be sourced from the banking system need to be registered with the BSP; and,
- Loans by the public sector, irrespective of FX arrangements, require prior BSP approval.

However, the BSP recognises the costs of keeping these controls. Capital controls may eventually become ineffective as financial markets become more integrated. Moreover, these also hinder the introduction of new products and by limiting competition, may impede rather than facilitate the development of the domestic financial system. Thus, further liberalisation and streamlining of regulations of capital accounts is under study by the BSP.

Singapore has no capital controls, in line with its role as an international financial centre and the Singapore dollar (S\$) is fully convertible. Exchange controls were abolished in 1978 and Singapore has no restrictions either on the inflow or outflow of funds. In addition, the Monetary Authority of Singapore (MAS) has also begun liberalising its policy on the non-internationalisation of the S\$ since 1998. This non-internationalisation policy, supported by Singapore's strong macroeconomic fundamentals and substantial foreign reserves, has helped MAS to maintain the stability of the S\$. To ensure that this policy would not stifle the growth of Singapore's capital market, several specific restrictions on the use of the S\$ were lifted. Since 1998, MAS has allowed foreign entities to list S\$ denominated shares and issue S\$ bonds. In 2001, MAS announced that banks could lend S\$ to non-residents for investment purposes in Singapore, and freely transact S\$ currency options amongst financial institutions based in Singapore. In March 2002, MAS implemented measures to further liberalise its non-internationalisation policy by lifting restrictions on asset swaps, cross-currency swaps and repos, securities borrowing and lending, and S\$-denominated FX

options. However, two basic safeguards – restricting S\$ credit facilities exceeding S\$5 million to non-resident financial institutions and requiring non-resident to swap or convert the S\$ proceeds from bond or equity issuances – were retained in an effort to limit the amount of destabilising speculation in the currency market.

In Sri Lanka, the capital account has been partially liberalised. With the introduction of the economic liberalisation process in 1977, a gradual process of partial liberalisation of the capital account was started in 1978 with commercial banks being permitted to maintain Non-Resident Foreign Currency (NRFC) accounts. There have been many changes during the 1990s but regulations on capital flows are still maintained in the following major areas in Sri Lanka:

- Non resident investments in fixed income securities issued by the private sector such as corporate debentures;
- Private borrowings from abroad; and,
- Investment abroad by residents.

Taiwan has made constant efforts for many years to improve the efficiency of allocating its international capital by gradually releasing restrictions on capital mobility in an orderly process. At present, Taiwan has mostly removed the controls on its capital accounts. For instance, the maximum investment amount in the Taiwan stock market for each qualified foreign institutional investors (QFIIs) has been raised to US\$ 3 billion and there is no limitation imposed on the overall investment of QFIIs. As for offshore borrowings of private firms in Taiwan, the foreign exchange settlements relating to the borrowings of domestic companies from their overseas subsidiaries and the repayment thereof have been excluded from a US\$ 50 million general remittances quota. This measure is to encourage the repatriation of outbound capital. Experience indicates that mitigating the volatilities of capital movements and hence maintaining the desired stabilisation but flexibility of the new Taiwan dollar exchange rate are, among other things, the most apparent benefit of capital account deregulation.

Thailand embarked on a course of financial and exchange control deregulation in the early 90's by accepting Article VIII of the Articles of Agreement of the International Monetary Fund. During 1990-1994, most controls on the inflows and outflows of foreign capital were lifted and Thailand was left with only a few restrictions, specifically directed towards residents. As a result, foreign capital, including direct investment and portfolio investment, were freely permitted for

both inflows and repatriation. However, during the currency crisis, options to defend the peg were very limited due to the aggressive speculation on the baht and the depletion of international reserves due to previous interventions. Thus, the Bank of Thailand (BOT) introduced the so-called '2-tier market' measure by requesting for co-operation from financial institutions to limit baht lending to those non-residents with no genuine underlying commercial or investment activities. This measure effectively closed off all the channels that foreign speculators used for borrowing baht from local bank for currency speculations. As a result, a 2-tier foreign exchange market was created - one onshore and the other offshore where supply of the baht was limited. In order to better balance the benefits and costs of measures to deter currency speculation, as well as to regain foreign investors' confidence and facilitate foreign investment, the BOT decided to lift the 2-tier market measure, replacing it with a less restrictive measure: the so-called 50 million baht guideline. This policy was implemented at the end of January 1998, after the external sector showed signs of improvement and the baht became more stable. Under the scheme, credit facilities including loans, foreign exchange swaps, currency swaps, interest rate swaps, options, and forward rate agreement provided by financial institutions to non-residents are subject to a maximum outstanding limit of 50 million baht per counterparty. This limit does not apply to bona fide trade and investment transactions. The 50 million baht measure limits the extent of offshore currency speculation while enhancing foreign investors' confidence and boosting activity in the FX market. However, drawbacks to this measure include the cost of document examination and foreign investors' perception that capital flows in Thailand are not completely free.

With the globalisation trend and the attempt by both developed and developing countries to move towards freer trade and investment, it is likely that Thailand will eventually not only lift current restrictions that discriminate between domestic and offshore investors, but also engage in further capital account deregulation. However, the experience from the previous crisis suggests that such liberalisation has to be done carefully, being mindful of the potential instability that may accompany such a move. The process of liberalisation will, therefore, be a long-term one which will be implemented gradually, taking into account the readiness of the economy to withstand external shocks.

#### ***2.2.4 Development of the Financial Market***

The opening of financial markets is important for the sourcing of alternative

financing. Opening the capital market for instance, will result in increased market size and bring about lower and stable interest rates. However, increase in substitutability between interest rate, exchange rate, and stock price will make the conduct of monetary policy difficult. In addition, inflow of speculative funds may lead to unstable financial markets. The development of financial markets in the SEACEN countries are presented as follows:

### **Indonesia**

The money market in Indonesia is relatively well developed in size as well as instruments as a result of the financial liberalisation efforts undertaken in the early 1980s. After the Asian financial crisis, however, the inter-bank money market came under pressure due to rising default rate of inter-bank loans as a result of high and volatile inter-bank rates. To restore confidence, the government introduced a blanket guarantee programme on all deposits and liabilities of the banks. To cope with the moral hazard problem in determining the interest rates, the government also set the maximum guaranteed interest rates for inter-bank loans. With these measures, confidence on the banking system and the domestic money market has been restored.

Banks in Indonesia are still playing a key role in the financial system as a whole.<sup>2</sup> Total assets of banks account for 96.6 percent of all financial institutions in 2001. The majority of business-sector lending is still undertaken by banks, accounting for 89.3 percent in 2001, a little below the 92.6 percent in 1995. In terms of the money market, the inter-bank money market was 30.9 percent of GDP while that of the stock market was 7.6 percent in 2001.

### **Korea**

Since the early 1990s, the financial market in Korea has experienced great changes, which accelerated after the 1997 financial crisis. Many unsound financial institutions were forced to exit and there have been several mergers among financial institutions. Various measures to reform the financial market were introduced, providing an opportunity for the money and capital markets to develop.

In terms of total assets, commercial banks account for 49.7 percent of all financial institutions in 2001 but business-sector lending of commercial banks is

---

2. Refer to Appendix for detailed statistics.

still high, accounting for 85.7 percent of the total financial system. In the money market, the size of the inter-bank (call) market recorded rapid development, from 1,209 trillion won in 1995 to 5,322 trillion won in 2001, making up 9.7 times the GDP in 2001. There have been prominent developments in the call market and the Monetary Stabilization Bond (MSB) market in the wake of the financial crisis. In the bond market, the amount of bond issuance increased sharply with the outstanding amount of bond issuance rising from 59 trillion won in 1990 to 370 trillion won in 2001. In the capital market, the biggest development was the establishment of a secondary market, the KOSDAQ, in 1997 which has no exchange floor and for which transactions are made through a network system. The number of companies listed on the KOSDAQ market increased to 616 at the end of 2001 from 331 in 1998. In May 1998, the government completely lifted the investment ceilings on foreign investment in stocks, except for investment in public corporations.

### **Malaysia**

The role of the money market has assumed increasing importance in intermediating between the surplus and deficit units and in the process, contributing to efficiency in the banking system. Recognising the importance of the money market, BNM implemented a series of selected measures to deepen and broaden the activities in the money market and to enhance liquidity in the secondary market.

Strong infrastructure and a comprehensive legal, regulatory and administrative framework have facilitated the development of the capital market. Overall, during the last decade, the capital market has played a significant role in the economy, allocating financial resources for economic activity and growth. Among the various markets, the equity market is the most matured with funds raised totaling RM 86.5 billion during 1988-August 1999, accounting for 46% of total funds sourced from the capital market. The ringgit bond market had traditionally been dominated by government securities. In spite of the rapid growth of the primary market in the 1970s and 1980s, the secondary government securities market was relatively inactive, which continued into the decade of 1988-August 1999. The last decade witnessed the setting up of the private debt securities market to complement the government securities and equity markets, in the wake of the policy to promote the private sector as the main engine of growth in the economy.

Commercial banks continue to play a key role in the financial system in Malaysia. The majority of business-sector lending is undertaken by commercial banks, accounting for 90.4% of the financial system in 2001 while total assets of banks make up 76.5% of the total financial system. The inter-bank market is large and its deposits/loans make up 3.2 times of the GDP in 2001. In the bonds market, the development of the corporate bonds market was conspicuous during the last decade with issuance reaching RM158 billion in 2001 as compared with RM32 billion in 1995. The issuance amount in the government bond market was RM117 billion in 2001 in comparison with RM70.9 billion in 1995. In the stock market, the number of companies listed increased from 529 in 1995 to 812 in 2001.

### **Myanmar**

Total assets of commercial banks account for 22.5% of those of all financial institutions. Myanmar does not have a properly developed capital market with the issuance of the government bonds totaling 24,822 million kyats (1.1% of GDP) in 1999 and 57,821 million kyats in 2001.

### **Nepal**

The principal instruments for investment in the money market in Nepal take the forms of treasury bills (TB), certificate of deposits, repo agreements and inter-bank lending. The inter-bank market made up 9.0% of the GDP in 2001. In Nepal, commercial banks are the dominating players with total assets of commercial banks accounting for 84.3% of the financial system while business-sector lending of commercial banks account for 80.0% of that of all financial institutions. In the stock market, 115 companies were listed in 2001 with a few institutional investors, of which banking and financial institutions are the dominating stockholders.

### **Philippines**

After the Asian Crisis, commercial banks lending declined as non-performing loan (NPL) levels increased and the value of the equities markets was reduced. However, the size of the bond market went up steadily with the predominance of government securities in the bond market suggesting that during times of economic uncertainty, investors rely more on risk-free government securities. There is an established trading system and infrastructure for public debt instruments but none for private bonds.

Over the past few years, the government has been implementing measures to establish a deeper and efficient long-term debt market. Among the issues that need to be addressed are the lack of market infrastructure, an organised trading venue, taxation obstacles, lack of liquidity and lack of variety in the bond market and a weak credit rating capacity.

Total assets of commercial banks make up 74.9% of those of the financial system. In the money market, the amount of inter-bank call loans took up 67.4% of GDP in 2001. The issuance of government bonds increased to 814 billion pesos in 2001 from 217 billion pesos in 1995. In the stock market, the amount of capitalisation indicates a rising trend although the number of listed companies remained about the same.

### **Singapore**

To develop the liquidity and depth of the domestic capital market, MAS is issuing more Singapore Government Securities (SGS). In 1998 and 2002, MAS revised its policy on non-internationalisation of the S\$ in order to broaden and deepen the capital market while minimising the incremental risks. These measures made it easier for foreign entities to list S\$ denominated shares and issue S\$ bonds and swap the proceeds into foreign currency for use outside Singapore. Financial institutions are also now allowed to engage freely in repurchase agreements of SGS or S\$ denominated bonds listed on the Singapore Exchange with non-residents provided there is full delivery of collateral.

The Singapore corporate debt market has seen tremendous growth over the years, especially the post-Asian crisis, as borrowers sought to diversify their source of funding away from loans to bonds. Total corporate debt issuance has shown a steady increase from S\$5.1 billion in 1995 to a record of S\$72 billion in 2001. As MAS has implemented a series of initiatives to further enhance the depth and breadth of the SGS market over the years, the outstanding amount of SGS has seen a steady growth from S\$20.5 billion in 1996 to S\$ 53.1 billion in 2001. In the stock market, the number of companies listed increased to 511 in 2001 from 297 in 1995. Total assets of commercial banks accounted for 33% of the financial system in 2001.

### **Sri Lanka**

Various measures have been taken to create a conducive environment for the development of financial markets in Sri Lanka with emphasis on the debt

securities market. A series of tax incentives were granted to develop the equity and debt markets and to increase the array of financial instruments available. The Colombo Stock Exchange introduced an automated trading system replacing the century old “open outcry” system. These policy measures encouraged domestic enterprises to raise funds in the stock market during times of economic uncertainty. Investors also began to rely more on risk-free government securities as an alternative to bank borrowings.

The inter-bank market has increased in recent years and in 2001 was 1.07 times GDP. On the other hand, the size of the bond market has not shown very much growth as is with the stock market. Lending and total assets of the commercial banks was 75.6% and 77.1% of the total financial system respectively in 2001, indicating that banks still play a key role in the financial system.

### **Taiwan**

Recently, the declining interest rates in the money market resulted in an increase in the issuance of both corporate and government bonds in Taiwan. The annual growth rate of direct financing rose from 18.44% at the end of 1997 to 25.61% at the end of 2001. On the other hand, the annual growth rate of bank lending decreased from 11.96% in 1997 to -2.92% in 2001.

In Taiwan, the growth of the money market and the bond market has been conspicuous, especially since the late 1990s. In the money market for example, the commercial papers market has grown tremendously with transactions increasing to N.T.\$ 50.2 trillion (5.3 times GDP) in 2001 from N.T.\$ 26.9 trillion in 1995. The size of the commercial papers market is 4.4 times that of the inter-bank market while the government bond market grew from N.T.\$ 20.8 trillion in 1995 to N.T.\$ 118.3 trillion in 2001, which is 12.5 times GDP in 2001.

### **Thailand**

The role of the BOT as a direct counterparty in all repurchases (repo) transactions and the presence of the Financial Institutions Development Fund (FIDF) as the biggest borrower in the market has been a key distortion in the money market in Thailand. Since the year 2000, the BOT has started to conduct bilateral repo transactions exclusively with primary dealers in parallel with the existing repo market. In January 2002, the BOT permitted finance companies to engage in borrowing transactions with institutional investors via the private repo



market. One of the aims of the private repo market is to promote the domestic debt market by providing investors with a new fund-raising alternative.

The development of the government security market has been hindered by the rather limited issuance of Treasury Bills and the irregular auctions of bonds and Treasury Bills to institutional investors. The government borrowed via the domestic bond markets in 1999 to finance deficits after a decade of non-borrowing due to strong fiscal positions. The development of the capital market to facilitate direct financing, the global trend towards disintermediation and securitisation, provides an efficient mechanism for the allocation of financial resources and is now an important alternative to bank lending for the corporate as well as public sector in mobilising long-term funds. In 2002, the development of the Thai capital market received high priority from the government with the launch of the Capital Market Master Plan, which aims to intensify the development of the domestic capital market in line with international best practices in terms of standards, efficiency, and transparency.

With respect to the role of banks, commercial banks remain important with business-sector lending of commercial banks making up 89.3% of the total financial system while total assets of commercial banks accounted for 92% of the total financial system in 2001. The bonds market is also growing rapidly with the government bonds market reaching 13.9% of GDP and the corporate bonds market recording 10.5% of GDP in 2001.

### ***2.2.5 Appraisal on Changes in the Financial Environment***

Interest rates in the SEACEN countries are determined in the financial market, as most countries have deregulated their rates. Most of the SEACEN countries have also done away with directed and selective developmental credit policies to the extent that distortions derived from credit allocations are a thing of the past. However, there are still a few protected priority areas such as small enterprises, agricultural sector and the export sector, for which credit is allocated, in a number of countries such as Korea, Malaysia, Nepal, Philippines, Taiwan, and Thailand. With regard to capital mobility, most countries have lifted regulations on the capital account or are moving towards freer capital mobility, with the exception of Myanmar and Nepal.

It can be concluded that there have been vast changes in the financial environment of most SEACEN countries, especially starting in the 1980s and

throughout the 1990s. Graff (2001) argued that finance is a determinant of economic growth, especially in less developed countries. The Asian crisis in the 1997 sped up the development of the capital market as is made evident by the rapid growth of the bond market, especially in the issuance of government bonds to finance government deficits.

### **2.3 Stability of the Money Demand Function in Selected SEACEN Countries**

Changes in the financial environment impacts on the effectiveness of monetary policy. In turn, the effectiveness of monetary policy is related to two issues – firstly, the sensitivity of money demand to changes in interest rates and secondly, the stability of money demand function.<sup>3</sup> In considering the sensitivity of money demand to interest rates, if interest rates do not affect the money demand, velocity is more likely to be constant (or at least predictable), so that the quantity theory view that aggregate spending is determined by the quantity of money is more likely to be true. On the other hand, the more sensitive is the money demand to interest rates, the more unpredictable velocity will be and the link between the money and aggregate spending will be less clear. We examine this issue using the IS-LM model. We assume that money demand is unaffected by the interest rates, that is, “interest inelastic” and the LM curve is vertical as shown in Figure 2-1. Suppose policymakers try to reduce a high rate of unemployment with either expansionary fiscal or monetary policy, then Figure 2-1(a) will depict the effect of an expansionary fiscal policy. When the LM curve is vertical, the fiscal expansion has no effect on output and interest rate will rise from  $i_1$  to  $i_2$  by the rightward shift of the IS curve, which causes investment spending (and net exports) to fall and completely offset increased spending from expansionary fiscal policy which is a case of complete crowding out.

Figure2-1(b) depicts an expansionary monetary policy. The LM curve shifts to the right and money demand rises to match the increase in the money supply. Aggregate output rises from  $Y_1$  to  $Y_2$  and expansionary monetary policy has effect on output. We can reach the general conclusion that the less sensitive money demand is to interest rates, the more effective is monetary policy relative to fiscal policy.

---

3. For detailed discussion, refer to Mishkin (1992).

In relation to the second issue, if the money demand function is unstable and undergoes substantial shifts, then velocity is unpredictable and the quantity of money may not be closely linked to aggregate spending. In the U.S., empirical evidence supported the stability of the money demand function for M1 in the early 1970s. However, Goldfeld (1976) found that the M1 money demand function began to severely over-predict the money demand starting in 1974, which was labeled as “The Case of Missing Money.” Since then, the search for a stable money demand function took two directions - (i) whether an incorrect definition of money could be the reason for the instability, and (ii) looking for new variables to be included in the money demand function. However, these efforts have not been successful in the U.S. as well as other countries. The most likely cause of instability in the money demand function seems to be the rapid pace of financial innovation or liberalisation (Poole, 1988; Mishkin, 1992). A recent study of selected SEACEN countries found that the money demand function was not stable in five out of six countries (Song, 2002), the results of which are summarised below.

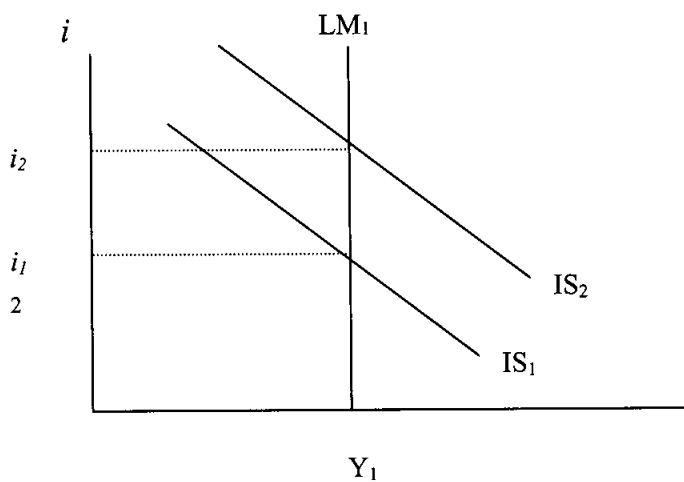
The estimation of the money demand function was undertaken for six SEACEN countries, namely, Indonesia, Korea, Malaysia, Philippines, Taiwan, and Thailand. The data sample starts from the 1980s to 1999, depending on data availability of each country. Both the cointegration test and the error correction model were used for econometric testing.

The estimation of the money demand function was undertaken for two monetary aggregates in each country and the results are summarised in Table 2-1. In the cointegration test, the cointegrating relationship did not exist for five countries among six countries (existing only for the Philippines). As the cointegrating relationship did not exist, there was no long-run equilibrium. In the short-run money demand function, six money demand functions (two in Indonesia, two in Korea, one in Malaysia, and one in the Philippines) did not pass the Chow test for parameter constancy, which indicated the existence of structural changes. Meanwhile, the data sample of the estimation included the period of financial deregulation as well as the Asian economic crisis with all six countries implementing financial deregulation measures in the 1980s or early 1990s.<sup>4</sup> If the money demand function shifted due only to the Asian economic crisis, we could expect a stable money demand function for the period excluding the crisis. Thus, re-estimation of the long-run and short-run money demand function was

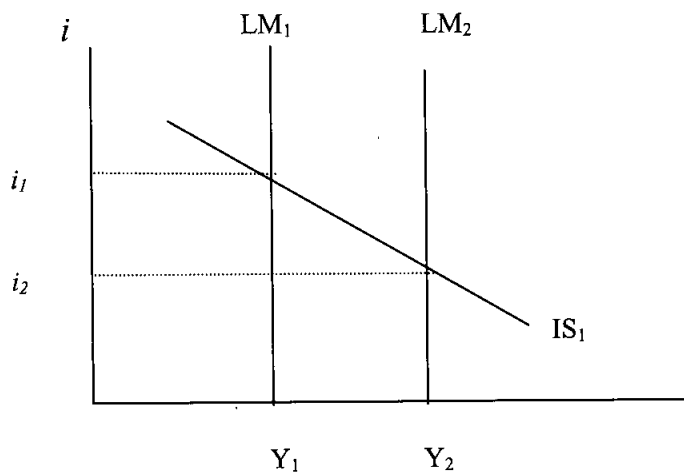
---

4. For summary of financial liberalisation, refer to Song (2002).

**Figure 2-1(a) Expansionary Fiscal Policy**



**Figure 2-1(b) Expansionary Monetary Policy**



undertaken for the period excluding the Asian economic crisis. However, the results were similar to previous ones with only one case (the Philippines) passing the cointegration test and five cases not. These results indicate that the money demand function is not stable except for the Philippines. Although the money demand function seems stable in the Philippines, it is sensitive to interest rates, which does not support the quantity theory of money. These findings imply that the velocity of money is not constant or predictable, which limits the effect of monetary policy. This evidence is supported by the recent shifts recently of a few SEACEN countries (Indonesia, Korea, Philippines and Thailand) from monetary targeting to inflation targeting. In spite of unstable money demand functions, monetary aggregates still play an important role as information variables in conducting monetary policy and as such there are still many countries, both advanced and developing, using monetary targeting.

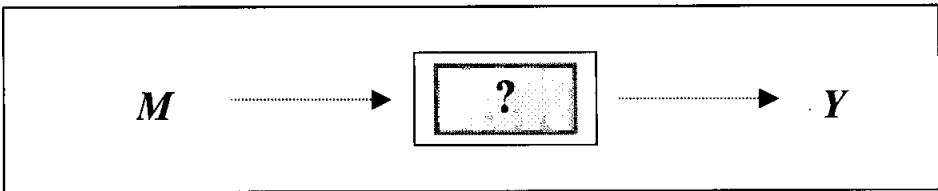
**Table 2-1:  
Summary of Estimation of Money Demand Functions**

		<i>Total Period</i>		<i>Until 1996</i>	
		Cointegration	S-R (Chow)	Cointegration	S-R (Chow)
Indonesia	RM1	No	No	No	Yes
	RM2	No	No	No	Yes
Korea	RM2	No	No	No	Yes
	RM3	No	No	No	Yes
Malaysia	RM1	No	No	No	Yes
	RM3	No	Yes	—	—
Philippines	RM1	Yes	No	Yes	Yes
	RM3	Yes	Yes	—	—
Taiwan	RM1B	No	Yes	—	—
	RM2	No	Yes	—	—
Thailand	RM1	No	Yes	—	—
	RM2	No	Yes	—	—

### 3. Monetary Transmission Mechanism in SEACEN Countries

#### 3.1 Theoretical Background

The transmission of monetary policy and the effect of money on economic activity are described as a black box (in the following diagram), the workings of which cannot be seen. There have been different approaches to explain the workings of the black box in the form of different channels, as summarised below:



##### 3.1.1 Interest Rate Channel

The interest rate channel is the key transmission channel of monetary policy in the basic Keynesian model. This channel explains how monetary policy is transmitted to the real economy - a contractionary monetary policy leads to a rise in real interest rates which in turn raises the cost of capital, causing a decline in investment spending, thereby leading to a decrease in aggregate demand and a fall in output. Keynesian research recognised that consumers' decisions on housing and consumer durable expenditure are also investment decisions. Thus, the interest rate channel also applies to consumer spending on residential housing and consumer durable expenditure.

##### 3.1.2 Credit Channel

Bernanke and Gertler (1995) argued that the interest rate channel is incomplete in several ways. First, empirical studies of "interest-sensitive" components of aggregate spending in general, have had difficulty in identifying

a quantitatively important effect of the neoclassical cost-of-capital variable.<sup>5</sup> The most common finding is that non-neoclassical factors - for example, “accelerator” variable such as lagged output, sales or cash flow - have the greatest impact on spending. Empirical studies on “Tobin’s  $q$ ” formulation have generally been no more successful. Besides, there is a presumption that monetary policy should have its strongest influence on short-term interest rates, while a relatively weaker impact on long-term rates, especially real long-term rates. However, monetary policy has large effects on purchases of durable goods such as production equipment, which should be responsive to real long-term rates. To explain these gaps in the conventional story, economists have focused on credit markets.

The credit channel, rather than an alternative to the interest rate channel, plays a role of amplifying and propagating interest rate effects. The credit channel goes through two linkages - the balance sheet linkage and the bank lending linkage. The balance sheet linkage is based on the theoretical prediction that the external finance premium facing a borrower should depend on borrower’s financial position. The greater is the borrower’s net worth (the sum of liquid assets and marketable collateral), the lower the external finance premium should be. Since a borrower’s financial position affects the external premium, and the overall terms of credit, fluctuations in the quality of borrower’s balance sheet should influence investment and spending decision. This linkage exists because shifts in central bank policy affect not only market interest rates but also the financial positions of borrowers, both directly and indirectly.

In the bank lending linkage, banks remain the main source of credit in most countries. If the supply of bank loans is disrupted for some reason such as changes in monetary policy, bank-dependent borrowers (for example, small and medium-sized businesses) have to pay costs associated with finding a new lender. Thus, a reduction in the supply of bank credit is likely to increase the external finance premium and to reduce real economic activity.

---

5. The usual Jorgensonian formula for the neoclassical cost of capital is  $(r+d)p_k$ , where  $r$  is the required real return to lenders,  $d$  is the depreciation rate and  $p_k$  is the price of a new capital good.

### **3.1.3 Exchange Rate Channel**

The exchange rate channel involves interest rate effects. When domestic real interest rates rise, domestic currency deposits become more attractive to deposits denominated in foreign currencies, leading to an appreciation of the dollar. The higher value of the domestic currency makes domestic goods more expensive than foreign goods, thereby causing a fall in net exports and hence in aggregate output.

### **3.1.4 Other Asset Price Channel**

The Keynesian paradigm focuses on only one relative asset price - the interest rate - while Monetarists emphasise the monetary transmission mechanism using two channels: Tobin's  $q$  theory of investment and wealth effects on consumption. Tobin (1969) defines  $q$  as the market value of firms divided by the replacement cost of capital. If  $q$  is high, the market price of firms is high relative to the replacement cost of capital, and new plant and equipment capital is cheap relative to the market value of business firms. Monetarists link Tobin's  $q$  to investment spending. When the money supply falls, the public spends less in the stock market, leading to lower equity prices and hence a lower  $q$ , which results in lower investment spending.

Another channel for wealth effects is based on Modigliani's life-cycle model, which postulates that consumption spending is determined by the lifetime resources of consumers, which are made up of human capital, real capital and financial wealth. A major component of financial wealth is stocks. When stock prices fall, the value of financial wealth decreases, thus decreasing the lifetime resources of consumers and therefore a fall in consumption.

## **3.2 Empirical Results on Transmission Channels in SEACEN Countries**

### **Indonesia**

Earlier studies on monetary transmissions in Indonesia for the pre-crisis period have shown that the interest rate channel is very important for the Indonesian economy. The use of interest rate as the operational target was recommended for monetary policy. Meanwhile, another study found that, as an impact of financial deregulation, the bank lending channel worked only for smaller



banks but not for state banks which constitutes a larger portion of the banking system. For the post-crisis period, the evidence of firms' balance sheet channel is found, in which the response of the real sector to a monetary shock depends upon the financial structure of the firms, the segmentation of the financial market between large and small firms, and the degree of financial/credit friction in the capital/credit market. Furthermore, the study proved that a credit-crunch phenomenon existed in Indonesia for the post-crisis period and that the existence of non-price rationing has significantly reduced the effectiveness of monetary policy in influencing the supply of credit.

Recently, Bank Indonesia has begun to examine extensively the channels of monetary policy transmission mechanisms, focusing on the interest rate channel, bank lending and firm's balance sheet channel, exchange rate channel, and expectation channel. The purpose is to further document the existence, especially in terms of magnitude and lag structure, of different channels of monetary policy. The studies employ a Structural VAR to time-series data for both the pre and post-crisis period. For some studies, formal structural economic models also used and were complemented by the results of the surveys to a sample of banks, corporations, and household.

Overall, the preliminary results of these studies provide valuable information on the transmission mechanism of monetary policy, both for the pre-crisis and post-crisis periods. In particular, not only do they provide evidences on the behaviour of each channel, but also indicate some changes in the relative strength of the transmission for the two periods. For the interest channel, the studies reveal that before the crisis, both bank deposit and lending interest rates were strongly influenced by the monetary policy rate. However, the transmissions of interest rate to investment and consumption were weak. After the crisis, on the other hand, the bank interest rate response to the policy rate is weaker as compared to the pre-crisis period. On the contrary, the transmission from interest rates to investment and consumption are significant, providing evidence for the stronger cost of capital and substitution effects in the post-crisis period.

For the credit channel, the studies reinforce and provide a more comprehensive picture on the findings from the earlier studies on the credit-crunch phenomenon and firm's balance sheet channel. On the bank lending channel, the studies found that the effects of a monetary policy shock in influencing

bank lending and thus investment is stronger in the aftermath of the crisis, especially in the case of monetary contraction. Ineffectiveness of monetary policy in affecting bank lending prior to the crisis was due to the banks' ability to access funds from international sources. In the wake of the crisis, given the deterioration of the banks' capital and high credit risk, an increase in interest rate as a result of a monetary tightening raises the probability of loan default and hence banks become reluctant to extend credit. On the balance sheet channel, the studies provide further evidence that the sensitivity of investment with respect to a change in balance sheet variables (cash flow and leverage) increases during the period of monetary contraction, especially for the smaller firms.

On the exchange rate channel, the studies show that monetary policy transmission through the exchange rate worked relatively stronger in a floating exchange regime. For the pre-crisis period, the variability of exchange rate was kept under the managed floating band so that the impact of the policy rate to exchange rate was rather weak. Under the floating regime, on the contrary, the volatility of exchange increased dramatically because of a very high risk premium so that there is a limitation for the policy interest rate to influence the exchange rate. More importantly, the direct pass-through effects of the exchange rate to inflation works almost instantaneously since the first month, while the indirect pass-through effect begins with a two-month lag.

The expectation channel focuses on analysing the existence of monetary transmission during the post-crisis period. For a number of alternative indicators for inflation expectation, the studies show that the inflation expectation derived from the business survey and Fisher theory perform better than the inflation expectation from the consumer survey and inflation assumption for the budget. Furthermore, the studies also provide evidences that both inflation expectation and actual inflation are primarily driven by inflation inertia and exchange rate movements. Meanwhile, the evidence for the response of inflation and expected inflation to monetary policy shocks, measured by the growth of base money and the SBI interest rate, are not clear-cut.

For the asset price channel, the studies conclude that there is no strong evidence on the existence of an asset price channel of monetary transmission in Indonesia. Even though monetary policy could alter the financial asset portfolio, it failed to be transmitted further to inflation. However, it must be mentioned that the failure to establish an asset price channel could be due to some weaknesses in the studies in that it is suspected that the JSX index could not properly reflect

the wealth of the economy. Later surveys results verified that the portion of stocks in households' portfolio were insignificant, i.e. less than 5%.

### **Korea**

Chang (2002) recently applied a standard VAR approach to the Korean monthly data from January 1982 to April 2001, to analyse the relative importance of various monetary policy transmission channels in Korea. He found that during the 1990s, the real effects of monetary policy shock (monetary base, call money market rate) via the interest rate channel and stock price channel had become larger and faster than in the 1980s. The evidence also indicated that the balance sheet channel operated more significantly than the bank lending channel in the 1990s.

There have been many recent researches on the credit channel, and credit crunch of the monetary transmission mechanism in Korea, and relatively few studies on the other channels. Kim (1995) tested the theoretical predictions of the bank lending channel (i.e., loan supply effects) using disaggregated bank data. The VAR approach was applied to monthly Korean data for four time series variables (monetary base, loan volume and securities holdings of small and large banks, industrial production) from January to May 1994. The impulse responses indicated that a one per cent increase in the monetary base had a considerably greater dampening effect on the lending volumes and securities holdings of small and medium-sized banks, as well as of local banks alone, than it did on the six largest banks. This finding may reflect the following tendency - that since small banks tend to rely heavily on deposits for fund-raising, and face higher borrowing costs compared with large banks, they appear to cut their lending volumes (loan supply) by a relatively greater extent than large banks do. Thus, Kim interpreted this evidence as being consistent with the prediction of the bank lending channel.

Ding, et al. (1998) and Domac and Ferri (1998) found evidence of a credit crunch in the sharp increases in the spread between bank lending rates and corporate bond yields, reflecting the tightening of the bank loan market after the crisis in December 1997. Ferri-Kang (1999) found, based on individual bank data, that banks, in particular those with lower equity, raised lending rates and reduced their lending rapidly. Ghosh and Ghosh (1999) and Kim (1999) took the approach of estimating equations for loan demand and supply, but with contrasting results. Kim found that a marked decline in bank lending after the financial crisis

in Korea amplified the real effects of tightened monetary policy implemented in response to the crisis. Furthermore, he found that a substantial excess demand for bank loans in the wake of the crisis was caused essentially by a capital-induced bank credit crunch rather than by a weak demand for loans. This finding revealed evidence of the importance of the credit channel after the crisis. Ghosh and Ghosh, however, found that the driving force behind the credit crunches in Korea, Thailand and Indonesia was an excess demand for credit rather than an excess supply of it. Borensztein and Lee (2002) also analysed the credit crunch following the recent financial crisis in Korea. Using enterprise-level data, they found that there were big differences in the magnitude of the credit contraction across different types of firms. In particular, chaebol (conglomerate) – affiliated firms appeared to have lost the preferential access to credit that they had enjoyed in the pre-crisis period, and credit appears to have been reallocated in favour of more efficient firms. This suggests that the credit crunch suffered by certain sectors can be attributed to the adjustment by banks and enterprises to the restructuring of the financial sector, rather than to tight monetary policy or an external credit constraint.

### **Malaysia**

In Malaysia, monetary policy operates through short-term interest rates to achieve its ultimate objective of price stability. A change in policy rate will trigger a chain of events that affect the whole range of market rates. More specifically, changes in BNM's policy rate will have a direct impact on lending rates, which will affect the cost of funds. This in turn, will affect the private sector's financial assets and liabilities position and hence, asset price. It will also affect decisions to consume or save, and invest which involves both domestic and external goods and services. These factors will ultimately influence aggregate demand and finally, prices.<sup>6</sup>

### **Myanmar**

In Myanmar, interest rate and credit channels are regarded as more effective than other channels.

---

6. Refer to BNM (1999).

### **Nepal**

The quantum channel is effective by affecting real sector and prices through the change in reserve money, money supply or credit level while other channels such as the interest rate, exchange rate and asset channels are less effective. Although interest rates in Nepal are fully deregulated but due to institutional inefficiencies and existence of a large non-monetised sector, interest rates movements do not behave as theoretically expected. The existence of an informal cartel type interest rate delays the response of policies. Domestic demand for consumption and investment is still not sensitive enough to interest rate changes as empirical analyses in some cases either reflected an unexpected relationship or insignificant results. The interest rate in the informal sector is much higher than that of formal credit.

With respect to the asset price channel, the asset market is informal and unorganised. Normally, a positive relationship is expected between money supply and the property market but due to lack of available statistics, it is difficult to measure the response of the property market to the changes in monetary policy.

### **Philippines**

The Philippines has three important channels of monetary transmission: the credit channel, the interest rate channel, and the exchange rate channel. The credit channel is important because of the reliance of the corporate sector on bank financing. The interest rate channel is also significant since it affects not only investment demand but also spending on consumer durables and housing. The exchange rate is another important channel since exchange rate movements affect the cost of imported goods, both final and intermediate in a small open economy like the Philippines.

The financial liberalisation that started in the early 1990s has weakened the ability of bank lending to reflect the stance of monetary policy. The surge in alternatives to bank loans has diminished the link between the real economy and bank lending, thereby reducing the importance of the credit channel.

### **Singapore**

Monetary policy affects inflation by direct and indirect effects through the exchange rate channel. The exchange rate channel impacts directly on import

prices, while the indirect effect is via the effect of exchange rate on the prices of locally produced goods and services that compete with imports or imported inputs.

### **Sri Lanka**

The interest rate channel is regarded as the most relevant one to Sri Lanka. A change in the Central Bank's primary policy tools, the repo rate and reverse repo rate, would have an almost immediate impact on interest rates in the call money market, which would lead to changes in other interest rates such as deposit and lending rates of commercial banks. These changes in interest rates would affect the general credit levels given by commercial banks, which in turn, would have an impact on prices and output. However, several studies have found that the effectiveness of the interest rate channel has been limited due to imperfections and lack of integration of financial markets which include the lack of competitiveness and competing instruments in the banking sector; underdeveloped mortgage and long-term markets and the high proportion of non-performing loans. Meanwhile, the exchange rate channel and the asset price channel are unlikely to be effective given the stage of development of the domestic financial markets.

### **Taiwan**

Both the interest rate channel and the credit channel seem more evident and important. Since financial deregulation started in the mid-1980s, the set of financial price indicators, including interest rates, exchange rates and asset prices, have become increasingly important for monetary policy. As direct finance in capital markets (such as equity and debt instruments markets) becomes more essential for borrowers and investors, the function of bank intermediation will become less so. Thus, the significance of the interest rate channel is expected to further increase, while that of the credit channel will diminish somewhat in the future.

It is not easy to identify the exchange rate channel in Taiwan because its effects are often mixed with those of the interest rate channel. As for the asset prices channel, an empirical study found that policy instruments have effects on stock prices, suggesting that there may be a wealth channel. However, it was discovered from out-of-sample exercises that the information content of stock prices to predict GDP and inflation is quite limited.

Based on the results from VAR studies, output variations are statistically related to movements in monetary aggregates, bank lending and interest rates although the relationships seem to be asymmetric among business cycles. By and large, they are much stronger in periods of economic slowdown than expansion. During economic downturns, shocks from monetary aggregates and bank lending have much more impact on output, while output response more to interest rate shocks during economic upturns.

The information content of a yield curve may become increasingly important as empirical studies show that the overnight call-loan rate significantly affects yields on money market instruments with maturities of less than a year, which is interpreted to partially support the expectations theory of the term structures.

### **Thailand**

A recent internal study on the transmission mechanism in Thailand suggests that the real effects of monetary policy have been transmitted mostly through the direct interest rate and bank lending channels, while the exchange rate and asset price channels have been less significant.<sup>7</sup> The importance of the interest rate channel stems partly from the historically high degree of leverage among Thai firms with bank debt being at floating rates. In this respect, the most important factor that determines the effectiveness of the interest rate channel is the degree of pass-through from money market rates (which policy influences directly) to retail rates (which are set by banks). As for the bank-lending channel, its importance owes much to the fact that Thai firms have relied heavily on bank finance, as the alternatives have been limited.

The analysis of the transmission mechanism revealed a set of key findings that can be summarised by the following *stylised facts* about the response of the economy to a tightening of monetary policy:

- Stylised fact 1:* The aggregate price level initially responds very little, but starts to decline after about a year and quite persistently so.
- Stylised fact 2:* Output follows a U-shaped response, bottoming out after around 4-5 quarters and dissipating after approximately 11 quarters.
- Stylised fact 3:* Investment appears to be the most sensitive component of GDP to monetary policy shocks.

---

7. For detailed discussion, refer to Disyatat (2002).

These observations are generally consistent with findings in other countries, including the US and European countries, using similar methodology.

While the empirical results point to a transmission mechanism in which investment is particularly sensitive to monetary shocks and banks act as an important conduit for monetary policy to real activity, the responses of key macroeconomic variables to monetary shocks are generally in line with those in other countries. The evidence, however, suggests that problems in the corporate and banking sectors may have undermined the monetary transmission mechanism over the last few years.

An analysis of the degree of pass-through from market interest rates to banks' retail rates, given Thailand's heavy reliance on bank lending, reveals that the degree of pass-through is generally lower than those in developed countries. Moreover, the sensitivity of retail rates to money market rates appear to have declined in the aftermath of the 1997 financial crisis which is undoubtedly a by-product of unresolved banking sector problems and high liquidity in the system, as well as the changing competitive landscape associated with a smaller number of active financial institutions and less capital inflows.

Furthermore, the role of the bank lending channel appears to have declined in the past 3 years along with the sensitivity of retail rates to money market rates. This has taken place in conjunction with the rise in prominence of non-bank sources of finance and continued weaknesses in the banking sector. To the extent that the latter has acted as a constraint on new bank credit, it would have tended to offset the impact of monetary easing. In addition, by effectively limiting investment demand, excess capacity and balance sheet weaknesses in the corporate sector have also blunted both the bank lending and traditional interest rate channels.

Looking forward, there are two sets of opposing forces that will determine the strength of the bank lending channel. On the one hand, resolution of remaining banking sector problems and continued expansion of consumer credit should alleviate supply side constraints and increase the importance of bank loans in the economy. On the other hand, reliance on bank finance should decline as capital markets become more developed, while banks are likely to strengthen their ability to cushion any fall in bank reserves and retail deposits associated with a tightening of policy, thereby reducing the sensitivity of loans supply to monetary shocks. Nonetheless, given that fundamental capital market development tends



to take place gradually and the importance of small firms in Thailand, the overall effect in the medium-term should be an increase in the significance of the bank lending channel.

#### **4. Concluding Remarks**

Since most SEACEN countries began financial deregulation in the 1980s or the early 1990s, there have been substantial developments in the financial market. Interest rates have been liberalised and are now mostly market-determined. Some countries still have their own credit policies albeit applying to only certain priority areas which is in sharp contrast to past practices when total credit was directly allocated by the central banks. The capital market has also mostly been liberalised or is in the process of deregulation, providing more opportunities for gaining access to foreign savings. The rapid growth of the capital market, while increasing the prospects for direct financing, have also led the countries to implement measures to maintain financial stability via prudential regulations. The SEACEN countries are generally moving in the right direction in the deepening of their financial markets given the theoretical and empirical linkage between the financial market and economic growth. In addition, development in information processing technology is also vastly changing the face of the financial market. Given these substantial changes in the financial environment, the impact of monetary policy may not be as effective as before, *vis-à-vis* the traditional channels, which is confirmed by a recent study which shows that the money demand functions were generally unstable in SEACEN countries.

From the survey results on the monetary transmission mechanism of SEACEN countries, it was established that the common effective channels in the respondent countries are the interest rate channel and the credit channel. These are supported by empirical results in some countries such as Indonesia, Korea, Taiwan, and Thailand.

Another finding is that a marked decline in bank lending in the aftermath of the crisis, amplified the real effect of monetary tightening policy and that a substantial excess demand for bank loans was caused by a capital-induced credit crunch. This conclusion has important implications for policy-makers in that if a credit crunch is due to supply constraint, interest rate policy may not be effective in stimulating output. These results were confirmed by studies undertaken in Bank Indonesia, The Bank of Korea and the Bank of Thailand.

Lastly, the effectiveness of transmission channels may change over time and this has shown to be true by empirical evidence. The challenge for the central bank would, therefore, be to constantly seek effective channels of transmission mechanism for the effective implementation of monetary policy.

## REFERENCES

- ADB/World Bank, ADB/World Bank Senior Policy Seminar on Managing Global Financial Integration in Asia: Emerging Lessons and Prospective Challenges, Overview Volume, Manila, Philippines, 10-12 March, 1998.
- BNM, The Central Bank and the Financial System in Malaysia, Bank Negara Malaysia (BNM), 1999.
- \_\_\_\_\_, Annual Report 1999, 2000.
- Borensztein, Eduardo and Jong-Wha, Lee, "Financial Crisis and Credit Crunch in Korea: Evidence from Firm-Level Data," *Journal of Monetary Economics*, 2002
- Chang, Dongkoo, "A Study on the Monetary Transmission Mechanism in Korea," (in Korean), *Financial Studies*, Korea Institute of Finance, June 2002.
- Ding, W., Domac, and Ferri, "Is There a Credit Crunch in East Asia?" *World Bank Policy Research Working Paper*, No.1959, 1998
- Disyatat, P. and P. Vongsinsirikul, "Monetary Policy and the Transmission Mechanism in Thailand," A Paper presented at the SEACEN Conference on Transmission Mechanism of Monetary Policy," hosted by Reserve Bank of Fiji, Nadi, Fiji, 16-18 October 2002.
- Domac, Ilker, and Giovanni, Ferri, "Is There a Credit Crunch in East Asia?" *World Bank Policy Research Working Paper*, World Bank, 1998
- Fry, Maxwell J., Money, Interest, and Banking in Economic Development, Johns Hopkins University Press, 1995.
- Ghosh, Swati and Atish Ghosh, "East Asia in the Aftermath: Was There a Credit Crunch?," IMF WP/99/38, 1999.
- Graff, M., "Causal Links Between Financial Activity and Economic Growth: Empirical Evidence from a Cross-Country Analysis, 1970-1991," *Bulletin of Economic Research*, 2001.

- \_\_\_\_\_, “*Financial Development and Economic Growth in Corporatist and Liberal Market Economies*,” A Paper prepared for presentation at the 30<sup>th</sup> Annual Conference of Economists, Perth, September 24<sup>th</sup>, 2001.
- Kim, H.E., “On the Effectiveness of the Credit View in the Monetary Transmission Mechanism: The Korean Case,”(in Korean) *Quarterly Economic Analysis*, The Bank of Korea, May 1995.
- \_\_\_\_\_, “Was the Credit Channel a Key Monetary Transmission Mechanism Following the Recent Financial Crisis in Korea?” The World Bank, Policy Research Working Paper 3003, April 1999.
- \_\_\_\_\_, “The Lag in Effect of Monetary Policy in Korea,”(in Korean), *Monthly Bulletin*, The Bank of Korea, January 2000.
- McKinnon, Ronald I., *Money and Capital in Economic Development*, Brookings Institution, 1973.
- Mishkin, Frederic S., *The Economics of Money, Banking, and Financial Markets*, Harper Collins Publishers, 1992.
- Patrick, H.T., “*Financial Development and Economic Growth in Underdeveloped Countries*,” *Economic Development and Cultural Change*, 14, pp. 174-199.
- Poole, W., “*Optimal Choice of Monetary Policy Instruments in a Simple Stochastic Macro Model*,” *Quarterly Journal of Economics*, May 1970.
- Shaw, Edward S., *Financial Deepening in Economic Development*, New York: Oxford University Press, 1973.
- Song, O.H., *Monetary Targeting in a Liberalised Financial Environment*, Kuala Lumpur: The SEACEN Centre, 2002.
- Warjiyo, P. and J. Agung (eds.), *Transmission Mechanisms of Monetary Policy in Indonesia*, Bank Indonesia (BI), July 2002.
- Woodford, M., “*Financial Market Efficiency and the Effectiveness of Monetary Policy*,” *Economic Policy Review*, Vol. 8 (1), May 2002.

## **PART II**

### **Responses to SEACEN Questionnaire**

#### **5. INDONESIA**

##### **5.1 The Objectives of Monetary Policy**

According to the new central bank law of 1999, the objective of Bank Indonesia is to achieve and maintain the stability of the rupiah value. This means both in terms of domestic goods and services (i.e. inflation or price stability) and in terms of other currency units (i.e. exchange rate). Under the existing flexible exchange rate system (see questionnaire #4), the development of exchange rate is in general left to market mechanism, and Bank Indonesia only occasionally intervenes in the foreign exchange market to help stabilise the exchange rate. Thus, domestic price stability has emerged as the overriding objective of Bank Indonesia's monetary policy.

The new law, in essence, provides a strong legal basis for Bank Indonesia to implement an inflation targeting framework. This will replace the previously monetary targeting framework. Further elaborations of the new law clarify this issue. First, Bank Indonesia is required to set and announce the inflation target. For the current case, the target was set at 9-10% for 2002 and will be brought down gradually to 6-7% over the next five years. Second, Bank Indonesia is granted independence in both setting the inflation target (goal independence) and in carrying out its monetary policy (instrument independence). It should be noted though, in the amendment to the law that is now being processed, the target will be determined by the government upon recommendation from the central bank, while instrument independence is still being maintained. Third, an internal decision making process is formally required for the board of governors to conduct its monetary policy making. The Board meeting is conducted regularly every month to review the economic and financial trends and to set the monetary policy stance and direction. Finally, for accountability and transparency, Bank Indonesia is required under the law to submit quarterly report to the parliament and communicate its monetary policy making regularly. These have been done through periodical reports (monthly, quarterly, and annually) and press communiqué of the results of board meetings to the public.

To achieve the inflation target, Bank Indonesia uses base money as its operational target. This is in conjunction with the indicative target as one of conditionality put forward under the IMF programme. The target for base money is set in accordance with the inflation target and the projections for economic growth, exchange rate, and interest rate using the estimated money demand function. Operationally, the base money target is achieved by conducting open market operations (mainly through auction of Bank Indonesia's certificate or SBI) and, in certain circumstances, by intervention in the foreign exchange market. The latter is conducted not only for managing liquidity in the market but also to help stabilise the exchange rate.

Thus, Bank Indonesia's monetary policy has been in the transition phase for the implementation of full-pledged inflation targeting since the enactment of the new central bank law in May 1999. As explained above, the present monetary policy is still being conducted through targeting base money growth as its operational target. However, Bank Indonesia is preparing to move to interest rate as its operational target for its monetary policy making. There are a number of reasons for the move towards inflation targeting framework. As pointed out, the new central bank law mandates Bank Indonesia to pursue its sole objective of price stability, with independence as well as accountability and transparency in its monetary policy. Second, the results of the researches on monetary policy transmission mechanism show that the interest rate channel has been stronger than the money channel. Third, the use of interest rate as the operational target facilitates and simplifies the signaling and communication of monetary policy making to the parliament, government, and public. Fourth, based on these arguments, the board of governors decided to expedite the preparations necessary to implement a full-pledged inflation targeting. However, under the new framework, monetary aggregates will still be a valuable information variable for monetary policy making with other policy variables such as exchange rates, output gap, and financial intermediation.

For these reasons, over the past three years researchers have been geared to speed-up the implementation. They include the design of optimal inflation target, economic models for projection, monetary transmission mechanism, policy information variables, as well as monetary operations and signaling mechanisms. A number of institutional issues are also being addressed, such as decision making process, communication strategy, as well organisation and human resource

capabilities. It is expected that the full-pledged inflation targeting will be implemented starting in the year 2004.<sup>1</sup>

## 5.2 The Effect of Money on Output and Inflation

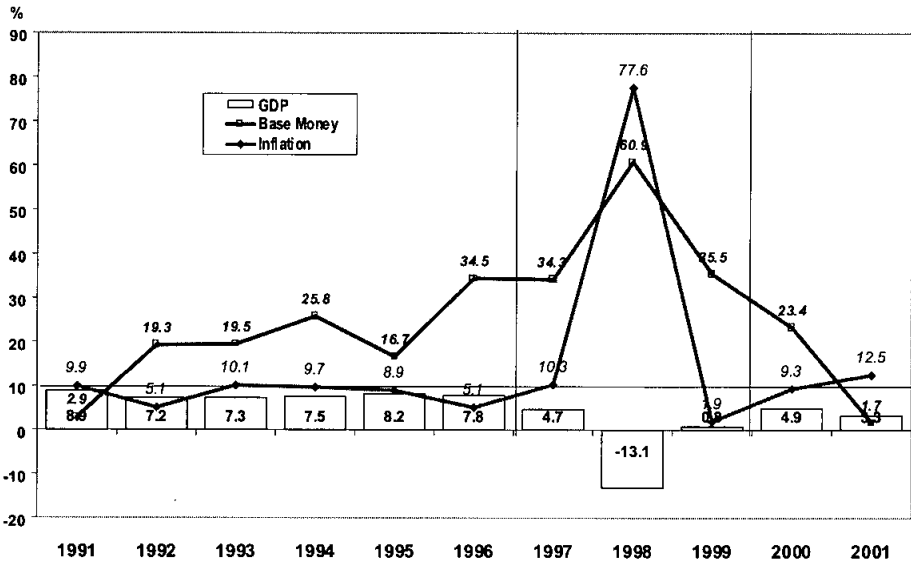
There is an on-going study that explores the long-run relationship of money, inflation, and output for Indonesia.<sup>2</sup> Using the Johansen cointegrated VAR and its accompanying VECM framework, the study analyse the interrelationship between money demand, money supply, and inflation. The data is quarterly from Q1/1980 to Q4/2001. Price level is measured by CPI, income is household consumption expenditure, money is narrow money (M1), and interest is one-month SBI rate.

In identifying the real money demand function for M1, the study found that the price level is homogenous in the long-run with respect to the changes in nominal M1 and the coefficient on real private consumption is close to 1. Thus, there is no long-run feed back effect from nominal money to real output, as output is strictly an exogenous variable determined outside the monetary disequilibria. The acceleration of inflation is determined by the exogenous increase in the excess money growth above the real need of the economy. The excess nominal M1 above the real demand for M1 has strong future information content on inflation as inflation moves in concordance in a one on one basis with the excess nominal money after some variable lags. This one-on-one relationship is most obvious after 1990 onwards. The lags are quite long and variable before the crisis between half a year to two years (2-8 quarters), and very short (1 quarter) if not at most coincide during the crisis.

The short-run relationship between money, income, and prices is more difficult to assess, especially during the crisis period. However, empirical data below shows that the increasing trend of base money growth in the pre-crisis period

1. For further elaboration of the preparations of Bank Indonesia to move to inflation targeting, see Perry Warjiyo, "Towards Inflation Targeting: The Case of Indonesia", in *Inflation Targeting: Theories, Evidences, and Implementation in Pacific Basin Countries*, Bank of Korea, 2002. See also Charles Joseph and Anton Gunawan (eds), *Monetary Policy and Inflation Targeting in Emerging Economies*, Bank Indonesia, 2000.
2. For detailed empirical results, see especially the appendix of Reza Anglingkusumo, "Monetary Policy Strategy for Sustainable Economic Recovery in Post Crisis Indonesia", Paper presented at the Conference on Economic Recovery and Reform, Thammasat University and Bank of Thailand, Bangkok, October 2002.

did not accelerate inflation in the short run. Instead of increasing, inflation gradually improved from 10.1% in 1993 to 5.1% in 1996. On the other hand, monetary expansion during the period kept GDP growth stable at high rate, ranging from 7.2% to 8.8%. Meanwhile, for the crisis period, the decreasing growth of monetary base in the last two year was in line with the slowdown of economic growth from 4.9% in 2000 to 3.3% in 2001. Nevertheless, inflation accelerated in the same period from 9.3% to 12.5%, which was mostly due to administered price adjustment and exchange rate depreciation.



This simple depiction indicates that for Indonesia, especially during the crisis period, there are a number of factors beyond the economy that cloud the relationship between money, income, and prices in the short-run. Inflation has been affected not only by money supply, but also by depreciating exchange rates, administered prices, and constraints on aggregate supply to meet increasing aggregate demand. Similarly, output has been affected by structural problems in the real sector, ranging from debt and corporate restructuring, uncertainty and risk factors on business and investment climate, limited financing and investment both from domestic financial sectors and foreign investors, to issues on labour, legal, security and social-political conditions.



### **5.3 The Interest Rate and Credit Policies**

#### **Interest Rate Policy**

Since financial liberalisation in 1983, interest rates are determined by market mechanism. Thus, banks are free to determine the interest rates for their deposits and lending. The same is also true for inter-bank money market. For auction of SBIs, Bank Indonesia moved from a stop-offer rate mechanism (i.e. set the interest rate and let the quantity to the auction) to a cut-off rate (i.e. set the quantity and let the interest rate to the auction) since 1998. Thus, the interest rate for SBI is also market determined.

However, not all interest rates are completely market determined. This is true particularly since the period of crisis. For safeguarding the confidence in the banking system, the Government introduced a blanket guarantee programme, whereas all the deposits and liabilities of domestically incorporated banks are fully guaranteed by the government. As its corollary, the government set a “maximum guaranteed interest rate”, which is the ceiling on deposit rates and interbank rates guaranteed by the government under the programme. In this way, deposit interest rate determination by the banks is influenced by maximum guaranteed interest rate. However, deposit rates have responded to guaranteed rate asymmetrically. During times of rising government guaranteed rates, bank deposit rates remained relatively unchanged. In contrast, only when guaranteed rates were in decline did they become a reference for time deposit rates.

As pointed out, the guaranteed rate policy was introduced to prevent banks from adopting imprudent measures in fund management following the implementation of blanket guarantee programme in 1998. Since blanket guarantee is an emergency and temporary measure to instill public confidence on the banking system, the guarantee rate policy will be abandoned when the establishment of the deposit insurance institution is realised.

#### **The Credit Policy**

Indonesia no longer adopts lending policy directed to a particular sector. However, banks are expected to extend credit to small businesses.

## **5.4 Exchange Rate Regime and Capital Mobility**

### **Exchange Rate Regime**

Since August 14, 1997, Indonesia has moved from a managed floating exchange rate regime to a flexible exchange rate system. This is in response to the strong depreciation of rupiah caused by large scale capital outflows and speculations following the contagion effect of the Asian crisis. With pressures on the rupiah mounting and the limited foreign exchange reserves, it was impossible to defend the previously managed floating system, even though the exchange rate band was widened several times and intervention in the foreign exchange market was conducted to stabilise the exchange rate.

Weakening exchange rate became a major issue for crisis management in Indonesia during the early period of the flexible system. The rupiah continues to be under severe pressures with high degree of volatility beyond what has been used as underlying assumptions for setting the inflation target. For one part, it reflects the high degree of uncertainties and risk factors in Indonesia emanating from both social and political turbulence as well as severity and complexity of the economic and financial problems. For the other part, it also caused by heavy burdens for servicing external debt, especially of private debts. The progress on private external debts and corporate restructuring has been relatively slow, and that puts persistent pressures on the exchange rate. Under such a condition, monetary policy becomes ineffective in affecting exchange rate and thus its pass-through effects to inflation.

Due to Indonesian's open economy, direct pass-through effects of the exchange rate to inflation are quite significant, estimated with a coefficient of around 0.13 to 0.20, and with short lag, estimated to last for about one to three months. These are reflected in the inflation for traded-goods and import prices. Moreover, through its indirect effects, the weakening exchange rate also put pressures on inflation by inducing price increases in non-traded goods. The exact impact and lag of course depend on each item in the CPI component. However, looking at the evidence, it shows that there is a continuing catching-up price adjustments of non-traded goods to the exchange rate depreciation.

Confronted with these challenges, the monetary policy responses have been a combination of open market operations and intervention in the foreign exchange market. The open market operations have been directed toward controlling the

liquidity in the market according to the inflation target and to mitigate the appetite for speculation. This has been coupled with intervention in the foreign exchange market, not only for supporting the liquidity management but also to stabilise the exchange rate. The magnitude and the timing of foreign exchange intervention depend on the development of liquidity and exchange rate in the market. In addition, to help mitigate the speculation in the foreign exchange market in early 2001, Bank Indonesia issued a prudential regulation prohibiting non-resident borrowing denominated in domestic rupiah currency from domestic banks. This is in response to the modus operandi by foreign speculators using borrowings from domestic money market to speculate in the foreign exchange market.

### **Capital Mobility**

Indonesia has adopted free foreign exchange system since 1982. The system has been strengthened by the enactment of the new Foreign Exchange Flows and Exchange Rate Law of 1999. Thus, under the system, there is no restriction on foreign exchange flows to and from the country, including offshore borrowings by the private firms. Nevertheless, to monitor the movement of foreign exchange flows, since March 2000 Bank Indonesia has introduced a reporting system whereby all foreign exchange flows to and from the country conducted by banks, non-bank financial institutions, and multinational corporations exceeding certain thresholds are obliged to report to Bank Indonesia. This is for statistical purposes and as inputs for government policy making.

## **5.5 Monetary Transmission Mechanism**

Earlier studies on monetary transmission in Indonesia for the pre-crisis period have shown that the interest rate channel is very important for the Indonesian economy and recommended the use of interest rate as the operational target for monetary policy.<sup>3</sup> Meanwhile, another study found that, as an impact of financial deregulation, bank lending channel worked only for smaller banks but not for state banks which constitutes a larger portion of the banking system. For the post-crisis period, an evidence of firm's balance sheet channel is found, in

---

3. Hartadi A. Sarwono and Perry Warjiyo, "The Search for New Paradigm of Monetary Management Under Flexible Exchange Rate System, *Buletin Ekonomi Moneter dan Perbankan*, 1998. Also, Perry Warjiyo and Doddy Zulverdi, "The Use of Interest Rates as Operational Target for Monetary Policy in Indonesia, *Buletin Ekonomi Moneter dan Perbankan*, 1998.

which the response of the real sector to a monetary shock depends upon the financial structure of the firms, the segmentation of the financial market between large and small firms, and the degree of financial/credit friction in the capital/credit market. Furthermore, the study shows a credit-crunch phenomenon in Indonesia for the post-crisis period, explaining that the existence of non-price rationing has significantly reduced the effectiveness of monetary policy in influencing the supply of credit.<sup>4</sup>

Recently, Bank Indonesia has been studying extensively channels of monetary policy transmission mechanisms, focusing on interest rate channel, bank lending and firm's balance sheet channels, exchange rate channel, and expectation channel.<sup>5</sup> The purpose is to further document the existence, especially in terms of magnitude and lag structure, of different channels of monetary policy. The studies employ a Structural VAR to time-series data for the period both pre and post-crisis. For some studies, formal structural economic models are also used. Moreover, the studies are also complemented by the results of the surveys to a sample of banks, corporations, and household.

### **Summary of Recent Monetary Transmission Research**

Overall, the preliminary results of these studies provide valuable information for the transmission mechanism of monetary policy, both for the pre-crisis and post-crisis periods. In particular, not only do they provide evidences on the behaviour of each channel, but also indicate some changes on the relative strength of the transmission for the two periods. For the interest channel, the study reveals that before the crisis both bank deposit and lending interest rates were strongly influenced by monetary policy rate. But the transmissions of interest rate to investment and consumption were weak. After the crisis, however, bank interest rate response to policy rate is weaker as compared to the pre-crisis period. On the contrary, transmission from interest rates to investment and consumption are significant, providing evidence for the stronger cost of capital and substitution effects in the post-crisis period.

---

4. Juda Agung, et.al. *Credit Crunch in Indonesia in the Aftermath of the Crisis*, Bank Indonesia, 2001.

5. These studies form some of the strategic researches conducted in the Bank Indonesia's Monetary Policy and Research Department for 2001. The results of these studies have been published in Perry Warjiyo and Juda Agung (editors), *Transmission Mechanims of Monetary Policy in Indonesia*, Bank Indonesia, 2002.

For the credit channel, the study reinforces and provides more a comprehensive picture on the findings from the earlier studies on the credit-crunch phenomenon and firm's balance sheet channel. On the bank lending channel, the study found that efficacy of a monetary policy shock in influencing bank lending and thus investment is stronger in the aftermath of the crisis, especially in the case of monetary contraction. Ineffectiveness of monetary policy in affecting bank lending prior to the crisis was due to banks' ability to access funds from international sources. In the wake of the crisis, given deterioration of bank capital and high credit risk, an increase in interest rate as a result of a monetary tightening raises the probability of loan default and hence banks become reluctant to extend credits. On the balance sheet channel, the study provides further evidence that the sensitivity of investment with respect to a change in balance sheet variables (cash flow and leverage) increases during the period of monetary contraction, especially for the smaller firms.

For the exchange rate channel, the study shows that monetary policy transmission through the exchange rate worked relatively stronger in the floating exchange regime. For the pre-crisis period, the variability of exchange rate was kept under the managed floating band so that the impact of policy rate to exchange rate was rather weak. Under the floating regime, on the contrary, the volatility of exchange has increased dramatically because of very high risk premium, so that there is a limitation for the policy interest rate to influence the exchange rate. More importantly, the direct pass-through effects of exchange rate to inflation works almost instantaneously since the first month, while the indirect pass-through effect begins with a two-month lag.

For the expectation channel, focus is on analysing the existence of monetary transmission during the post-crisis period. For a number of alternative indicators for inflation expectation, the study shows that inflation expectation derived from the business survey and the Fisher theory perform better than inflation expectation from the consumer survey and inflation assumption for the budget. Furthermore, the study also provides evidences that inflation inertia and exchange rate movements primarily drive both inflation expectation and actual inflation. Meanwhile, the evidence for the response of inflation and expected inflation to monetary policy shocks, measured by the growth of base money and the SBI interest rate, are not clear-cut.

For the asset price channel, the study concludes that there is no strong evidence on the existence of asset price channel of monetary transmission in

Indonesia. Even though monetary policy could alter the financial asset portfolio, it failed to be transmitted further to inflation. The absence of establishing an asset price channel is due to some weaknesses in this study. It is suspected that JSX index could not properly reflect the wealth of the economy. Survey results later verifies the insignificant portion of stocks in household's portfolio, i.e. less than 5%.

## **5.6 Development of Financial Market**

### **Money Market**

During the pre-crisis period, the Indonesian money market has been well developed. This is one of the results from the financial liberalisation that Indonesia undertook since the early 1980s. With the growing number and operations of domestic banking industry, the size and instruments of domestic money market have also advanced. The market was not only for interbank money market, but also for short-term securities issued by domestic companies traded in the money market. The instruments vary from the standard inter-bank loans, certificate of deposits, commercial papers to medium-term notes and promissory notes. Nevertheless, the statistics were available for inter-bank money market. The absence of enforceable reporting mechanism at that time limited the availability of data for market of domestic company's money market securities.

After the crisis, the domestic money market has come under severe problems. For the interbank money market, the crisis that hit the banking industry created several problems. First, the default rate of interbank loans was mounting, adding systemic risk to the banking system. Second, market segmentation persisted whereby the "sound" banks only lent to other "sound" banks while the "problem" bank found difficulties both in settling the existing and acquiring new inter-bank loans. Third, the problems in microstructure of domestic money market created high and volatile interbank rates.

To restore the confidence in the banking system, the government introduced a blanket guarantee programme, whereby all of deposits and liabilities of the banks are fully guaranteed by the government. This includes the interbank money market. As pointed earlier, to cope with the moral hazard problem in the banks in determining the interest rates and to mitigate market segmentation, the government also issued the maximum guaranteed interest rates for interbank

loans. With these measures, confidence in the banking system and the domestic money market has been restored.

### **Foreign Exchange Market**

The economic boom that Indonesia enjoyed during the pre-crisis period was also reflected in the buoyancy of the foreign exchange market. The size reflected the supply of foreign currency from export receipts, foreign investment, and off-shore borrowing while the demand from import and servicing the foreign borrowings. Trading was mainly in the spot market, while the development of derivatives (forward, swap, etc) was not advanced because of stability of exchange rate under the managed floating system.

After the introduction of a flexible exchange rate system in mid of 1997, the foreign exchange market becomes more volatile and under pressure, reflecting both fundamental as well as technical factors. Increasing demands for foreign exchange stemmed from the need for servicing foreign debts and imports. Pressures on foreign exchange were mounting from non-economic factors, reflecting the instability in the domestic social-political sphere as the country moved towards greater democracy and several changes in the government.

To cope with large fluctuations in the rupiah exchange rate, monetary policy measures were strengthened by enhancing several regulation - by supervising big player banks in the foreign currency market and by monitoring foreign currency transactions. It is recognised that the various measures adopted by Bank Indonesia have not had optimum results, owing to the large influence of non-economic factors and to the complexity of macro and micro economic problems influencing the exchange rate.

1. In the framework of absorbing rupiah excess liquidity, which potentially puts pressure on the rupiah exchange rate, Bank Indonesia implemented monetary policy through open market operations, supported by foreign exchange intervention. The latter is also aimed at adding the limited supply of foreign exchange to the domestic market. Amid strong demand for foreign exchange, which was often spurred by socio-political turbulence, this intervention has been successful in restraining the rupiah exchange rate from sharper depreciation.
2. Bank Indonesia has also issued regulation, which stipulates limitations on rupiah transactions by non-residents. This policy was issued against the

backdrop of non-residents' behaviour that tended to use the rupiah as a means for speculations. This policy proved capable of limiting non-residents' space for undertaking rupiah transactions that were not based on real economic activities.

3. Bank Indonesia continues to supervise banks that were directly and indirectly active in the foreign currency market. Direct supervision of banks which are the main players in the foreign exchange market is very important to ensure compliance with prudential regulations, including in foreign currency transactions. Meanwhile, indirect supervision is mainly implemented by monitoring of financial report regularly submitted by foreign currency banks and of foreign currency transactions through data from Money Market Information Center.
4. In line with measures to rehabilitate the banking sector, efforts will continue to be adopted to improve the microstructure of the foreign currency market. These include reducing market segmentation to create a more liquid and efficient foreign currency market.

### **Stock Market**

As a part of overall financial liberalisation, the government took several fundamental measures to develop the capital market since the end of 1987. These measures include abandoning the limit of stock price fluctuations, allowing for private own stock markets, inviting foreign investors, introducing company listing, and strengthening the legal base and regulations.

Currently, there are two stock markets in Indonesia, i.e., Bursa Efek Jakarta (BEJ) and Bursa Efek Surabaya (BES). They are well electronised and located in the financial area. The volume of trading has been increasing over the past years, following the boom in the pre-crises period and declining in the early period of the crisis. The instruments traded in the stock markets range from stocks, warrant, rights, and options.

In order to improve capital market performance, the government over the past years, has taken several measures:

1. To allow stock issuers to strengthen their equity base, the government issued a regulation that permitted them to do right issues up to 5% of their



paid-up capital in a three-year period, without giving a preferred option to current stakeholders.

2. To augment the existing regulations for violations such as insider trading, the Capital Market Supervisory Agency (Bapepam) issued new regulations that serve as a guideline for examination of suspected insider trading. The regulation outline steps to investigate with a view to getting evidence of information about violations in the stock market.
3. To avoid market manipulation, insider trading and conflict of interest in certain transactions, the Capital Market Supervisory Agency set conditions for repurchases of stocks issued by listed companies.
4. Issuance policy to allow a smaller price fraction for stocks.
5. The Capital Market Supervisory Agency started to implement scriptless trading and book-entry settlement system in mid-2002.
6. A change in the organisational structure of the Capital Market Supervisory Agency and the issuance of permits for a maximum 99% ownership of shares of joint venture companies before public offer to foreign security companies.
7. In order to widen access to the bourse, in November 2001, the government developed a remote, high technology trading system.
8. Discontinuation of the immediate market for the efficiency purposes through market simplification.
9. The government is drafting a bill on the revision of the existing Capital Stock law in order to enhance the independence of the Capital Market Supervisory Agency, and to improve Indonesia's Capital Market performance as a response to the development of world capital market.

### **Government Bonds Market**

Trading activity of government bonds in the secondary market has still been very limited although the government increased the portion of bank recapitalisation bonds that could be traded in the secondary market. To boost transactions in the

secondary market and to help recapitalised banks, the government and Bank Indonesia has taken the following policy measures:

1. On November 30, 2000, the government offered banks holding government recapitalisation bonds the opportunity to participate in the bond exchange offer programme. The Bond Exchange Offer is a programme offering stapled bonds in exchange for recapitalisation bonds. Two types of stapled bonds are offered in fixed proportion, with the first type carrying a higher interest rate than the original recapitalisation bond and the second type carrying a lower interest rate, but with the weighted average interest rate on the stapled bonds being equal to the interest rate on the original recapitalisation band to be exchanged.
2. The law on government securities has just been passed recently to provide a legal basis for the issuance of government bonds and to increase investor confidence. The new law stipulates, among others, that the government guarantees payment of the coupon and of the principal maturity standing appropriation.
3. The government is planning to issue Treasury Bills, and it is expected that these will be issued in the second quarter of 2001.
4. Bank Indonesia, together with market participants, is in the process of designing the rules of conduct for bond trading based on the repurchase agreement transactions between Bank Indonesia and market participants.
5. The ceiling on government bonds that can be included in the trading portfolio was raised from 25% on December 2000 to 100% on July 2001.

With the various measures and facilities already introduced and being prepared together by the government and Bank Indonesia, it is expected that the secondary market for government bonds will be more active.

**INDONESIA**

(in trillions rupiah)

	1990	1995	1998	1999	2000	2001
Business-Sector Lending of All Financial Institutions (outstanding)		253.3	519.0	250.6	302.6	344.4
Banks		234.6	487.4	225.1	269.0	307.6
Leasing		8.6	15.6	10.9	13.7	14.1
Consumer Funding		4.5	5.2	4.3	8.5	12.4
Factoring		5.7	8.0	6.4	6.6	3.3
Credit Cards		0.0	0.4	0.3	0.4	0.8
Pawn company			2.0	3.2	4.2	6.0
Others			0.3	0.2	0.2	0.3
Total Assets of All Financial Institutions		437.7	939.1	1,036.9	1,085.4	1,138.8
Banks		413.8	895.5	1,006.7	1,048.2	1,099.7
Leasing, Factoring, Credit Cards, Consumer Fundings		23.9	43.6	30.2	35.8	37.3
Pawn company					1.4	1.8
The Size of Money Market by Financial Instruments						
Inter bank money market	38.9	189.3	2,104.9	595.4	285.4	461.1
Commercial Papers						
Certificate of Deposits						
Outstanding of Certificate of Deposits			6.8	2.6	3.6	5.6
The Size of Capital Market by Financial Instruments		32.4	99.7	147.9	163.2	180.0
Stock		32.4	99.7	147.	122.8	114.3
Government Bond					31.6	64.7
Corporate Bond					8.8	1.1
New Funds Raised by the Private Sector in the Stock Market	5.2	5.7	0.1	0.8	1.8	1.1
New Funds Raised by the Private Sector in the Corporate Bond Market	0.5	2.0	0.2	4.3	5.6	2.9
Total Number of Companies Listed in the Stock Market	144	273	309	321	347	379

## **6. KOREA**

### **6.1 The Objectives of Monetary Policy**

The highest priority in monetary policy is placed on achieving the targets for price stability. The Bank of Korea, however, tends to conduct its policy rather flexibly, taking account of the overall situation including real economic trends and changes in the financial market.

Monetary targeting with an emphasis on achieving the intermediate target of monetary aggregates M2 had been carried out in the pre-crisis period. Under this system, the goal of price stability and economic growth had been pursued through establishment of intermediate targets for the M2 monetary aggregates and strict management of the variable. In particular, in view of the disruptive impact of realignment of the trust account system on M2 in 1997, the Bank of Korea adopted a system of dual monetary intermediate targets: namely, the growth rates of M2 and MCT (M2 + CDs of banking institutions + money-in-trust of non-bank financial institutions). During the year, the target range for the growth rate of M2 was set within a range of 14 - 19 percent and that for MCT at 15 - 20 per cent, on December daily-average basis. However, in the wake of the financial crisis which unfolded in November 1997, an Inflation Targeting Regime was introduced, as the provisions of the revised Bank of Korea Act of April 1998 required The Bank of Korea to assume responsibility for meeting an annual target inflation rate. Following the introduction of the inflation target system, The Bank of Korea in September 1997 announced an inflation target for 1998 of 8-10 per cent, on the basis of the annual rate of increase of the CPI. The central point for the annual average rate of increase was set at 9 per cent, in reflection both of the economic outlook and the basis for the operation of macroeconomic policy agreed on by the Korean government, The Bank of Korea and the IMF. A target band with bounds of 1 percentage point above and below the central point was then imposed, to allow for possible changes in the domestic and international economic environments and variability in monetary policy transmission effects. Consumer price inflation for the year as a whole registered 7.5 per cent, which was below the lower bound of the target range. The explanation for this undershoot is that production costs, centering on wages and prices of imported materials, decreased much more sharply than had been anticipated, despite the easing of the monetary policy stance from the second quarter onwards. The target for 1999 was set substantially lower, at 2-4 per cent. Taking annual average core inflation as the basis, The Bank of Korea then

set the yearly target for 2000 at 1.5 - 3.5 per cent and its medium-term target at 2.5 per cent. It made a slight upward adjustment of the annual inflation target for 2001 to 2-4 per cent. It was decided that adherence to the same target as that in the previous year could be regarded as a sign of excessive tightening, in circumstances where the rate of price increases was expected to reach the 3 per cent level due to knock-on effects of large increase in international oil prices and a hike in public utility charges, as well as the depreciation of the won against the dollar. The BOK did, however, maintain its medium-term inflation target for monetary policy after 2001 at 2.5 per cent.

## **6.2 The Effect of Money on Output and Inflation**

According to the recent study by Hyun E. Kim (2000) on the lag in the effects of monetary policy in Korea, a one percent-point increase in monetary base as a proxy for the monetary policy indicator starts to raise the inflation rate (based on the CPI) very slowly in seven months, with its maximum level (0.16 percentage-point increase) materialising only in twenty-four months. Industrial production, however, tends to respond more immediately than the inflation rate to a monetary base shock. It starts to increase immediately in response to the monetary base shock and reaches its maximum level (a 0.75-0.80 percent-point increase) in three months. This evidence appears to suggest that monetary expansion may immediately lead to a boosting of economic activities, with little short-run impact on the prices.

## **6.3 The Interest Rate and Credit Policies**

In August 1991, the Korean government and The Bank of Korea announced a plan to implement a four-phased interest rate deregulation. The plan called for the liberalisation of all interest rates, except those of some short-term deposits including demand deposits, by the end of 1996. It also sequenced the liberalisation of interest rates on loans earlier than those on deposits, and the deregulation of interest rates on long-term and large-value products earlier than on short-term and lower-value products. Based on this interest rate deregulation plan, the government implemented deregulation on a step by step basis from November 1991. With the interest rates on savings deposits with maturity of less than three months being freed up in July 1997, almost all interest rates, except those on short-term deposits such as demand deposits and lending rates on credits supported from fiscal funds, were deregulated.

The Bank of Korea employs lending policy to control the money supply either by rediscounting commercial bills discounted by banks. This lending policy is the so-called Aggregate Ceiling Credit System. It was introduced in March 1994 to expand loans to small- and medium-sized companies and encourage balanced regional development. The Monetary Policy Committee sets the aggregate credit ceiling every quarter, taking into account the monetary and financial situation. The Governor of The Bank of Korea operates the system after setting up quarters within the aggregate credit ceiling for individual banks and for the BOK branches. If necessary, it is possible to set up a preliminary ceiling of up to 10 per cent of the total ceiling. As of the end of September 2001, The Bank of Korea applied an annual 2.5 per cent interest rate to aggregate ceiling credits, much lower than the market rate, in order to achieve its policy objective. The aggregate loan ceiling was set at 11.6 trillion won.

#### **6.4 Exchange Rate Regime and Capital Mobility**

In the late 1980's, when the current account changed into surplus, the government set out its policy on foreign exchange liberalisation. It adopted the Market Average Exchange Rate System in March 1990 and thus allowed the exchange rate of the won against the dollar to be determined on the basis of underlying demand-supply conditions in the foreign exchange market (specifically, the inter-bank market). However, this was different from a free-floating exchange rate system in that daily fluctuations were limited within certain bands.

The background of the change was the development of an increasing need for liberalisation for enterprises and individuals in terms of economic affairs. They thought that the liberalisation of foreign exchange transactions could improve the efficiency of domestic financial markets and make it possible to respond more effectively to the rapid changes in international financial markets.

The government introduced the Free-Floating Exchange Rate System in December 1997, right after the financial crisis unfolded in November 1997. At the same time, it accelerated the speed of capital account liberalisation. Thus, the ceiling on foreign investment in Korean equities was entirely abolished and both the local bond markets and money markets were completely opened to foreign investors in May 1998.

In June 1998, the government announced a plan to liberalise all foreign exchange transactions in two stages. The primary goals of this plan were to

upgrade Korea's foreign exchange system to international standards, to facilitate the flow of foreign capital, and to further promote the overseas business activities of the private sector in the current open market environment.

The first stage was the introduction of the new "Foreign Exchange Transaction Act." This included the full liberalisation of current account transactions by corporations and banks, conversion of regulations on the capital account into a negative system, etc. The second stage of liberalisation took effect from January 2001. It eliminated the remaining ceilings on many foreign exchange transactions, such as the ceilings on overseas travel expenses, emigration expenses and withdrawals of domestic assets by nonresident nationals and deposits and trusts abroad.

The Foreign Exchange Transactions Act (FETA) regulates the exchange rate system, foreign exchange operations, payment and receipt of foreign exchange and certain capital movements. It also delineates the business areas and responsibilities of foreign exchange business institutions. The purpose of this Act is to contribute to the sound development of the national economy by striving to facilitate foreign transactions, to maintain the balance of international payments and to stabilise the value of the currency through guaranteeing the freedom of foreign exchange transactions and other foreign transactions and vitalising the market functions.

The FETA stipulates the procedures required for any foreign exchange transaction in each of three areas - "transaction type", "payment and receipt" and "method of payment and receipt".

First, general current transactions do not need to receive any permission. However, several types of current transactions require notification or confirmation for the purpose of monitoring. The regulatory system for capital transactions is a sort of negative system, and transactions on the negative list such as loans, guarantees, financial derivatives and overseas portfolio investment require advance permission in certain cases. The FETA has a sunset clause stipulating that the system requiring permission for certain capital transactions shall be liberalised by the end of December 2005.

Second, payments for current transactions are freely permitted as long as documents certifying the reason for and amounts of payment are submitted. Only some invisible transactions payments, such as overseas travel expenses,

overseas emigration expenses and donation payment over certain limits, require prior confirmation from or notification to The Bank of Korea. There are also some restrictions on receiving payment from or making payment to terror-related individuals and groups on the list adopted by the UN Security Council Committee.

There are regulations concerning offshore borrowing by private firms. For example, when private firms borrow short-term foreign exchange funds for periods not exceeding one year from nonresidents, they must obtain permission from the Minister of Finance and Economy, and when they borrow foreign exchange funds exceeding 30 million dollars apiece per each one, they must also obtain the authorisation of the Minister of Finance and Economy. They must also report mergers, dissolutions, closures, transfers, takeovers, or modifications to the Minister of Finance and Economy, in accordance with the classifications prescribed by Presidential Decree.

The Foreign Investment Promotion Act (FIPA) seeks to encourage the investment of foreign capital and the introduction of foreign technology in Korea, and to manage and utilise such foreign capital and technology effectively. The plan for Foreign Exchange Market Development was announced in April 2002 to make Korea's foreign exchange market the leading financial hub of East Asia by the year 2011.

- 1) First Stage (2002-2005): Lifting of procedural regulations on FX activities, and expansion of Korean won funding limits for nonresidents and of the ceiling amounts on residents' overseas borrowings requiring notification.
- 2) Second stage (2006-2008): Abolishment of most remaining permission requirements for capital transactions, simplification of the process of submitting evidential documents for capital payments and removal of remaining entry barriers to FX trading by non-bank financial institutions.
- 3) Final stage (2009-2011): Complete FX liberalisation, including substantial internationalisation of the Korean won, with the some exceptions such as the retention of safeguard measures and simple notification requirements.

## **6.5 Monetary Transmission Mechanism**

### **Interest Rate Channel, Stock Price Channel, Exchange Rate Channel**

Recently, D. K. Chang (2002) applied a standard VAR approach to the Korean monthly data from January 1982 to April 2001, to analyse the relative



importance of various monetary policy transmission channels in Korea. He found that during the 1990s the real effects of monetary policy shock (monetary base, call money market rate) via the interest rate channel and stock price channel had become larger and faster than in the 1980s. The evidence also indicated that the balance sheet channel operated more significantly than the bank lending channel in the 1990s.

### *Credit Channel and Credit Crunch*

There has been much recent research on the credit channel and credit crunch in the monetary transmission mechanism in Korea whereas relatively few studies on other channels are found in the literature.

Hyun E. Kim (1995) tested the theoretical predictions of the bank lending channel (i.e., loan supply effects) using disaggregated bank data. The VAR approach was applied to monthly Korean data for four time series variables (monetary base, loan volume and securities holdings of small and large banks, industrial production) from January to May 1994. The impulse responses indicated that a one per cent increase in the monetary base had a considerably greater dampening effect on the lending volumes and securities holdings of small and medium-sized banks, as well as of local banks alone, than it did on the six largest banks. This finding may reflect the following tendency: since small banks tend to rely heavily on deposits for fund-raising, and face higher borrowing costs compared with large banks, they appear to cut their lending volumes (loan supply) by a relatively greater extent than large banks do. Thus, Kim interpreted this evidence as being consistent with the prediction of the bank lending channel.

Ding, et al. (1998) and Domac and Ferri (1998) found evidence of a credit crunch in the sharp increases in spread between bank lending rates and corporate bond yields, reflecting the tightening of the bank loan market after the crisis in December 1997. Ferri-Kang (1999) found, based on individual bank data, that banks, in particular those with lower equity, raised lending rates and reduced their lending rapidly. Ghosh and Ghosh (1999) and Hyun E. Kim (1999) took the approach of estimating equations for loan demand and supply, but with opposite results. Kim found that a marked decline in bank lending after the recent financial crisis in Korea amplified the real effects of tightened monetary policy implemented in response to the crisis. Furthermore, he found that a substantial excess demand for bank loans in the wake of the crisis was caused essentially by a capital-induced bank credit crunch rather than by a weak demand for loans. This finding

revealed evidence of the importance of the credit channel after the crisis. Ghosh and Ghosh, however, found that the driving force behind the credit crunches in Korea, Thailand and Indonesia was an excess demand for credit rather than an excess supply of it. Borensztein and Jong W. Lee (2002) also analysed the credit crunch following the recent financial crisis in Korea. Using enterprise-level data, they found that there were big differences in the magnitude of the credit contraction across different types of firms. In particular, chaebol (conglomerate) – affiliated firms appeared to have lost the preferential access to credit that they had enjoyed in the pre-crisis period, and credit appears to have been reallocated in favour of more efficient firms. This suggests that the credit crunch suffered by certain sectors can be attributed to the adjustment by banks and enterprises to the restructuring of the financial sector, rather than to tight monetary policy or an external credit constraint.

## **6.6 Development of the Financial Market**

The Korean financial industry and financial markets have experienced great changes thanks to active financial liberalisation and financial market opening since the early 1990s. The currency crisis at the end of 1997 accelerated the process of change already underway in the Korean financial system. Many unsound financial institutions have been forced to exit the market, and there have also been several mergers between financial institutions. To promote the banking system, there have been many introductions or revisions of various statutes, and the Financial Holding Company Act was also passed. This restructuring process has provided an opportunity for the Korean money and capital markets to develop, as an alternative to the banking system.

Korea's money market is less developed than its capital market in terms of market size. However, the development of the money market has been started in the call market and the MSB (Monetary Stabilization Bond) market. First, in the wake of the financial crisis, The Bank of Korea increased the volume of MSB issuance to absorb liquidity, which had been expanded greatly during the financial restructuring process. As a result, MSBs outstanding have increased sharply, and stood at 79 trillion won at the end of June 2001. Second, the number of participants in the call market has increased substantially. Intermediary transactions are made through a blind brokerage system by the two money brokerage companies—Korea Money Broker Corporation and Seoul Money Brokerage Services, LTD. As of the end of 2001, there were a total of 677 institutions participating in the call market, such as the National Investment Fund,

the Korea Deposit Insurance Corporation, the Korea Asset Management Corporation and the National Debt Management Fund. In addition, banks and such non-bank financial institutions as trust accounts of banks, investment trust management companies, merchant banking corporations, securities companies, insurance companies and mutual savings and finance companies were also participating. In this respect, the call market in Korea is regarded not only as the market for adjustment of excesses and shortages in reserves between banks, but also as the market for the mobilisation of operating funds.

In the stock market, the volume of corporate funds raised through the issuance of stocks declined in 1997, as the secondary market suffered a slump due to a series of major corporate insolvencies and the unease the foreign exchange market. However, in the process of corporate and financial restructuring, financial institutions and large companies increased their rights offerings sharply, to attract additional equity capital and bring down their debt-to-equity ratios. As a result, while volume of funds raised through rights offerings amounted to only 13 trillion won in 1998, it surged to 33 trillion in 1999. The biggest development in the Korean stock market since 1997 has been the announcement of the KOSDAQ Composite Index since July 1997. The KOSDAQ market is a secondary market operated by Kosdaq Stock Market, Inc. It has no exchange floor, and transactions are made through a network system. The number of companies listed on the KOSDAQ market increased from 359 in 1997 to 616 at the end of 2001. The total value of stocks listed on the KOSDAQ market also surged, from 8 trillion won at the end of 1998 to 45 trillion won at the end of 2001.

In May 1998 the Korean government completely lifted the investment ceilings on foreign investment in stocks, except for investment in public corporations. It composed the equity fund for the first time in December 1998. Thereafter, the Korea Over the Counter Bulletin Board was opened for companies unable to get membership in the KSE or KOSDAQ markets in March, 2000.

After the currency crisis at the end of 1997, the improvement of the Korean bond market became more necessary as the volume of bond issuance increased sharply and the size of the bond market expanded rapidly. The outstanding amount of bond issuance, which was only 59 trillion Won at the end of 1990, has expanded particularly rapidly since 1998, and reached 370 trillion won at the end of June of 2001. In this process, the following improvements have been planned and completed:

- 1) The expansion of the ceilings on corporate bond volume and abolition of all restrictions on foreign investment in listed bonds in December of 1997
- 2) The adoption of the Bond-Price Valuation Method in November of 1998
- 3) The regular issuance of government bonds, in January of 1999
- 4) The establishment of an IDM (inter-dealer market) in the Korean bourse in March of 1999
- 5) The introduction of the PD (primary dealer) system in July of 1999
- 6) The establishment of a national bond futures market in September of 1999
- 7) The introduction of high-yield funds and funds for subordinated securities in November of 1999
- 8) The introduction of IDB (inter-dealer broker) in February and operation in June of 2000
- 9) The introduction of the Fungible Issue System in May of 2000
- 10) The issuance of ten-year maturity bonds in October of 2000
- 11) The introduction of a government bond buy-back system in December of 2000.

The Korean government is also making every effort to support the development of the money and capital markets by exemptions from taxes, privatisation of financial institutions, lifting of the ceilings on foreign investment, etc. It is also trying to heighten the effectiveness, swiftness and accuracy of financial transactions through the improvement and expansion of the electronic payments system.

## (Annual data, trillion won)

<b>KOREA</b>	1990	1995	1998	1999	2000	2001
Business Sector Lending of Commercial Banks(Amounts) <sup>1</sup>	46.9	103.2	142.4	152.5	185.2	195.8
Business Sector Lending of All Financial Institutions (Amounts)	49.9	217.7	235.8	218.5	238.5	228.4
Total Assets of Commercial Banks (Amounts)	184.6	379.5	576.9	640.0	737.8	762.6
Total Assets of All Financial Institutions (Amounts)	400.7	1015.9	1502.0	1516.9	1518.7	1534.8
The Money Market Size by Financial Instrument						
Commercial Paper	12.7	44.2	11.9	3.7	4.4	17.7
Certificates of Deposit	6.8	28.3	15.7	15.5	14.7	16.0
Interbank deposits/loans	1053.2	1209.9	4755.6	5382.1	4714.0	5322.2
Others(RPs,cover bills,MSBs)	18.9	42.2	41.6	43.5	66.6	70.5
Bond Market Size by Financial Instrument <sup>2</sup>						
Government Bonds	3.3	1.8	13.0	19.6	10.1	11.2
Corporate Bonds	7.3	13.3	32.6	-3.0	14.0	20.8
Others	6.2	5.8	27.7	2.2	18.7	17.3
Funds Raised by Private Sector in the Stock Market (Amounts)	-	-	8.3	55.6	25.0	21.8
Funds Raised by Private Sector in the Bond Market (Amounts)	-	-	183.5	127.9	81.6	90.2
Total Number of Companies Listed in the Stock Market						
KSE	669	721	748	725	704	689
KOSDAQ	-	-	331	453	604	616

Notes: 1. Business sector means non-financial private sector.

2. Market size implies issuance, transactions or outstanding amounts by financial instrument.

## **7. MALAYSIA**

### **7.1 The Objective of Monetary Policy**

The primary objective of monetary policy is to achieve price stability and create an environment conducive for investment and growth. An important policy consideration is also to ensure stability in the domestic money and foreign exchange markets.

To achieve this objective, a key element is to ensure an efficient monetary transmission process. Bank Negara Malaysia (BNM), therefore, constantly reviews the monetary policy framework to ensure that it remains relevant amid the dynamic changes in the financial and economic environment. The evolution of the monetary policy framework can be broadly characterised by the following developments:

- The shift in monetary policy strategy from monetary targeting towards interest rate targeting (towards the mid-1990s); and
- The transition towards a more market-based monetary policy implementation procedure.

#### **Shift Away from Monetary Targeting to Interest Rate Targeting**

Prior to the mid-1990s, the monetary policy strategy had been based on targeting monetary aggregates. This was an internal strategy and was not formally announced to the public. The deployment of this strategy was based on evidences that monetary aggregates were closely linked to the ultimate objectives of monetary policy. In a correlation test conducted using quarterly data from 1980-1992, monetary growth (M3) was shown to be positively and highly correlated with inflation. Given that price stability was the ultimate objective of monetary policy, monetary targeting was seen as a suitable target for policy. During this period, the day-to-day volume of liquidity in the money market was carefully monitored and judiciously influenced by BNM, consistent with the monetary growth target. This was to ensure that the supply of liquidity was sufficient to meet the demands of the economy, consistent with BNM's monetary policy objectives of price stability. Monetary targeting, therefore, was aimed at ensuring that the excess liquidity did not translate into an acceleration in loans which will in turn expand money supply beyond its target rate and fuel inflation. Up until 1987, M1 was the main policy target. However, with financial

liberalisation and innovation, BNM subsequently placed greater importance on the broad monetary aggregate, M3, as the policy target.

However, subsequent developments in the economy and the financial system during the early 1990s weakened this relationship and highlighted the problems associated with using monetary aggregates as policy targets. The large capital flows in 1992-93 followed by a reversal in the following year brought to the forefront the instability of the monetary aggregates as targets.

Studies have shown that monetary growth no longer provided any additional explanatory power beyond that provided by the output gap. This could be interpreted as suggesting that monetary growth is caused by output growth and not vice-versa, making monetary aggregates a lagging indicator and, therefore, unsuitable as an intermediate target. Globalisation of financial markets and, to a lesser extent, financial development have altered the money demand function, making it much more difficult to predict the quantitative effects of monetary policy on its objective of price stability. Consequently, towards the mid-1990s, BNM shifted to focus from monetary targeting to interest rate targeting<sup>6</sup>. BNM, nevertheless still monitors very closely monetary aggregates, credit growth and other economic and monetary indicators. These include price developments (including asset prices) and indicators of consumption and investment.

## **7.2 The Effect of Money on Output and Inflation**

In managing price stability, BNM is aware that monetary policy affects the economy with long and variable lags. For this reason, BNM monitors a wide range of economic indicators. By responding pre-emptively, inflationary conditions have been contained.

It is important to note, however, that shifts in monetary policy also affect investment and consumption. In a situation where inflation is caused by excess demand in the economy, a contractionary monetary policy is called for. The higher interest rates that result from a tightening of monetary policy can be expected to result in a reduction in interest-sensitive expenditures for both households and businesses. In particular, residential construction and investment in capital equipment are sensitive to interest rate changes as they are financed largely by borrowings. In a small, open economy such as Malaysia, monetary

---

6. For a detailed discussion, please refer to "The Central Bank and the Financial System in Malaysia – a Decade of Change 1989-1999", BNM, pp. 143-148.

policy also works through the external sector by affecting capital flows from abroad. Higher interest rates relative to foreign rates generally can be expected to result in inflows of capital and a subsequent upward pressure on the exchange rates, which in turn would result in lower imported inflation. Expectations also play a major role in the effectiveness of monetary policy. If the monetary authorities are seen as effective in containing inflation, the period of adjustment in the economy can be expected to be shorter.

Malaysia has been relatively successful in maintaining a low inflation environment with relatively high GDP growth. Malaysia has had a record of achieving the second highest GDP growth of 9.3% per annum for the period 1988-97 compared with 20 other Asian countries while at the same time achieving the second lowest inflation rate of 3.4% per annum. Monetary policy in Malaysia has played a major role in maintaining this low inflation, and thereby supporting the conditions for a high rate of real output growth.

Malaysia did experience periodic episodes of high monetary growth. These conditions, however, did not persist over an extended period. The initial inflationary shock came from non-monetary sources, that is, the steep price increases in 1973-74 and 1980-81, caused by sharp increases in global oil prices. More recently, the 1998 episode of relatively high prices was caused by a sharp depreciation of the currency.

### **7.3 The Interest Rate and Credit Policy**

All deposit rates were fully deregulated in 1987. With effect from 1 February 1991, the base lending rate (BLR) of the banking institutions was completely freed from administrative control, with banking institutions allowed to charge a maximum of 4 percentage points above their declared BLR. With the freeing of the BLR, both deposit and lending rates were expected to be determined competitively by the banking institutions, taking into consideration market forces. There was, however, a long transmission lag for policy (about 2-3 months). To reduce this lag, a new BLR framework was introduced in November 1995, whereby the BLR was linked to the weighted monthly average of the 3-month interbank rate. In 1998, the BLR was linked to the 3-month BNM intervention rate instead of the 3-month interbank rate, hence reducing the transmission lag to within one week<sup>7</sup>.

---

7. For details on the computation of the BLR, please see "The Central Bank and the Financial System in Malaysia: a Decade of Change 1989-1999", BNM, pp. 150-151.



Operationally, when the BLR was linked to the interbank rate, BNM operations in the money market were aimed at influencing the interbank rate towards a desired level. The changes in this rate were subsequently transmitted to lending rates through the BLR formula as well as to other interbank rates and retail deposit rates. With the move to link the BLR formula directly to BNM's 3-month intervention rate, BNM announced the new rate to provide the direction of policy stance.

As at 25 September 2002, there are two directed lending policies in place namely Loans to the Bumiputra Community and Housing Loan Commitments. The main purpose of these policies are to ensure that the Bumiputra Community and prospective house owners from the lower-middle income group continue to have access to credit at reasonable cost from the banking institutions.

The main features of both schemes are:

#### **Loans to the Bumiputra Community**

- Loans to the Bumiputra community are set at a minimum of 30% of the total loans outstanding of the banking institutions as at 31 December 2001
- Pricing for Loans to the Bumiputra Community, is determined by banking institutions.

#### **Housing Loan Commitments**

- Commercial banks and finance companies are required to make firm commitments to individuals to finance the purchase or construction of at least 150,000 unit of houses, each costing RM100,000 or below during a pre-specified period of time. The housing quota includes newly constructed as well as second-hand houses, which are owner-occupied.
- Pricing for housing loans is subject to a maximum margin of 1.75% percentage points above the quoted base lending rate of the respective institution or 9% per annum, whichever is lower. For houses financed under Islamic banking facilities, the ceiling profit rate is 9% per annum.

### **7.4 Exchange Rate Regime and Capital Mobility**

In the period 27 September 1975 – 1 September 1998, the value of the ringgit was determined in terms of a composite basket of currencies that were

significant trading partners of Malaysia. The ringgit was in a managed float against other currencies. BNM intervention was limited to smoothing volatility. Otherwise, the exchange rate was allowed to reflect the long-term fundamentals of the Malaysian economy. During the Asian Financial Crisis, the ringgit experienced significant volatility and severe downward pressure against major currencies. In 1997, the ringgit depreciated against major currencies in the range of 25.1% to 35%, and depreciated by 31.4% against the composite basket of currencies. In this context, in addition to the introduction of selective exchange controls on 1 September 1998, the ringgit was fixed to the US dollar at an exchange rate of RM3.80 = US\$1 on 2 September 1998 to restore stability to the foreign exchange market and provide a greater degree of certainty for traders, investors and consumers. The imposition of selective exchange controls ensures that the effectiveness of monetary policy is not affected by the move to the fixed exchange rate.

The exchange control measures adopted by Malaysia have been designed and implemented to achieve specific objectives in response to specific circumstances<sup>8</sup>. Malaysia imposed selective measures, directed mainly at reducing the internationalisation of the ringgit. On its part, Malaysia had already undertaken adjustment policies and implemented financial reforms to reduce the risks and vulnerabilities to external developments. The prospects for these initiatives to yield the desired results could only be achieved in a stable environment. However, the worsening of the international financial environment led to continued domestic financial instability, contributing to a sharper-than-expected contraction of the economy of 4.8% in the first half of 1998. Despite macroeconomic adjustment policies in all crisis countries, exchange rates remained volatile and susceptible to speculative pressures. Although it had become clear that there was a need for greater transparency among the large players, and for reforms in the international financial system, a concerted international effort to stem this volatility was not forthcoming. For Malaysia, a major source of concern that was emerging since April 1998 was the increase in the rate of internationalisation of the ringgit, resulting in an outflow of ringgit to offshore markets. This ringgit outflow was attracted by higher interest rates in the region of 20% to 40% offered by offshore centres, while onshore rates were in the region of 11%. The strong demand for offshore ringgit and the consequent build-up of offshore ringgit

---

8. For greater details on the exchange control measures, please refer to BNM Annual Report 1998, pp 61-65.

increased the vulnerability of the ringgit. This trend, if left unchecked, would undermine the prospects for recovery and the ability to conduct monetary policy based on domestic conditions, thereby resulting in fundamental damage to the real economy.

Malaysia, therefore, designed the selective exchange control measures to specifically achieve the objective of reducing the internationalisation of the ringgit. This was achieved by eliminating access to ringgit by speculators, both at home and abroad. This involved the introduction of rules relating to the external account transactions of non-residents and currency of settlement of trade transactions, while general payments, including movements of funds relating to long-term investments and repatriation of profits, interest and dividends remained unaffected. The measures are also aimed at stabilising short-term capital inflows, by requiring inflows of capital to remain in the country for a period of 12 months. The measures are temporary and would be modified or removed when its objectives have been achieved.

Initial indicators point to the success of the exchange control measures. The greater stability in the currency, stock markets and the financial system is contributing to some revival in consumer and investor confidence. The controls, although limited in scope, have been sufficient to provide a greater degree of independence for the conduct of monetary policy to support the recovery process. The measures have been positively received by long-term investors. The measures have enabled an intensification of the ongoing reform. Malaysia has taken full advantage of the “breathing space” provided by these controls to further expedite economic and financial reforms. On the international front, there has been an important shift in thinking on the broader issue of policy response to the financial crisis in general, and on the issue of exchange controls in particular. There is now increasing recognition that such controls are appropriate under specific circumstances, particularly when they are targeted at short-term destabilising capital flows and when the controls complement, and are not a substitute for policy adjustments.

## **7.5 Monetary Transmission Mechanism**

In Malaysia, monetary policy operates through short-term interest rates to achieve its ultimate objective of price stability. The level and direction of interest rates is influenced through liquidity management and its signaling impact. BNM conveys its policy intention to the market through its daily tender operations and

the intervention rate. A change in policy rate will trigger a chain of events that affect the whole range of market rates. More specifically, changes in BNM's policy rate will have a direct impact on lending rates which will affect the cost of funds in the system. This in turn will affect the private sector's financial assets and liabilities position and, hence, asset prices. It will also affect decisions to consume or save, and invest which involves both domestic and external goods and services. These factors will ultimately influence aggregate demand, and finally prices. Generally, the objective is to ensure aggregate demand is in line with potential output to contain inflationary pressures. Price stability will lead to efficient resource allocation; improve investment sentiment; provide incentive to save and enhance economic welfare. More importantly, price stability will foster sustainable long-term economic growth.

In order to achieve its monetary policy objective, BNM has at its disposal a number of monetary policy instruments, including the open market operations (OMO); direct intervention by BNM to borrow or lend in the interbank money market; and the issuance of BNM papers. BNM has also relied on other instruments, notably the centralisation of the Federal Government's surplus balances and the Employees Provident Fund's excess funds at BNM; and variations in the statutory reserve requirement (SRR). The SRR has been adjusted when fundamental developments have taken place, particularly when for example conditions that could fuel inflationary pressures or cause a contraction in economic activities are assessed to persist. When the conventional instruments are ineffective and inadequate in addressing external shocks, BNM, as a last resort, may use selective administrative measures. Such measures, however, are carefully designed so that it will only resolve specific problems without affecting other economic activities and are mainly intended to be used on a temporary basis. As Malaysia is a developing economy, the conduct of monetary policy has also attached great importance to the attainment of social objectives, prompting BNM to impose selective lending guidelines for priority sectors.

Due to the structural changes such as the Asian financial crisis, BNM has not conducted any studies on the effectiveness and changes in the transmission channel of monetary policy. Nevertheless, such studies have been earmarked as a key research area in the near future.

## **7.6 Development of the Financial Market**

### **Measures to Develop the Capital Market**

Bank Negara Malaysia (BNM) has long recognised the importance of developing the domestic capital and derivatives markets and has played a significant role in supporting the development of these markets. BNM played a pivotal role in promoting the development of the capital markets, particularly in institutional building and market development. These efforts included the development of the market institutions, the market participants, the equity market, the Government securities market, the secondary mortgage market, the private debt securities market and to a lesser extent, the derivatives market as well as the establishment of the market regulator, the Securities Commission (SC).

The capital markets in Malaysia comprise the conventional and Islamic markets for medium- and long-term financial assets. The conventional markets consist of two main markets, namely the equity market dealing in corporate stocks and shares, and the bond market dealing in public and private debt securities with maturities exceeding one year. Complementing the banking system in its function as a financial intermediary, these markets have increased in importance over the years.

The development of the capital markets has been facilitated by a strong infrastructure and a comprehensive legal, regulatory and administrative framework. Underlying the development of the capital markets are the basic prerequisites of political stability and sound macroeconomic policies which create a favourable environment for economic growth with price stability. Equally important has been the high national savings rate and large domestic investor base.

Among the various markets, the equity market is the most mature with some semblance of a market emerging since the late nineteenth century, leading to the formation of the Kuala Lumpur Stock Exchange (KLSE) in 1973. Funds raised from the market which totaled RM86.5 billion during 1988-August 1999, accounted for 46% of total funds sourced from the capital markets. Four major developments were significant during this period. First, the failure of a listed company necessitating a three-day suspension of trading on the KLSE in December 1985, and subsequent reforms in the form of corporatisation of the stockbroking industry; establishment of the Panel on Takeovers and Mergers; as well as the setting up of an early warning unit in the KLSE. More significant

was the split between the KLSE and Stock Exchange of Singapore (SES) in 1989 and the consequent emergence of the “over-the-counter” market, Central Limit Order Book International (CLOB). Nevertheless, trading in CLOB was discontinued from 16 September 1998 following the announcement of the KLSE measures to enhance transparency on 31 August 1998.

Second, modernisation efforts by the KLSE were stepped up so that by early 1995, the trading system comprised the System on Computerised Order Routing and Execution (SCORE), a central order Mattoon computer system, and WinSCORE, the broker’s end trading system. Coupled with the full immobilisation of counters in the KLSE through developing a central depository system, the KLSE was transformed into a world class stock exchange.

Third, during the period of the superbull run in 1993, the performance of the stock market was outstanding, in that share prices and turnover registered new record highs. In this regard, the KLSE Composite Index (KLSE CI) reached the all-time high of 1,341.46 points on 5 January 1994, while the total turnover in 1993 exceeded the combined turnover for the previous two decades. The remarkable performance was the result of the combination of domestic and external factors, notably the substantial inflows of short-term capital. Other significant developments included the establishment of the SC to oversee and develop the capital markets, and continued modernisation efforts by the KLSE.

Fourth, during the period 1997-August 1998, the stock market experienced its sharpest correction ever as a consequence of the Asian financial crisis, which led to outflows of capital and the economic recession in 1998. The KLSE CI closed at its lowest level in 11 years at 262.70 points on 1 September 1998. However, following the introduction of selective exchange controls and the introduction of measures to maintain systemic stability, strengthen market intermediaries, improve market transparency and corporate governance, the KLSE CI turned around and increased by 191.1% to 738.28 points as at 19 October 1999.

The ringgit bond market had traditionally been dominated by the Government securities market. In spite of the rapid growth of the primary market in the 1970s and 1980s, the secondary Government securities market was relatively inactive on account of the holding bias created by the captive market conditions, limited supply of Malaysian Government Securities (MGS) as well as steady and regulated yields. Policy measures including measures on the MGS issuance

process, trading system and interest rate liberalisation were, therefore, implemented to address this issue.

The private debt securities (PDS) market was set up in the mid-1980s to complement the Government securities and equity markets, following the policy to promote the private sector as the main engine of growth in the economy. The market was established to meet the financing needs of the fast-expanding economy and its rising demand for more avenues for savings as well as provide an additional financing alternative. Measures were focused on creating and strengthening the regulatory framework, creating the market infrastructure, creating a market-based benchmark yield curve, broadening the investor base and encouraging more issuance of PDS.

The Asian crisis also highlighted the need to diversify the risks in the financial system and hence, the need to accelerate the development of the PDS market. Following the crisis, measures were taken to facilitate the debt-restructuring process and to assist in the economic recovery process. These measures included the relaxation of the rating requirement for the issuance of PDS and the relaxation of the investment restrictions on PDS of financial institutions and insurance companies.

<b>MALAYSIA</b>	1990	1995	1998	1999	2000	2001
	RM million					
Business-Sector Lending of Commercial Banks (Amounts) <sup>1</sup>	N.A.	N.A.	201,752	226,714	234,779	231,788
Business-Sector Lending of All Financial Institutions <sup>3</sup> (Amounts)	N.A.	N.A.	250,762	256,500	260,654	256,499
Total Assets of Commercial Banks (Amounts)	129,284.9	292,213.8	459,190.4	482,738.3	512,714.7	529,788.3
Total Assets of All Financial Institutions <sup>3</sup> (Amounts)	179,796.1	411,158.3	622,017.5	638,360.3	659,000.6	692,565.1
The Size of Money Market by Financial Instruments <sup>2</sup>						
Commercial Papers	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Certificate of Deposits	9,872.7	43,361.6	43,138.2	27,157.6	20,996.4	34,348.5
Inter-bank deposits/loans	261,998.1	742,652.9	1,650,723.9	1,189,293.1	1,091,697.3	1,055,295.3
Banker's Acceptance	7,879.1	62,852.7	79,261.5	67,904.7	63,569.9	60,534.2
Cagamas Notes	-	-	12,823.6	23,901.7	46,508.2	16,119.0
The Size of Bond Market by Financial Instruments <sup>2</sup>						
Government Bond	63,006.0	70,900.0	81,866.0	86,694.0	103,409.0	117,450.0
Corporate Bond	6,529.0	32,031.0	75,410	112,995.0	139,802.0	158,097.0
Others (please specify)						
Funds Raised by the Private Sector in the Stock Market (Amounts)	3,815.6	-35.20	9,803.7	6,297.3	13,659.23	15,214.12
Funds Raised by the Private Sector in the Bond Market (Amounts)	10,779.0	19,954.8	7,763.0	21,122.2	25,949.02	23,700.79
	Number					
Total Number of Companies Listed in the Stock Market	285	529	736	757	795	812

Notes: 1. Business-sector means non-financial private sector.

2. The size of market implies issuance or transaction amounts by financial instruments.

3. Refer to lending by banking system (commercial banks, Islamic banks, finance companies and merchant banks).



## **8. MYANMAR**

### **8.1 The Objective of Monetary Policy**

The main objective of monetary policy being implemented during 2000, 2001 and 2002 has been to accommodate national plans at promoting investments in the productive sectors. The main thrust of monetary policy is to promote investment which is being undertaken by bringing down the cost of investment through lowering interest rates. Commercial banks are also encouraged to provide entrepreneurs, engaged in large scale agricultural projects as well in industrial projects producing farm implements and import substitution products, loans (individual or syndicated) at concessional rates.

In order to achieve this main goal, interest rate policy has been used as the main instrument of monetary policy. Reserve requirements and open market operations have also been used in recent years for monetary control. For indirect monetary control and savings promotion, the Central Bank of Myanmar (CBM), on behalf of the government, has been issuing and selling 3 years and 5 years government treasury bonds since 1993.

### **8.2 The Effect of Money on Output and Inflation**

The Central Bank of Myanmar as yet has not conducted research on the effect of monetary expansion on the economy. However, it is planning to do so.

### **8.3 The Interest Rate and Credit Policy**

In accordance with the CBM Law of 1990, the CBM has been making efforts to make its interest rate policy as flexible as possible to reflect the market situation and has changed the CBM rate according to the needs of the economy. Therefore, the CBM has raised its rate from 11 percent to 12.5 percent in January 1995 and 12.5 percent to 15 percent in April 1996. Based on the Central Bank rate, the minimum deposit rate was fixed at 3 percent below this rate and the maximum deposit rate at 6 percent above this rate. The Central Bank rate was refixed at 12 percent, down from 15 percent, on April 1, 1999 and then 12 percent to 10 percent in April 2000. Consequently, the Central Bank prescribed the maximum interest rates for deposits and lending of commercial banks, at 10 percent and 15 percent respectively. The lending rate for special projects is 13 percent. This measure is aimed at stimulating investment by providing local entrepreneurs, who are investing in agriculture, industry and

other productive sectors with cheaper loans. Moreover, the Central Bank also refixed the interest rates on 3 year Treasury Bonds and 5 year Treasury Bonds at 8.5 percent and 9.0 percent per annum respectively, starting from April 1, 2000 and prescribed the maximum interest rate for call deposits at 4 percent per annum, down from 5 percent, with effect from April 1, 2000.

#### **8.4. Exchange Rate Regime and Capital Mobility**

There is no change in the exchange rate regime over the last decade. Myanmar has a fixed exchange rate system. Myanmar's currency, the Kyat, is officially pegged to the SDR at K 8.50847 per SDR and applies margins of 2 percent to spot transactions, based on the fixed kyat-SDR rate. The functions of foreign exchange control formerly undertaken by the Myanma Foreign Trade Bank, a state owned bank mainly operating foreign exchange dealings, has been handed over to the central bank so as to carry out services more effectively. Foreign exchange control is administered by the Controller of Foreign Exchange of the Foreign Exchange Management Department in the Central Bank of Myanmar in accordance with the instructions from the Ministry of Finance and Revenue.

#### **8.5. Monetary Transmission Mechanism**

In Myanmar, interest rate and credit channels are regarded as more effective than other channels.

#### **8.6 Development of the Financial Market**

At present, Myanmar does not have a properly developed capital market.

<b>MYANMAR</b>	1990	1995	1998	1999	2000	2001
	(Annual data, in million Kyats)					
Total Assets of Commercial Banks (Amounts)	—	7,877.8	87,209.8	145,788.0	242,386.9	422,406.1
Total Assets of All Financial Institutions (Amounts)	211,614.9	391,887.6	1,191,912.8	1,702,052.4	1,397,388.7	2,023,784.9
The Size of Bond Market by Financial Instruments <sup>1</sup> Government Bond	—	54.70	4,213.53	25,653.05	42,195.49	60295.651

Notes: 1. The size of market implies issuance or transaction amounts by financial instruments.

## **9. NEPAL**

### **9.1 The Objectives of Monetary Policy**

The new Nepal Rastra Bank (NRB) Act 2002 which replaced the old Act provides a greater operational independence in the conduct of monetary policy. As such, the greater independence also implies more transparency and accountability in the formulation, announcement and implementation of monetary and credit policy. The major objectives of monetary policy as spelt out in the NRB Act 2002 are to achieve (i) domestic price stability, (ii) balance of payments stability to facilitate a sustainable economic growth, (iii) financial stability and (iv) payment stability. In achieving these objectives, NRB is free to formulate and manage monetary and exchange rate policy. Similarly, the Act also clearly identifies the major monetary policy instruments at the disposal of NRB to achieve the objectives and these include (i) cash reserve ratio, (ii) bank rate / refinance rate and (iii) open market operations (OMO).

The main objectives of monetary policy are met through monetary and credit policies. In the past years, the NRB has been setting the objectives of maintaining domestic price stability and a reasonable surplus in the balance of payments to achieve sustainable economic growth. The relative focus between the objectives depends on the underlying economic conditions. Historically, with few exceptions, inflation rates were contained within single digit levels and the balance of payments were in generally favourable positions during the last decade. Nevertheless, inflation in Nepal is influenced by supply shocks either in the form of increase in domestic agricultural commodity prices and/or imported prices.

As such, in the implementation of monetary policy, the central bank sets the final targets via intermediate and operational targets, taking into consideration inflation and the BOP position together with the economic growth rate to achieve the set goals. In Nepal, the final goals of monetary policy for the past years have remained a set of multiple objectives of domestic price stability, a reasonable surplus in the balance of payments and a sustainable economic growth. To achieve these objectives, the NRB uses monetary aggregates such as narrow money (M1) and broad money (M2) as intermediate targets. These variables are targeted because of their controllability and relatively accurate predictability. Moreover, they have shown a significant and economically valid relationship with prices and income, which are also the major objectives of the monetary policy

itself. In light of this, monetary aggregates as the indicative nominal anchors are still relevant in Nepal and inflation targeting is not explicitly pursued

To influence the intermediate targets, central banks normally set the operational targets. The NRB, for this purpose, uses reserve money and short-term interest rate as operational targets. NRB continuously monitors these targets with a view to influencing the intermediate targets. In totality, as elsewhere, operating targets are used to influence the intermediate target which ultimately helps to achieve the final targets. This process as a whole can be termed as the implementation of monetary policy. Nevertheless, the success of targeting depends mainly on the stability of the relationship between the intermediate target, operating target and the final target and the intensity of influence of exogenous variables both on operating and intermediate targets.

## **9.2 The Effect of Money on Output and Inflation**

It is a common acknowledged that the effect of monetary policy on the real sector or output goes through long and variable lags. The effects depend largely upon the level of financial market development and investment elasticity with respect to monetary variables such as interest rates. Since inflation is not a purely monetary phenomenon, monetary expansion may not have a significant impact on inflation at least in the short run. In Nepal, a lower rate of monetary expansion, especially of broad money helped keep inflation below 3 percent.

The short-term implication of monetary policy on the other hand, can be observed in financial markets and prices. A recent study conducted by the NRB shows the delayed impact of money on prices in Nepal, that is, the impact of money supply on price is distributed over the third quarter when the Almon lag model is applied to ascertain the sum total effects of money supply on prices over the period. It is found that a 10 percent change in M1 brings about a 4.5 percent change in prices in Nepal. M1 rather than M2 is found to have a stronger relationship with prices in Nepal. The empirical results also show that there is no structural shift in the money price relationship during the study period<sup>9</sup>.

---

9. Monetary Division, Research Department (2001), "Money and Price Relationship in Nepal : A Revisit" *Economic Review, Occasional Paper, No.13*, Nepal Rastra Bank.

### **9.3 Interest Rate and Credit Policy**

#### **Interest Rate Policy**

The NRB has fully deregulated interest rates since 1989. Following that, commercial banks were completely free to decide their own deposit and lending rates, within a fixed interest rate spread. However, the NRB did away with the set limits since the beginning of the current fiscal year, as most of the commercial banks were able to keep the weighted interest rate spread within the prescribed limit.

#### **Directed Credit Programme**

In the late 1970s, the NRB prescribed priority sector lending with the intention of providing credit for financially backward sectors on a project specific basis. This included deprived sector credit for a directed credit programme. The NRB has continued with this programme in view of the social responsibility of the banking sector at the early stage of banking development. Presently, it is compulsory for all commercial banks to provide 12 percent of their outstanding loans to the defined priority sectors including 3 percent based on the years of operation of the bank. The programme, at present, is targeted at the defined priority sectors such as the agriculture, industry, services and hydropower sectors. The credit allocated is for a limited amount and the collateral are project-based rather than securities oriented.

Recently, with emergence of other credit institutions such as finance companies, development banks, rural development banks, financial cooperatives, NGOs and INGOs, the NRB announced that the directed priority sector credit programme would be phased out within a period of five years, with the exception of credit for the deprived sector.

### **9.4 Exchange Rate Regime and Capital Mobility**

Exchange rate regime: Nepal adopted a fixed exchange rate regime until the mid-1980s. In 1986, the exchange rate regime was made theoretically more flexible with the adoption of a basket system of selected currencies on the basis of trade weights. However, there was hardly any change in the convertibility with the Indian currency. With the start of economic liberalisation in 1990, the exchange rate regime was made more flexible with convertible currencies by

allowing market forces to determine the exchange rate of the Nepalese currency. Since 1994, Nepal has adopted full convertibility in the current account. In the existing system, all transactions have to be undertaken at the open market rate and commercial banks are free to quote their own exchange rate in the case of convertible currencies. The Nepalese currency is, however, virtually pegged to the Indian currency because of the common open border and the fact that Nepal is one of India's major trading partners. As such, the exchange rate with the Indian currency has remained stable for a long time whereas the exchange rate with other currencies has fluctuated depending upon the changes in market conditions.

Since Nepal has not fully opened its capital account, the monetary authority can exercise its operational independence in the conduct of monetary policy. If the capital account were liberalised, it will difficult for NRB to manage its operational independence without shifting into a flexible exchange rate regime.

**Capital mobility:** Nepal has capital controls in place especially in the case of capital outflows. However, reforms have been made on the rules and regulations for attracting capital inflows in the form of foreign direct investments (FDI), with the emphasis on joint venture collaboration and portfolio investment. For this purpose, Nepal has published a list of priority sector areas for foreign investors and also implemented the Foreign Investment and Technology Transfer Act 1992, which includes a more attractive repatriation package and also the one window system for ease of administration implementation.

A foreign individual or firm can now open a foreign currency account in local banks while banks can provide foreign currency loans and are eligible to obtain refinance facilities from the NRB for the purpose of exports. Foreign investors are also permitted to repatriate their share investment, dividend, principal and interest on foreign loans. The authorised foreigner working as a specialist could repatriate up to 75 percent of his salary and allowances in convertible currency. Private firms, on the other hand, have to obtain prior permission from the relevant government authority for offshore borrowings. It is evident from this that Nepal is moving gradually towards capital account liberalisation.

Nepal has uniquely maintained a unilateral free convertibility with the Indian currency due to the common open border and free flow of capital and labour. In this respect, Nepal has to consider the "Indian effect" in the implementation

of its monetary policy in light of interest rate and price differential between the two countries which may influence the impact of monetary policy. To minimise the influence, capital outflows from Nepal to India are not encouraged while bank deposits beyond a certain limit would have to be subjected to income source declaration.

## **9.5 Monetary Transmission Mechanism**

Monetary policy in Nepal can be transmitted to other sectors through the (i) quantum channel, (ii) interest rate channel, (iii) exchange rate channel and (iv) asset prices channel.

**The quantum channel :** The quantum channel is related to money supply and credit. Policy impulses in this channel affect the real sector and price through the change in reserve money, money supply or credit level. The quantum channel transmits its effect to real sector, domestic prices and BOP through trade and other economic activities.

The NRB as the central bank does not directly provide loans to the private sector with the exception of some limited staff loans to its employees. The NRB has no instrument for quantitative control of credit flows with the deregulation in policies. The only available quantitative control is the single borrower limit to be complied with by commercial banks which is more of a prudential measure rather than a central bank credit control measure.

**The interest rate channel :** Although interest rates in Nepal have been fully deregulated, they do not behave as theoretically expected due to institutional inefficiencies and the existence of a large non-monetised sector. The interest rates are more or less determined by an informal cartel of joint venture and private commercial banks. The NRB can, however, send out necessary signals on its preferences for specific activities of the financial institutions. As such, the NRB from the last fiscal year has significantly reduced the refinance rate specifically for “sick industry” and export credit for eligible general purposes, which is an indication for banks to lower the borrowing rate in such activities.

There are no uniform lending rates for consumption and investment in Nepal. However, one can tentatively use the one-year deposit rate as a proxy for consumption and the industrial lending rate for investment. As mentioned

earlier, the informal cartel type interest rate as practiced by banks delays the response of policy implementation and markets respond with a lag. Therefore, domestic demand for consumption and investment is still not sensitive enough to interest rate changes. Empirical analyses in some cases either reflected an unexpected relationship or yielded insignificant results. In the Nepalese context, where the level of income is low and where there is a large informal credit market, the availability of credit is more important than the interest rate of such credit and thus, the interest rate in the informal sector is normally much higher than the rate of formal credit.

**The exchange rate channel :** It is obvious that the exchange rate channel would be more effective where the economy is open and the exchange rate regime is a floating one. One of the indicators of measuring the openness of the economy is the total trade as a percentage of GDP which stood at 40 percent in 2001 for Nepal. This ratio indicates that Nepal is much less open as compared with other SEACEN countries. Moreover, the Nepalese currency is fixed with the Indian currency while flexible with other convertible currencies. However, the domestic demand of Nepal is still responsive to the changes in the real exchange rate. In terms of imports, demand for essential consumption is less elastic to real exchange rate changes compared to the demand for luxurious goods. On the other hand, due to the limited range and volume in goods, exports are less responsive to real exchange rate changes.

With the free convertibility with the Indian currency, currency substitution, at least, theoretically, cannot be ignored in a situation when there exists a large gap between the two countries in the tariff on the import of similar goods from other countries. In such a situation, the authorities do not have other alternatives other than to adjust the tariffs.

**The asset prices (balance sheet) channel :** The asset market in Nepal is informal and unorganised. The purchase and sale of real estate such as land and building is done on a personal basis rather than through land and building companies. In such dealings, the transactions are registered with the Department of Land Revenue of the government to obtain the purchase certificate. The organised intermediation for land and building, though attempted in the past could not materialise as the Nepalese culturally buy land and houses for social prestige rather than for business. The bond market is still dominated by government bonds and while the private sector has started issuing bonds very recently, it is still very marginal in comparison with public bonds. Asset prices in the urban



areas were very high in the early 1990s but have since declined due to the lack of demand.

Normally, a positive relationship is expected between the money supply and the property market. However, due to the lack of readily available statistics, it is difficult to measure the response of the property market to changes in monetary policy. It is obvious that changes in asset prices would certainly increase the borrowing abilities of firms and households that would ultimately affect the balance sheet of the banks. Most of the overdrafts and guarantee loans of commercial banks are backed by land and buildings and are popular collaterals with the commercial banks.

**Effectiveness of the channels:** Although there is no direct credit control measure, the quantum channel is, nonetheless, the most effective one in Nepal. Interest rate impulses are transmitted indirectly to other sectors via this channel. However, institutional credit availability is meager specifically in the agriculture sector where the interest rate cannot play its role. The asset price channel is not effective as a transmission channel due to the underdeveloped and informal nature of the asset market. Similarly, the exchange rate channel is also not effective as Nepal has a limited base in terms of commodities and market as well for major exportables. Therefore, in the case of a nominal depreciation of the domestic currency, Nepal would not be able to benefit as much as other countries could. In fact, Nepal would incur a higher import bill in such a situation. Nevertheless, short-term interest rates and reserve money are the major indicators as operating targets both for the conduct of monetary policy and its transmission mechanism.

In Nepalese context, where markets are not integrated enough, policy actions cannot be quickly transmitted from one sector to another. Needless to say, all the transmission channels can be successful if there are sufficient feedback and interactions.

## **9.6 Development of the Financial Market**

The principal instruments for investment in Nepal's money market include treasury bills (TB), NRB bonds (no longer in existence), certificate of deposits, repo agreements, short-term lending, inter-bank lending etc. The TBs in Nepal are of two types - 91-days and 364-days. The issuance and renewal of TBs are done in the primary market while Repo transactions and outright purchases and

sales are done in the secondary market within the Public Debt Department of NRB.

Looking at the total transactions in both the primary and secondary markets, TBs are becoming very effective as monetary policy instruments. In the past, with a view to supplement the TBs, the NRB issued its own bond, which became very effective for liquidity management. Similarly, inter-bank transactions over time is becoming a useful instrument. The total gross transactions in the primary market which was Rs 29.3 billion in 1997 reached Rs 38.7 billion in 2001. Transactions in the secondary market during the same year jumped from Rs 10.9 billion to Rs 86.7 billion. In terms of inter-bank transactions, it has nearly doubled in a period of five years. The transaction amount which was Rs. 19.7 billion in 1997, grew to Rs. 37.0 billion in 2001. It is evident that the money market in Nepal is becoming a potential alternative to bank lending.

In Nepal, the stock market as a part of the capital market can be treated as an alternative means to bank lending. There is only one public sector stock market in Nepal. The major indicators of the stock market such as number of listed company, ratio of turnover to market capitalisation, ratio of market capitalisation to GDP, are still at very low levels. Moreover, banking and financial institutions are the dominating stakeholders in the share market while government securities are not traded in the stock market. There are also very few institutional investors in the Nepalese stock market. With the technical assistance of the Asian Development Bank, a study is being conducted with a view to reform the stock market and look into its privatisation.

**NEPAL**

(Annual data, in local Currency)  
Rs in Million

	1990	1995	1998	1999	2000	2001
Business-Sector Lending of Commercial Banks (Amounts)*	11527.2	41309.2	75643.9	89433.1	107343.1	123417.4
Business-Sector Lending of All Financial Institution (Amounts)	15350.0	51578.0	96654.0	113790	135388.4	156250.6
Total Assets of Commercial Banks (Amounts)	26687.9	83795.5	145860.3	172877.7	210894.8	253110.5
Total Assets of all Financial Institutions (Amounts)	32426.3	99524.2	177559.1	210858.6	251891.3	300136.9
The Size of Money Market by Financial Instruments ** Commercial Papers Certificate of Deposits Inter-bank deposits/Loans Others (please specify)		5742.5	23376.3	15210.0	27166.0	36969.0
The Size of Money Market by Financial Instruments ** Government Bond Corporate Bond	12852.1	25665.9	29224.1	32082.8	33330.1	32433.0
Others:						
Funds Raised by the Private Sector in the Stock Market (Amounts)***	789	2962	4960	6487	7347	7939
Funds Raised by the Private Sector in the Bond Market (Amounts)	-	-	-	-	-	-
Total Number of Companies Listed in the Stock Market	41	79	101	107	110	115

Notes: \* Business Sector means non-financial private sector

\*\* The size of market implies issuance or transaction amounts by financial instruments

\*\*\* Total paid-up value of listed share

## **10. PHILIPPINES**

### **10.1 The Objectives of Monetary Policy**

Under the New Central Bank Act (R.A. No. 7653 dated 14 June 1993), the primary mandate of the BSP is the maintenance of price stability conducive to a balanced and sustainable economic growth. In the past, the BSP conducted monetary policy through the targeting of monetary aggregates. Behind this were the presumption that monetary aggregates were meaningful indicators of economic activity, e.g., that there were stable and predictable relationships between money supply on the one hand and inflation and the output level on the other hand. Monetary targeting also entailed controllability of the money supply, which likewise requires stable and predictable relationships between high-powered money and the money supply. However, financial liberalisation through the years has led to changes in financial structures and the introduction of new financial products and services. As a result, the traditional relationships between monetary aggregates and the ultimate economic goals have weakened over the years.

In 1995, modifications in the monetary policy framework attempted to confront these problems. The BSP placed greater emphasis on price stability instead of rigidly observing money supply targets, and allowed money targets to be exceeded as long as actual inflation rate remains within programme levels. A larger set of economic variables was also utilised in making decisions on the appropriate stance of monetary policy. Nevertheless, the modified framework still had its shortcomings. This framework was not forward-looking—i.e., it did not account for long and variable lags in the effects of monetary policy on the economy.

Subsequently, on 24 January 2000, the BSP's policy-making body, the Monetary Board, approved in principle the shift to inflation targeting as the framework for conducting monetary policy. The switch since January 2002 to inflation targeting as a monetary policy framework has enhanced the BSP's commitment to the price stability objective. Under this framework, the authorities pre-announce the inflation target over a given time horizon. If the target is not met, the BSP will be required to explain the reasons and map out the measures that it will take to get back on track. Thus, there is greater accountability for its actions on the part of the BSP. The framework, therefore, will help the BSP build its credibility by demonstrating consistent adherence to the price stability objective. In the process, inflation targeting is expected to promote greater transparency in the conduct of monetary policy, thus facilitating the functioning

of efficient financial markets. For 2002 and 2003, the Government's target for annual inflation has been set at 4.5-5.5 percent and 4.0-5.0 percent, respectively. For 2002, the actual inflation rate at 3.1 percent was well below the target range of 4.5-5.5 percent.

## **10.2 The Effect of Money on Output and Inflation**

Financial liberalisation and financial innovations have weakened the traditional relationships between monetary aggregates on the one hand and output and inflation on the other. The impact of a monetary expansion on prices and output has become less predictable. However, simulations based on vector-autoregressive models of the BSP have indicated a lag of 15-21 months between monetary policy actions and their maximal impact on the inflation rate. This lag length is in accord with findings of researches in other economies. The slow response of prices to monetary policy indicates the ability of policy to affect output levels during the intervening period.

## **10.3 The Interest Rate and Credit Policies**

### **The Interest Rate Policy**

Interest rates in the Philippines are market-determined and not regulated by the BSP. Interest rate ceilings briefly existed in the 1970s in support of monetary and credit policies that were oriented towards development financing. The ceilings served as a complement to the selective credit and directed lending programmes of the government. Such programmes have been abandoned by the early 1980s, and interest rates were completely deregulated by 1983.

At present, the BSP exercises monetary control through indirect instruments, such as the setting of short-term policy interest rates. The stance of monetary policy is signaled through changes in the BSP's overnight borrowing and lending rates, which influence the benchmark 3-month Treasury bill rate used by banks in pricing loans.

### **The Credit Policy**

The BSP at present does not have any directed lending policies. The New Central Bank Act (R. A. No. 7653), which established the BSP in 1993, specifically prohibits the BSP from engaging in development finance activities.

Directed and selective developmental credit policies were pursued for a time in the 1970s through the use of the Central Bank rediscounting window and other facilities. The rediscounting facility of the Central Bank was used as a credit allocation device for selected priority sectors such as agriculture. However, since the setting up of a rediscounting budget in 1993, the consistency of lending under the facility with the country's financial programme was ensured.

The rediscounting facility had a selective credit feature in that it provided credits only to specific sectors. Rediscounting loans or credits were initially provided to agriculture but were later expanded to include other priority sectors such as exports and indirect exports, socialised and low-cost housing, and microfinance. The facility also supported the development of the countryside by allowing access by rural banks to the facility at more liberal terms relative to the terms applicable to other types of banks.

More recently, however, the BSP approved amendments to its rediscounting policy aimed at refocusing the use of the rediscounting facility from a selective credit policy instrument to a monetary policy instrument that will complement open-market operations in managing liquidity in the financial system. The removal of the selective credit nature of rediscounting is in accordance with the BSP's adoption of price stability as the dominant objective of monetary policy. The amendments to the BSP rediscounting policy included the following: (1) expansion of the rediscounting facility to a more general type of facility that will be available to all sectors, but excluding certain types of loans, such as interbank loans, DOSRI, extended/restructured loans, past due loans, unsecured loans (other than microfinance loans), personal consumption loans, and loans for capital asset acquisition; (2) standardisation of eligibility requirements and rediscounting ceilings across all types of banks; and (3) adjustment of the rediscounting rate to reflect actual market rates on comparable maturities.

However, Philippine law provides certain directions for bank lending in support of the social policy of the government. In particular, Presidential Decree No. 717, also known as the Agri-Agra Law of 1975, requires Philippine banks to allocate at least 25 percent of their loan portfolio to agriculture and agrarian reform credit.

#### **10.4 Exchange Rate Regime and Capital Mobility**

Over the last decade, the BSP has maintained its commitment to a floating exchange rate system, under which it leaves the determination of the exchange

rate to market forces, with some scope for occasional official action to dampen sharp fluctuations in the exchange rate. On such occasions, the BSP enters the market, mainly to provide indicative guidance, in order to maintain stability in the foreign exchange market and mitigate the adverse effects of such speculative attacks on prices. When warranted, the BSP also stands ready to provide liquidity and ensure that legitimate demand for foreign currency is satisfied.

The adoption of a more flexible foreign exchange rate arrangement (since 1970) stems from a conscious decision and assessment on the part of the BSP to the effect that a floating exchange rate system is more beneficial for the Philippines, compared to a fixed or intermediate exchange rate regime. A market-oriented exchange rate leads to better resource allocation as it adjusts to reflect changing conditions in the demand for and supply of foreign exchange. The adoption of a flexible exchange rate policy has also contributed to financial system soundness by allowing a greater role for the exchange rate in enabling the economy to adjust to external shocks. It has likewise enabled a more independent monetary policy to focus on domestic sector concerns, e.g., providing sufficient liquidity to support the country's growth requirements.

To support its flexible exchange rate policy, the BSP continues to improve its foreign exchange monitoring system for better recording of events and developments as well as assessment of market conditions. The BSP has also implemented regulations to further rationalise foreign exchange trading, thus minimising extreme volatility in the foreign exchange market. The adequate international reserve position has also helped support orderly adjustment in the foreign exchange market.

After four decades of exchange controls, foreign exchange reforms began to be implemented in 1991 leading to the lifting of restrictions on current account transactions and the relaxation of certain capital account transactions, specifically:

- Residents are now allowed to source from the banking system, foreign exchange intended for outward investments while only those in excess of US\$ 6 million per investor per year need prior BSP approval
- Foreign loans and investments by the private sector (for future debt servicing and repatriation of capital and remittances of dividends and profits) may be sourced from the banking system, if these are registered with the BSP

- Loans by the public sector may have various foreign exchange arrangements, subject to the BSP's approval.

In addition, the BSP has prohibited banks from extending peso loans to non-residents and amended the investment regulation to require a 90-day holding period for investments in peso-time deposits aimed at plugging loopholes in foreign exchange regulations governing non-trade transactions. It also adopted the following measures to restore calm in the currency market:

- Required submission of a weekly report on the FX transactions of forex corporations that are affiliates/subsidiaries of banks;
- Lowering the ceiling on over-the-counter dollar sales from US\$10,000 to US\$5,000;
- Expanded the coverage of the Currency Risk Protection Programme (CRPP) to include net importers, registered medium/long-term FCDU loans and bonds with remaining tenor of up to 5 years booked as of 30 June 2001, U.S. dollar trust receipts; foreign currency import bills/customers' liabilities under acceptances; and BSP-registered OA/DA obligations of clients other than oil companies; and
- Imposed monetary and other penalties on banks and some officers for violation of foreign exchange rules and regulations.

These administrative measures to some extent have helped achieve monetary policy autonomy. In periods of speculative attacks, these measures prevent heightened nominal currency depreciation pressures without the need to keep interest rates high for a prolonged period of time, thus avoiding the adverse impact of tight monetary policy on economic activity and the banking system. Abrupt and substantial short-term capital outflows can have a destabilising effect on the economy, as these would affect movements in the exchange rate. These, in turn, will result in higher import costs which would then feed into demand for upward wage adjustments and consequently result in inflationary pressures. For instance, in the wake of speculative attacks on the peso in January 2001, such administrative measures mitigated the capital flight that could have ensued due to domestic political developments during that period. Although the peso reached a low of P55.01/US\$1 on 19 January 2001, the peso strengthened thereafter, allowing the BSP to bring down successively its policy rates during the year.



Conversely, in periods of substantial capital inflows, these measures have helped minimise nominal exchange rate appreciation pressures without sacrificing control over domestic monetary condition.

However, the BSP recognises the costs of implementing these measures as these may eventually become less effective when financial markets become more integrated. Moreover, these also hinder the introduction of new products and by limiting competition, may impede rather than facilitate the development of the domestic financial system. Thus, further liberalisation and streamlining of regulations of capital accounts is under study by the BSP.

### **10.5 Monetary Transmission Mechanism**

We may cite three important channels of monetary transmission in the Philippines. First, the credit channel is an important component of the monetary transmission process in the Philippines because of the reliance of the corporate sector—particularly small- and medium-sized establishments—on bank financing. For this reason, the BSP monitors data on bank lending activity (e.g., the level of loans outstanding) as well as money demand (as measured by monetary aggregates such as M3).

Second, the interest rate channel is also important to the monetary transmission process since it affects not only investment demand but also spending on consumer durables and housing. In addition, to the extent that interest rates affect the user cost of capital, they can also have a cost-push impact on inflation. For this reason, the BSP monitors data on the 91-day Treasury bill (the key benchmark rate used in loan pricing), average bank lending rates as well as other market interest rates.

Lastly, the exchange rate channel of monetary policy is important to the Philippines as a small open economy since exchange rate movements affect the cost of imported goods, both final and intermediate. As such, the exchange rate tends to have both demand- and cost-side implications for inflation. Exchange rate volatility also tends to feed into inflation expectations, which means that episodes of exchange market pressure are often associated with subsequent higher inflation. Thus, the BSP also monitors movements in nominal bilateral exchange rates, nominal and real effective exchange rates (using baskets of currencies of major trading partners and competitor exporting countries), along with developments in the foreign exchange market.

### **The Effectiveness of the Transmission Mechanism Channels**

The financial market liberalisation that started in the early 1990s has weakened the ability of bank lending to reflect the stance of monetary policy. The surge in alternatives to bank loans have diminished the link between the real economy and bank lending channel, thereby reducing the importance of credit as channel of monetary transmission. The opening up of financial markets has also resulted in the surge of financing through non-banks that offer low-cost funding alternatives than commercial banks. Over the years, various schemes have been designed and developed in order to avoid the reserve requirements and the documentary stamp tax.

Factors such as those mentioned above have served to weaken the additional relationships between base money (BM) and domestic liquidity (M3) on the one hand and between money and inflation on the other hand. This posed problems for the BSP's monetary aggregate targeting, which used M3 as the intermediate target and base money (BM) and reserve money (RM) as operating targets. This eventually led the BSP to make the shift to inflation targeting.

### **10.6 Development of the Financial Market**

The Asian Crisis reduced the value of the equities markets in all affected countries including the Philippines. However, the size of the Philippine bond market, which consisted almost entirely of government issues, went up steadily during the period. And while total deposit liabilities of banks increased, commercial bank lending activity declined as NPL levels went up.

The predominance of government securities in the bond market suggests possible distortions and biases against private corporate bonds, including tight regulatory processes and high transaction costs. There is also an established trading system and infrastructure for public debt instruments, but none for private bonds and it may also be that during times of economic uncertainty, investors rely more on risk-free government securities.

Over the past few years, the government has been implementing measures to realise a deeper, more liquid and efficient long-term debt market. Among the problems that needed to be addressed included the lack of market infrastructure such as an organised trading venue, taxation obstacles, lack of liquidity and lack of variety in the bond market, and a weak credit rating capacity, among others. The areas of concern that these measures address include the following:

### **Improving the Payment and Settlement Infrastructure**

To enhance operational efficiency, reliability, speed and timeliness as well as limit the settlement and systemic risks of payments and settlement transactions, the BSP initiated the upgrading of the existing payment system into an RTGS system (dubbed MIPS2). The RTGS system is a fully-automated on-line system that is designed to provide complete and correct information on transactions prior to settlement. Furthermore, the RTGS system allows parties to view trading on-line, ensuring transparency and efficiency. The RTGS is intended to cover transactions in the equities, fixed income, money and foreign exchange markets.

The BSP's Real Time Gross Settlement System (RTGS) which is known as the Philippine Payment System (PhilpaSS) was launched on 21 November 2003 and was fully implemented on 5 December 2002, in line with the BSP's efforts to promote growth and stability of the Philippine banking system in a globalised environment. The processing and final settlement of electronic fund transfer instructions take place continuously and individually thereby achieving real time, final and irrevocable gross settlement of banks' and financial institutions' transactions. The related credit, settlement and systemic risks that are inherent to these financial transactions are eliminated, due to the continuous real time final transfer capability of the system, and availability of funds to the customers at the time the interbank/fund transfer instructions of banks are processed and approved in the system.

### **Eliminating Double Taxation**

Double taxation in the financial sector impeded the further development of the capital market. Along with the Gross Receipt Tax (GRT), the documentary stamp tax (DST) introduced a distortion in the cost of intermediated funds due to its complexity and lack of uniformity. The cascading effect of successive DSTs distort the prices of securities and renders financial intermediation too costly, effectively prohibiting the secondary trading of securities and encouraging the holding of securities to maturity.

In recognition of the problems they pose to capital market development, the Government is proposing the phased removal of the GRT and the abolition of the DST for secondary trading. Alternative taxation instruments to ensure the revenue neutrality of any reform in the taxation of the financial sector are also being

considered. The proposed measures to eliminate double taxation for secondary trading have been filed in Congress.

Earlier, the passage of the Comprehensive Tax Reform Law (R.A. No. 8424 on 11 December 1997) began addressing the problem of double taxation in the mutual fund industry. Prior to this, income derived by investors from investments in mutual fund was subject to a 20 percent withholding tax. Moreover, upon redemption by the investor of his placement in the mutual fund company, the gains realised from such redemption is included in the computation of gross income, which is subject to tax (35 percent for corporations, graduated from individuals). Under the CTRL, gains realised by the investor from the redemption of such shares of stocks are excluded from the computation of gross income. Only the 20 percent withholding tax is levied.

### **Increasing the Liquidity and Variety of Instruments Traded in the Bond Market**

In the last few years, there have been conscious efforts to broaden the investor base, including the introduction of smaller-denominated securities that appeal to the retail sector. These efforts include:

- Small Investor Programme (SIP) Launched by Bureau of the Treasury (BTr). In 1998, the Government launched the SIP to broaden the market for government securities to include small savers and ordinary households.
- NDC Agri-Agra ERAP Bonds Launched. In 1998, the Office of the President authorised the National Development Corporation (NDC) to issue tax exempt bonds and securities guaranteed by government. These bonds, called Agri-Agra Economic Recovery through Agricultural Productivity (ERAP) bonds, are long-term bonds issued to support projects for economic growth under a rural development programme undertaken by the NDC, in cooperation with the Department of Agrarian Reform and the private sector. The purchase and underwriting of these bonds by banks and/or by subsidiary investment houses of expanded commercial banks are allowed as alternative compliance with the provisions of the Agri-Agra Law (Presidential Decree No. 717), which requires the banking sector to allocate at least 25 percent of its loanable funds for agricultural credit.

- BSP Guidelines on asset backed securities (ABS) Issued. The BSP issued Circular No. 185 on 8 December 1998 to provide guidelines in the origination, issuance, sale and servicing and administration of ABS by a bank or non-bank with quasi-banking (NBQB) functions, including its subsidiaries and affiliates engaged in allied activities which are based in the Philippines. The provisions of Circular No. 185 pertain mainly to the role of banks and related interest on securitisation, as originator, trustee or issuer of the ABS, servicer and investor.
  
- Retail Treasury Bonds (RTBs) launched. The BTr started issuing four-year RTBs in denominations of P 5,000 in April 2001. Subsequently, three- and five-year RTBs were issued, bringing to a total amount of P 100.9 billion the outstanding RTBs issued for retail investors. RTBs are small-denominated government securities principally intended for retail investors, willing to invest a minimum of P 5,000 and a maximum of P 2 million. The issuance was intended not only to help raise funds to finance the budget deficit but also to give small investors access to high-yield government securities. The issuance also contributed to capital market development.

### *Organising an Exchange for the Trading of Debt Securities*

Among the challenges faced by the Philippine bond market, the absence of a formal, organised venue for trading fixed income securities is one which has contributed to its underdevelopment. Dealers such as banks, brokers, dealers and other SEC-registered selling agencies facilitate trading of government and corporate issues. Although some equity-related bonds were listed at the Philippine Stock Exchange (PSE), trading of commercial papers, bonds and government securities were usually done over the counter, through brokers and underwriters of the issue.

The SEC's landmark decision to approve in principle (in February 1999) the PSE's "Listing Guideline and Trading Procedures for Debt Securities" allows debt securities, including asset-backed securities, to be traded at the PSE. In July 2000, some P30.35 billion worth of SDT bonds maturing in 2004 were listed on the PSE's fixed income board. This was followed in September 2001 by the listing at the PSE of the National Government's P8 billion worth of progress or privatisation bond convertible to equity shares on government assets up for

privatisation.<sup>10</sup> These fixed income instruments, however, are still not actively traded in the stock market at present.

On 16 September 2002, the Bureau of the Treasury officially signed a Memorandum of Agreement with the PSE to list government securities at the bourse.

Meanwhile, listing of corporate bonds remains hindered by the provision under the Philippine Corporate Code which requires 2/3 majority approval of stockholders for corporate bond issuances. The more preferred instrument, commercial papers, require only the approval of the company's Board of directors.

### *Providing a Long-term Yield Curve*

The issuance of 20- and 25-year fixed-rate treasury bonds/notes by the National Government over the few years, complementing the 2-, 3-, 4-, 5-, 7, 10-year bonds already being issued, are meant to develop a longer yield curve for public sector debt, providing a benchmark for the pricing of similar-term private sector instruments. However, there is still a need to stimulate secondary market trading through these instruments, as one setback in the imposition of documentary stamp tax (DST) on the secondary trading of securities.

### *Strengthening Corporate Governance*

The dearth of private sector issues is due, in part, to the inadequate number of blue-chip firms which are current and potential issuers of fixed income securities. Corporate issuances are generally limited to a handful of blue-chip corporations— particularly Ayala Land, Filinvest Land and San Miguel— and usually consist of the much- preferred Commercial Papers (CPs). The inherently small number of potential blue-chip issuers makes the need for strengthening corporate governance all the more crucial, because investor demand for bond issues is ultimately dependent on the credibility of the issuer to deliver payment. Moreover, without the established reputations of the big companies, smaller firms must rely on their own integrity and transparency of operations to be able

---

10. Progress bonds are five-year bonds issued by the national government in August 2000 with a fixed coupon rate of 13.875 percent a year payable every quarter. The bondholders (investors) were also given the option to exchange the bonds for shares or cash equivalent of state assets being undergoing privatisation.

to lower the cost of issuance. To accomplish this, the Government pursued reforms strengthening regulations on corporate governance and regulatory agencies:

- BSP Corporate Governance Reforms in the Banking Sector. As the primary regulator of the banking system, it is the responsibility of the BSP to establish an adequate infrastructure for the effective governance in the banking system. Even prior to the Asian financial crisis, the Bangko Sentral has sought to improve internal governance in banks. As the Asian crisis unfolded, the Bangko Sentral intensified bank governance reforms, particularly in the direction of promoting transparency, to better promote systemic stability, institutional safety and soundness, and the protection of the public. The passage of the General Banking Law of 2000 laid down a firmer legal basis for further strengthening bank governance.
- BSP regulations to enhance corporate governance in the banking sector generally focused on the following:
  - i. Enhancing transparency and disclosure;
  - ii. Improving the quality of bank management and ensuring that only capable directors and officers manage banks; and
  - iii. Enhancing risk management and limiting excessive risk-taking by banks.
- SEC Corporate Governance Reforms. To create an environment conducive to good corporate governance, the Securities and Exchange Commission (SEC):
  - iv. Shifted to full disclosure philosophy;
  - v. Conferred self-regulatory organisation (SRO) status on the Philippine Stock Exchange (PSE);
  - vi. Supported the passage of the Securities Regulation Code (SRC);
  - vii. Supported the PSE's conversion into a stock corporation; and
  - viii. Issued the Code of Corporate Governance.
- Reconciling/Aligning BSP Regulations with the SEC's. Banks are subject to both BSP regulations and SEC rules. They have to comply with the Code of Good Governance issued by the SEC as well as BSP circulars on corporate governance. The BSP is currently looking into the possibility of incorporating the provisions of the SEC Code, where these are deemed applicable to financial institutions falling under the BSP's regulatory and supervisory oversight, for consistency although in such case, additional

requirements may be needed by the BSP. The objective is to arrive at a uniform regulatory framework on corporate governance for the banking and corporate sectors.

### **Enhancing Credit Rating Capacity**

Insufficient ratings capacity constitutes a binding constraint to bond market development primarily because it raises the inherent risks in bond investments, in general, reducing demand for bonds. In the late 1990s, all bond issues were made subject to mandatory rating requirement. This induced demand for services of rating agencies, making them more profitable ventures and facilitating increased corporate transparency for all bond issues. There are presently two (2) local credit rating agencies in the Philippines. Meanwhile, five credit reporting companies have begun operations in the Philippines, to keep data on the credit history of companies and individuals and provide the information to clients, mainly banks and rating agencies. In December 2001, these five bonded together to form the Philippine Credit Reporting Alliance Inc. (PHILCReA), an organisation designed to improve industry standards and promote the quality credit reports. The five companies had adopted a code of business conduct and ethics to guide them in carrying out their duties and responsibilities to the public and government and in regard to relationships among themselves. The code provides, among others, that the companies shall observe utmost confidentiality in the conduct of information-gathering such that the name of the inquirer and the source or sources of information and the manner by which data are obtained would not be divulged.



**PHILIPPINES – Some Financial Market Indicators (in million pesos)**

Particulars	1990	1995	1998	1999	2000	2001	2002
Business Sector-Lending of Commercial Banks <sup>1/</sup>	199,759.9	613,316.5	1,000,851.7	1,011,555.5	1,064,707.5	1,040,036.6	1,051,924.0
Total Loans of the Financial System <sup>2/</sup>	348,464.2	1,154,758.7	1,982,966.5	1,981,907.3	2,069,467.6	2,051,381.1	2,090,477.1
Total Assets of Commercial Banks	539,708.0	1,347,362.0	2,512,223.0	2,722,288.0	3,013,561.0	3,070,474.0	3,250,194.0
Total Assets of the Financial System <sup>3/</sup>	800,228.0	2,049,374.0	3,444,784.7	3,741,290.9	4,065,519.7	4,099,511.0	4,311,763.4
The Size of Money Market by Financial Instruments							
Commercial Papers <sup>4/</sup>	6,782.0	28,896.1	47,694.6	47,483.8	27,716.4	25,371.6	13,465.0
of w/c: Long-Term CPs	3,675.0	24,977.3	44,299.6	45,479.8	27,716.4	25,022.7	13,176.0
Inter-bank Call Loans <sup>5/</sup>	1,204,444.0	3,717,538.0	5,104,002.0	4,240,442.0	2,295,375.0	2,456,360.0	869,713.0
Other Corporate Transactions <sup>6/</sup>	107,318.0	692,246.0	240,910.0	498,021.0	792,150.0	790,896.0	
Treasury bills <sup>7/</sup>	192,589.4	391,251.0	443,120.7	464,737.5	467,275.4	425,413.8	405,226.4
Size of Bond Market by Financial Instruments							
Government Bonds <sup>8/</sup>	49,472.1	278,006.8	352,629.2	460,116.0	576,577.5	814,060.2	1,080,918.9
of w/c: Treasury notes/bonds <sup>8/</sup>	39,986.7	270,381.1	338,321.5	444,992.6	558,590.8	783,284.4	1,031,952.3
Corporate Bond <sup>10/</sup>	5,383.4	1,131.2	1,120.1	n.a.	n.a.	n.a.	3,000.0
Funds Raised by the Private Sector in the Stock Market <sup>11/</sup>	161,218.8	1,545,727.8	1,373,701.2	1,937,721.2	2,577,684.5	2,142,610.6	2,083,156.5
Funds Raised by the Private Sector in the Bond Market <sup>12/</sup>	119,483.4	722,273.3	289,724.7	n.a.	n.a.	n.a.	n.a.
Total Number of Companies Listed in the Stock Market	153	205	222	225	229	231	234

Sources: Bangko Sentral ng Pilipinas (BSP), Securities and Exchange Commission (SEC) & Philippines Stock Exchange

1/ Derived by subtracting from total outstanding loans of KBs the loans to the financial institutions, real estate and business services sector.

2/ No breakdown by recipient-sector is available.

3/ Excludes assets of BSP.

4/ SEC data on outstanding balance of short-term and long-term commercial papers by year end.

5/ Volume of interbank call loan transactions during the year.

6/ Includes promissory notes and repurchase agreements, among others. Derived by subtracting T-bills, commercial papers and interbank call loan transactions from the total volume of money market transactions reported by financial institutions to BSP.

7/ Refers to the outstanding level of T-bills by year-end which are government securities that mature in less than a year.

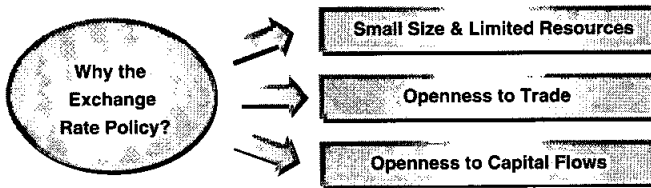
8/ Includes Treasury bonds/notes, GOCC bonds and CB notes/bonds. Derived by subtracting from the BSP data on outstanding government

- 9/ Includes Fixed rate Treasury bond/notes, Floating rate Treasury notes, Treasury bonds/notes, zero coupon T-bonds, fixed rate notes, US\$ linked peso notes, 3-yr fixed T-bonds and Treasury fixed rate promissory notes outstanding as of year end.
- 10/ SEC data from 1990-96 on outstanding levels of corporate bonds and asset backed securities issued. Data for 1999-2001 is not available. It should be noted that these numbers may not capture all corporate issuances since some bond issuances are not registered with the SEC and emerge as private placements. Moreover, due to stringent requirements on bond issuance in the Corporate Code, only three issuances were made during the period in review: P2,800 million in 1990, P313.7 million in 1992 and P180 million in 1995.
- 11/ Stock market capitalisation as of year end.
- 12/ Derived as the summary of outstanding commercial papers, other corporate issuances and corporate bonds.
- n.a. Not available

## 11. SINGAPORE

### 11.1 The Objectives of Monetary Policy

Since 1981, monetary policy in Singapore has been centred on the management of the exchange rate. The primary objective has been to promote price stability as a sound basis for sustainable economic growth. The choice of exchange rate, rather than money supply or interest rate, as the principal tool of monetary policy has been influenced by Singapore's small size and the high degree of openness to trade and capital flows.



The exchange rate policy framework incorporates several key characteristics. First, the Singapore dollar (S\$) is managed against a basket of currencies of our major trading partners and competitors. The various currencies are given different degrees of importance or weights, depending on the extent of Singapore's trade dependence on that particular country. Second, the Monetary Authority of Singapore (MAS) operates a managed float regime for the S\$. The trade-weighted exchange rate is allowed to fluctuate within an undisclosed policy band, rather than kept to a fixed value. Third, the exchange rate policy band is periodically reviewed to ensure that it remains consistent with the underlying fundamentals of the economy.

This system allows the MAS to cope with two distinct dimensions of exchange rate variability: short-term volatility on the one hand, and longer-term currency misalignments on the other. The managed float exchange rate system allows short-term flexibility in the foreign exchange markets and helps avoid medium-term and long-term misalignment in the value of the domestic currency.

In the short term, managing the S\$ within a band provides the flexibility to prevent volatility in the financial markets from adversely affecting the real economy, as evidenced, for example by the recent Asian crisis episode, or in the immediate period following 11 September. During that period, the MAS was able to widen policy bands as volatility increased in foreign exchange markets and subsequently narrow them when some degree of calm has returned to the regional markets. At the same time, movements of the S\$ against major currencies, especially the USD, have been less volatile than movements among major currencies. The “basket” characteristic of the managed float system has therefore also helped to mitigate some volatility as compared to if the S\$ were on a bilateral peg.

Over the longer term, the managed float has provided the flexibility for the MAS to prevent currency misalignments by allowing the equilibrium (real) value of the exchange rate to reflect changes in the underlying fundamentals, such as a trend increase in the savings rate and higher productivity in the export sector. Notably, the trade-weighted S\$ has been on a secularly appreciating trend since 1981 in both nominal and real terms.

Managed exchange rate strategies can therefore be viewed as a way of reconciling stability with flexibility, provided that such strategies are suitably planned and backed by consistent and sustainable macroeconomic and structural policies. These regimes can potentially reconcile lower exchange rate volatility and stable inflation expectations with flexibility in reacting to external shocks.

From Singapore’s perspective, the small and open nature of the economy implies a fairly large tradable goods sector; almost 70% of total demand is accounted for by exports. Some degree of exchange rate stability is therefore essential. Short-term volatility of the exchange rate would have adverse effects on the earnings of exporters and their cash flows. More significantly, investors would find it difficult to plan long-term, if exchange rates are volatile and driftless.

However, some flexibility in the nominal exchange rate is also an essential mechanism by which a small and open economy responds to external terms of trade shocks. For example, Singapore has been buffeted by at least three shocks in the past five years, all of which have been associated with a cyclical downturn in external demand – 1996 (global IT downturn), 1998 (Asian crisis) and 2001 (IT markets and G3 slowdown). Allowing for some flexibility in the management of the exchange rate under such conditions, alleviated the burden of adjustment in the domestic economy. In comparison, a fixed exchange rate

regime would imply fairly severe adjustments in economic activity and hence unemployment, especially if there is rigidity in the country's domestic markets.

Another consideration is that the exchange rate regime should provide an anchor to attain the medium term objective of price stability. A medium term orientation on price stability means that the MAS does not change policy direction each time there is a dip or fluctuation in business activity. This is due to transmission lags, in that it takes time for a change in exchange rate policy to work through the system. Some of these time lags can vary depending on the economic conditions at that time, making the practice of monetary policy management more complicated.

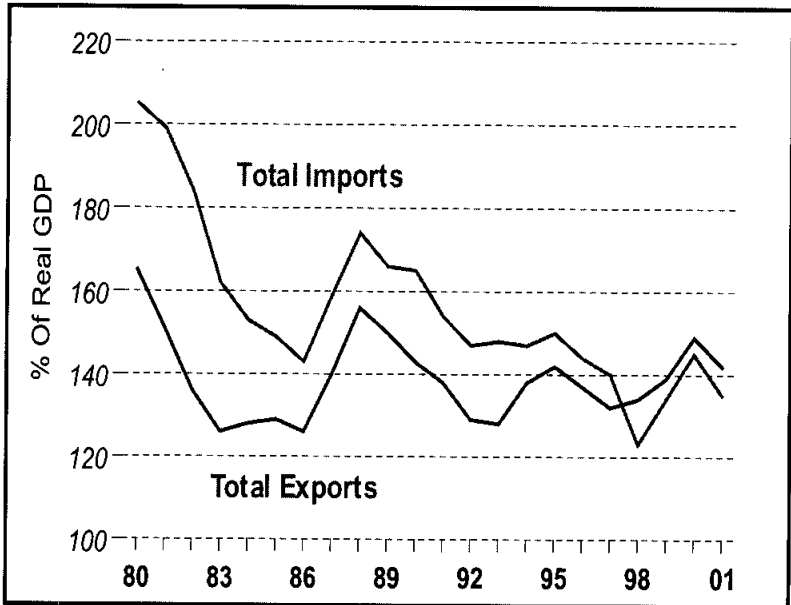
Moreover, depending on the state of external demand, a depreciation of the exchange rate for example, may not significantly lead to an increase in exports demand, if income in the export markets is weak, as in the current situation. However, a depreciation may help to cushion domestic firms by increasing the S\$ earnings that they receive from exports. This in the short-term may help to buffer their cash flow problems. Unfortunately, there is another effect of a weaker currency which may offset these small gains. A weaker currency may increase the cost of production of Singapore manufacturers because they have to pay more for raw materials and machinery which they import.

## **11.2 The Effect of Money on Output and Inflation**

In the context of free capital mobility, the choice of the exchange rate as the focus of monetary policy in Singapore necessarily implies relinquishing control over domestic interest rates and money supply, otherwise known as the "impossible trinity". In Singapore, therefore, monetary policy is centred on the management of the exchange rate. There are no policy targets for either interest rates or money supply.

The importance of external demand in the Singapore economy means that traditional monetary policy instruments such as money supply or interest rates, which largely affect domestic demand, do not have a significant influence on the overall level of economic activity and, therefore, inflation in Singapore. The openness of the Singapore economy can be seen from the high ratio of its international trade relative to GDP. As shown in Chart 1, total exports and imports are each well in excess of 100% of GDP.

Chart 1: Openness to Trade - Ratio of Exports and Imports to GDP



Rather, money supply is essentially endogenous, or adjusts passively, to economic activity. In addition, because of Singapore's role as an international financial centre, the economy is very open to capital flows. As a result, small changes in the difference between domestic and foreign interest rates can lead to large and quick movements of capital. This makes it difficult to target money supply in Singapore.

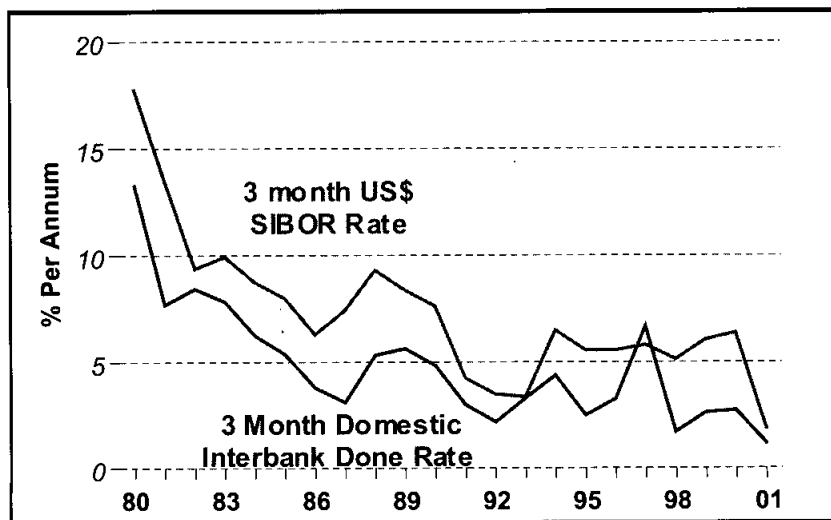
An MAS occasional paper has previously reported results which show that money (M2) and interest rates have predictive content for future movements in real GDP, though this relationship establishes itself only after a lag of about three to seven quarters (see MAS Occasional Paper No.15, Jul 1999). It should be emphasised, however, that these findings do not provide evidence for the non-neutrality (or otherwise) of monetary aggregates in Singapore. Instead, they suggest the possible use of information in monetary and interest rate variables in predicting future movements in real GDP.

### 11.3 The Interest Rate and Credit Policy

As explained earlier, MAS does not set or control interest rates. Short-term interest rates in Singapore are endogenous outcomes of the exchange rate

centred monetary policy. Domestic interest rates are largely determined by foreign rates and market expectations of the movement of the S\$. Notably, the 3-month domestic interest rate has closely tracked its US\$ interest rate equivalent over the years, as shown in Chart 2.

**Chart 2: 3-month Domestic Interbank Rate and 3-month US\$ Interbank Rate**



In an open economy like Singapore, funds flow into and out of the country freely. This makes it impossible for MAS to influence both interest rates and exchange rates simultaneously. Since MAS manages the exchange rate, the domestic interest rates are set by market forces. They are influenced by the level of interest rates abroad, and by market expectations of whether the S\$ exchange rate will rise or fall. If MAS tries to force domestic interest rates down, it will cause an outflow of funds from Singapore, pushing down the S\$ and increasing imported inflation.

Banks are free to set their own lending and borrowing rates within this environment. They make these commercial decisions independently based on their cost of funds and assessment of credit risk. There is no interest rate cartel among the banks in Singapore.

MAS also does not prescribe what banks should charge for their services. Each bank decides for itself how much or how little to charge. If it makes the wrong decision, it will either lose money on the business, or chase away customers to other banks. It is inappropriate for MAS to dictate or influence what are essentially commercial decisions, especially at a time when MAS is reducing administrative guidance and giving market forces more free play.

### *Long Term Interest Rates*

Given Singapore's monetary policy and integrated financial markets, long-term interest rates in Singapore can also be described as a function of US long-term interest rates, expected S\$ appreciation against the US\$, and a risk premium.

The relationship is derived assuming two conditions hold: the expectation hypothesis for the term structure of interest rates and uncovered interest parity between Singapore and US short-term interest rates. The intuition here is simple: given integrated financial markets, the long-term interest rate between Singapore and the "rest of the world" would equalise, adjusted for exchange rate movements and a risk premium.

The major factors affecting long-term interest rates in Singapore:

- a term premium,
- US long-term interest rates,
- the expected change in the S\$-US\$ exchange rate, and
- the risk of holding S\$ assets.

Among these factors, monetary and fiscal policies will have a strong influence on the expected change in S\$-US\$ exchange rates, and the risk premium associated with holding Singapore dollars. For example, if expectations regarding a gradual appreciation of the S\$ change to one of gradual depreciation, S\$ long-term rates will increase. Similarly, if the risk premium increases, long-term rates would also be higher. The term premium – the return demanded by investors to lend for a longer period – can also be affected by government policy. In particular, if such policies lead to more volatile and higher interest rates, the term premium would be higher.



## **11.4 Exchange Rate Regime and Capital Mobility**

The MAS operates an exchange rate centred monetary policy that has been in operation since the early 1980s. The exchange rate is used as a tool to achieve the end objective of promoting low and stable inflation as the basis for sustainable economic growth.

The MAS manages the S\$ exchange rate against a trade-weighted basket of currencies of Singapore's major trading partners and competitors. The basket is composed of the currencies of those countries, which are the main sources of imported CPI inflation and competition in export markets. It is constructed this way to incorporate the two major mechanisms by which the exchange rate affects inflation in Singapore. The composition of this basket is reviewed and revised periodically to take into account changes in Singapore's trade patterns.

The MAS maintains the trade-weighted exchange rate broadly within an undisclosed target band. The level and width of the band are also reviewed regularly to ensure that they are consistent with economic fundamentals and market conditions. How much the trade-weighted S\$ is allowed to appreciate or depreciate depends on a number of things, including the level of external inflation and domestic price pressures. The primary objective is to ensure low inflation for sustained economic growth.

Within the MAS, the Economic Policy Department (EPD) is responsible for formulating and recommending the S\$ exchange rate policy. The length of the policy review cycle is typically six months. Like most major central banks, the MAS formulates and conducts monetary policy in a forward-looking manner. This reflects the fact that monetary or exchange rate policy affects the economy with long and variable lags. In addition, because of the complexity of the economy and its changing structure over time, the extent of the monetary policy impact on the economy can be uncertain. Thus, when EPD formulates the exchange rate policy, it would prepare a series of projections, reassessments, and monitoring updates through the year, having a horizon ranging between several quarters and the medium term. The projections are developed on the basis of econometric models, as well as inputs from sectoral specialists. The role of the sectoral specialists is most important in the near-term forecasts and assessments, while the model itself plays a greater role in the outlook of the medium and longer term, as well as for simulations of alternative scenarios.

EPD also tracks a host of economic indicators as guides to its exchange rate policy. This includes monetary indicators such as the trade-weighted exchange rate, interest rate, and money supply, and economic variables such as labour market conditions, inflation and GDP growth.

The recommendation, in the form of a medium-term path for the trade-weighted S\$ and its associated band, is presented for deliberation and adoption by a monetary policy committee called the Monetary and Investment Policy Meeting (or MIPM for short).

There are no capital controls in Singapore, in line with its role as an international financial centre. It is important to note that the S\$ is fully convertible as exchange controls were abolished in 1978. Singapore has no restrictions either on the inflow or outflow of funds. Provisions of the MAS 757 do not prevent arbitrage between offshore markets and the domestic S\$ market.

In addition, MAS has also begun liberalising its policy on the non-internationalisation of the S\$ since 1998. This non-internationalisation policy, supported by Singapore's strong macroeconomic fundamentals and substantial foreign reserves, has helped MAS to maintain the S\$'s stability. To ensure that this policy would not stifle the growth of Singapore's capital markets, several specific restrictions on the use of the S\$ were lifted.

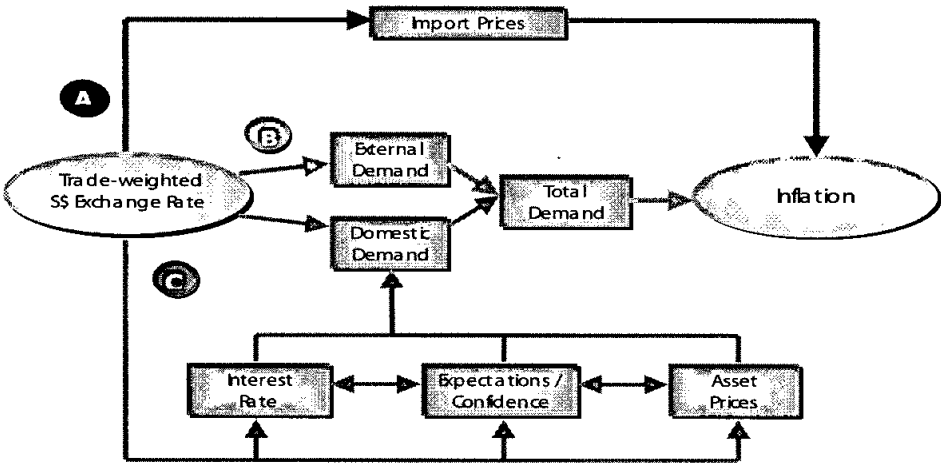
Since 1998, MAS has allowed foreign entities to list S\$ denominated shares and issue S\$ bonds. MAS has also allowed interest rate derivative products to be transacted freely. Last year, MAS announced that banks could lend S\$ to non-residents for investment purposes in Singapore, and freely transact S\$ currency options amongst financial institutions based in Singapore.

In March 2002, MAS implemented measures to further liberalise its non-internationalisation policy. These included exempting all individual and non-financial entities from the policy's restrictions and lifting restrictions on asset swaps, cross-currency swaps and repos, securities borrowing and lending, and S\$-denominated FX options. However, two basic safeguards – restricting S\$ credit facilities exceeding S\$5 million to non-resident financial institutions if there is a reason to believe that the S\$ proceeds may be used for S\$ currency speculation and requiring non-resident to swap or convert the S\$ proceeds from S\$ loans, bond or equity issuances were retained in an effort to limit the amount of destabilising speculation in the currency market.

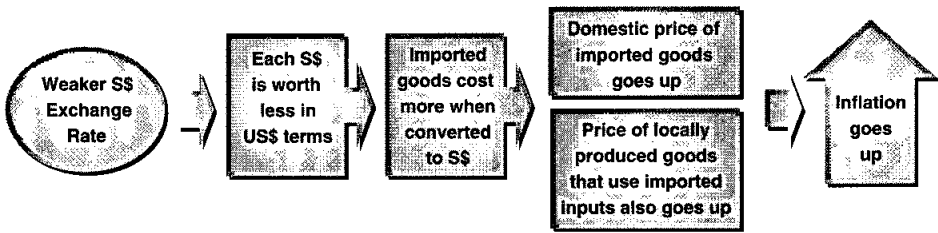
### 11.5 Monetary Transmission Mechanism

There are two main channels or avenues by which the exchange rate policy of the MAS affects inflation and economic activity in Singapore. These channels, along with several lesser ones, are collectively known as the “transmission mechanism” of monetary policy.

The Transmission Mechanism of Monetary Policy



The first and most direct channel through which monetary policy in Singapore affects inflation is via the effect of the exchange rate on import prices. As an example, suppose the MAS depreciates the trade-weighted value of the S\$, by selling S\$ in exchange for foreign currency in the foreign exchange market. This means that the prices of foreign goods and services, which Singapore imports, will be higher when converted into S\$. This has the direct effect of raising the prices that an average Singaporean household has to pay for imported goods and services that are consumed immediately. It also has the indirect effect of raising the prices of locally produced goods and services that compete with imports or use imported inputs. Some of these price changes, however, may take some time to work through the economy, depending on the speed and extent with which importers and retailers pass through the higher prices to consumers.



The second important channel through which monetary policy affects inflation in Singapore is through the indirect but significant “whiplash” effect on aggregate demand in the economy. Continuing with the previous example, when the MAS depreciates the trade-weighted value of the S\$, goods and services produced in Singapore would be more competitively priced in world markets in the short term. This would increase the demand for Singapore’s exports from the rest of the world.

To meet the increase in export orders, companies in Singapore would raise their level of production, and require more production workers. As companies compete for the limited pool of workers in Singapore, they would inadvertently bid up wages. This is particularly so when the economy is operating at full or close to full capacity, as was the case in Singapore during much of the last two decades. The end result is higher inflation, as companies pass through the higher wages that they have to pay, into higher prices that they charge consumers. This transmission mechanism, i.e. Channel B, is somewhat more complex than Channel A and may take longer to work through the economy.



Besides the two main channels of transmission described above, the MAS’ monetary or exchange rate policy also impacts the economy through its influence on domestic demand, for example, via the interest rate. Changes in the monetary or exchange rate policy can also influence consumer confidence, expectations about the future course of the economy, and asset prices, although their ultimate impact on domestic demand and its timing are even more difficult to assess.

The interest rate, credit and asset price channels are indirect effects from the transmission of exchange rate policy. For instance, the interest rate channel affects both households' and firms' ability to service debt which are most directly determined by their income, trends in their gearing, and the level of interest rates, which are market determined. Most importantly, the ability to meet debt obligations depends upon the share of income taken up by interest payments. All else being equal, growth in economic activity, and in turn income, will eventually strengthen households' and firms' ability to meet their debt obligations.

The level of real interest rates is an important determinant of debt servicing costs, and theory also suggests that interest rates influence companies' choice between risky and safe investment projects. When interest rates are relatively low a larger pool of safe investment projects become increasingly attractive – relative to the market interest rate of return. As the incentive to adopt low-risk projects increases with lower interest rates, the likelihood of loan default falls and thus reduces the impact via the credit channel. However, in Singapore, any slowdown in credit growth is associated with the typical business cycle response, rather than necessarily reflecting the undue impact of the so-called credit channel of the monetary policy transmission mechanism.

In addition, we also look at a 'check-list' of macroeconomic variables, which empirical research has revealed to be useful indicators of the degree of banking sector imbalances:

- economic growth relative to the economy's potential;
- income growth and profitability relative to trend;
- sectoral demand or supply imbalances-leading to inflationary/deflationary asset price pressures;
- trends in debt servicing costs;
- trends in gearing levels;
- the level of (real) interest rates;
- value of the exchange rate relative to its trend equilibrium.

### **MAS Targets and Instruments**

In Singapore's context, the term "exchange rate-centred monetary policy" is often used to describe Singapore's monetary policy framework. The exchange rate policy uses a trade-weighted index as a target. This relies largely on the purchase or sale of USD against the S\$ in the spot market (instrument) so as

to control the path of the exchange rate within a band, which is pre-specified to achieve price stability (target).

Discussions about monetary policy operations usually focus on what instruments to use, intermediate targets to aim at, and policy goals. For instance, monetary policy instruments such as the interest rate on borrowed funds from the central bank or exchange rates, are used by some countries to achieve macroeconomic targets in terms of inflation and/or GDP growth outcomes. Intermediate targets link monetary policy instruments with real economic activity or inflation. For instance, interest rates may be changed to achieve a monetary target. For most countries the ultimate policy goal for the central bank is low and stable inflation. For operational purposes, however, the day-to-day target is usually a particular level of interest rates, commercial banks' reserves or the exchange rate. (See Table 1.)

**Table 1: The Language of Monetary Policy**

<i>Instruments</i>	<i>Intermediate Targets</i>	<i>Targets</i>
Central Bank Holdings of foreign currency reserves	Exchange rates	Inflation
Interest rate on central bank reserves	Interest rates	Unemployment
Reserve requirements	Money aggregates	

N.B. Bold entries apply to Singapore.

There has been no change in the policy regime during the last decade and no evidence indicating any change in the monetary policy transmission channel. Nonetheless, the issue of the role of asset price inflation in monetary policy has and will continue to be monitored. Whether monetary policy is the appropriate instrument to use to address asset price inflation is debatable. More work clearly needs to be done to establish the actual policy usefulness of asset prices before they can be formally incorporated into monetary policy formulation.

Unless the central bank has access to all the information relevant for asset pricing, it has no way of knowing the extent to which stock prices reflect a speculative bubble. Indeed, the action of pricking a bubble based on incomplete information may instead cause more instability. For this reason, asset price

inflation is thought to be more appropriately the concern of prudential policy rather than monetary policy. The May 1996 anti-speculative measures in Singapore – designed to curb property price inflation – are a good example of this approach.

There are several reasons for this:

First, asset prices are very difficult to forecast, more so than consumer prices. This inability to anticipate asset price fluctuations makes the use of monetary policy to target asset price inflation a risky and dangerous endeavour.

Second, the relationship between consumer and asset price inflation is a tenuous one. In Singapore, empirical evidence suggests that while there is a contemporaneous correlation between CPI inflation and property price inflation (correlation coefficient of 0.57), there is no significant lead-lag relationship between these two variables, as suggested by Granger causality tests.

Third, the different magnitudes and speeds of adjustment of asset prices and goods prices to monetary policy initiatives may pose a serious policy dilemma for monetary authorities, if both asset and goods prices were chosen as targets of monetary policy.

For the above reasons, financial stability is thought by some to be more appropriately the specific purview of supervisory/prudential policy rather than monetary policy. (See Box Item 1 for Singapore's example.) This would not only reduce the number of end-objectives on which monetary policy might be brought to bear, and thus improve its effectiveness on these fewer areas, but it would have the added advantage of leaving asset markets more resilient to any tightening in monetary policy.

However, the liberalisation of the domestic financial sector could make foreign portfolio investments more accessible to resident investors, and could lead to increased private portfolio outflows. Uncertainty in international and regional financial markets amidst a slowing global economy could also result in greater volatility in capital flows. Taking all these factors into consideration, we would expect to see an increase in the volume and volatility of capital flows, although we do not believe that exchange rate management will be compromised.

### *Box Item 1*

#### Singapore's Experience with Asset Price Inflation

- Singapore has traditionally resorted to supervisory/prudential policies rather than monetary policy to keep asset price inflation in check.
- Following the run-up of property prices in 1994-96, the government introduced a set of prudential and fiscal measures in May 1996 to curb speculation in the property market. For example foreigners and non-Singapore companies were not allowed to apply for loans to purchase residential properties, and the gains from the sale of any property by individuals or companies would be treated as income and taxed at the appropriate individual or corporate tax rate. The government also released more state land for private development in order to moderate the price appreciation of private residential properties. (See below for a summary of the measures.)
- These measures had their intended effect, as property prices and transaction volumes started declining after Q2 96.
- Recently, the government announced that it will resume land sales in 2000 after its suspension in mid-1998 due to the recession. The aim is to keep supply going in order to meet the anticipated increase in demand for housing as the economy recovers. The resumed land sales also comes with several safeguard measures like a mid-year review which allows the government to re-evaluate the pace of its land sales should market conditions change, and the extension of the project completion period to six years. This gives the government some flexibility to manoeuvre should economic conditions change. Certain steps to reduce the demand in the HDB resale market and hence slow down the rise in prices of executive condominiums have also been adopted.

#### May 1996 Anti-Speculation Measures

##### Financing

- ❖ MAS to strictly enforce the mortgage limit of 80% (of the lower of purchase price of valuation).
- ❖ PRs are limited to one Singapore-dollar loan each, for the purchase of residential properties for owner-occupation only.
- ❖ Singapore-dollar loans for the purchase of residential properties will not be available to foreigners and non-Singapore companies.

##### Taxes

- ❖ Gains from the sale of any property — HDB resale, private residential, and non-residential — by individuals or companies will be treated as income and taxed at the appropriate individual or corporate tax rate, and applied to:
  - 100% of the gains on properties sold within 1 year of purchase.
  - 2/3 of gains if sold within 2 years.
  - 1/3 of gains if sold within 3 years.Gains on property sold more than 3 years after purchase will not be taxed.

##### Stamp Duties

- ❖ The buyer is required to pay stamp duty on the full value of the property in any sale or sub-sale of completed or uncompleted properties.
- ❖ The seller is required to pay stamp duty on the sale of HDB or private residential properties equal to:
  - 100% of existing stamp duty on buyers if the property is sold within 1 year of purchase.
  - 2/3 of existing duty if sold within 2 years.
  - 1/3 of existing duty if sold within 3 years.



Despite the remaining restrictions that were imposed to limit the offshore use of the S\$ over the past decade, evidence suggests that this has not impeded the growth of trade or capital mobility. Singapore has maintained an open trade regime and has served as the regional base for entrepôt trade: exports and imports each exceeded 150 percent of GDP in the 1980s and 1990s, with entrepôt trade accounting for about a third of them.

## **11.6 Development of the Financial Market**

MAS is proceeding step-by-step, making incremental changes in reforming the financial sector and developing the money and capital markets. This will give MAS time to boost its supervisory capabilities to keep abreast of the latest market development as well as give market participants time to adjust to the new environment.

### **Risk-focused Supervision by the MAS**

- Since the Asian currency crisis, MAS has shifted its focus from a “one-size-fits-all” regulation to a risk-focused supervision that emphasises institutions’ risk management and control systems. This differentiates between stronger and weaker institutions, giving better-managed institutions greater flexibility in conducting their businesses.
- With improvement in banks’ liquidity management systems over the years, MAS has given banks greater flexibility in their operations. MAS halved the minimum cash balances requirement for banks and finance companies to 3% and adjusted the capital adequacy ratio from 12% for Tier One to 10% Tier One plus 2% Upper Tier Two in 1998.

### **Greater Disclosure Standards**

- MAS raised banking disclosure standards to be in line with international best practices in order to promote greater transparency in the financial market. For instance, local banks are now required to disclose the market value of their investments (rather than book value), disclose the level of their non-performing loans, and loan loss provisions. In the area of asset management, MAS has raised the disclosure standards for unit trusts so that investors are adequately informed of the returns and risks associated with their investments.

### **Increased Foreign Competition**

- To ensure that local banks become globally competitive, MAS implemented a 5-year programme in 1999 to liberalise access by foreign banks to Singapore's domestic market. The programme includes a package of new banking privileges and licenses for foreign banks<sup>11</sup> to be granted over three years (1999-2001). The new privileges and licenses comprise Qualifying Full Bank (QFB) privileges for up to six foreign banks and Qualifying Offshore Bank (QOB) privileges for approved offshore banks. It also includes steps to improve bank governance and allow higher foreign ownership of domestic banks (see below).

### **Strengthened Corporate Governance**

- To strengthen corporate governance, MAS has required all local banks to appoint nominating committees from the Board of Directors. This committee's role is to ensure that only the most competent individuals are appointed to the Board and key management positions.
- While MAS has lifted the 40% foreign shareholding limit on local banks, it has also tightened safeguards on the accumulation of significant ownership of a local bank. MAS approval is required to increase shareholding beyond 5%, 12% and 20%. In terms of the domestic deposit base, MAS would like to see local banks retaining a significant portion (at not less than 50%) as they are likely to act as stabilisers for the domestic financial system in the event of a financial crisis. Local banks presently have 62% of total resident deposits.

### **Enhancing Domestic Financial Markets**

- To develop the domestic capital markets, MAS is issuing more Singapore Government Securities (SGS) to build up the liquidity and depth of the market. To extend the benchmark yield curve off which other bond issues can price their debt, MAS issued for the first time, ten-year SGS in 1998.

---

11. In 1999, MAS awarded four foreign banks Qualifying Full Bank (QFB) privileges and another eight banks Qualifying Offshore Bank (QOB) privileges. The QFB privileges allow the foreign banks to have additional branches and/or off-premise automated teller machines (ATMs), as well as to share ATMs amongst themselves. Offshore banks with QOB privileges will have their S\$ lending limit raised, and will also be allowed to accept S\$ funds from non-bank customers through swap transactions.

To further enlarge the pool of tradable S\$ bonds, statutory boards are issuing more bonds to fund their infrastructure projects.

- In 1998 and 2002, MAS revised its policy on non-internationalisation of the S\$ in order to broaden and deepen the capital markets while minimising the incremental risks. These measures made it easier for foreign entities to list S\$ denominated shares and issue S\$ bonds and swap the proceeds into foreign currency for use outside Singapore. Financial institutions are also now allowed to engage freely in repurchase agreements of SGS or S\$ denominated bonds listed on the Singapore Exchange with non-residents provided there is full delivery of collateral. The S\$ interest rate futures contract was introduced to give investors and financial intermediaries another instrument to manage their interest rate risks and help promote greater liquidity in the S\$ bond and derivatives markets. MAS is proceeding cautiously, mindful that allowing greater international use of the S\$ could potentially disrupt the conduct of exchange rate policy.
  
- In December 1999, Singapore demutualised and merged the stock exchange and futures exchange to form the Singapore Exchange – the first demutualised, integrated securities and derivatives exchange in Asia Pacific. Demutualisation separates ownership from trading access rights, and lessens the potential for conflict of interest as the interests of existing members do not always coincide with the interests of the exchange itself or the financial sector. Merging the exchanges helps align the strategies for the cash and derivatives markets more closely, allowing them to develop complementary products, providing more integrated trading facilities, and share overheads. It will also give the exchange more bargaining power when exploring strategic alliances with overseas exchanges to enlarge its issuer base and investor pool. MAS plans to open up access to the exchanges and free brokerage commissions completely by 2003. Other measures include widening the scope of activities for stockbrokers, and legalising share buy-backs.

### **Developments in the Debt Market**

#### **Corporate debt market**

The Singapore corporate debt market has seen tremendous growth over the years, especially post-Asian crisis, as borrowers sought to diversity their source

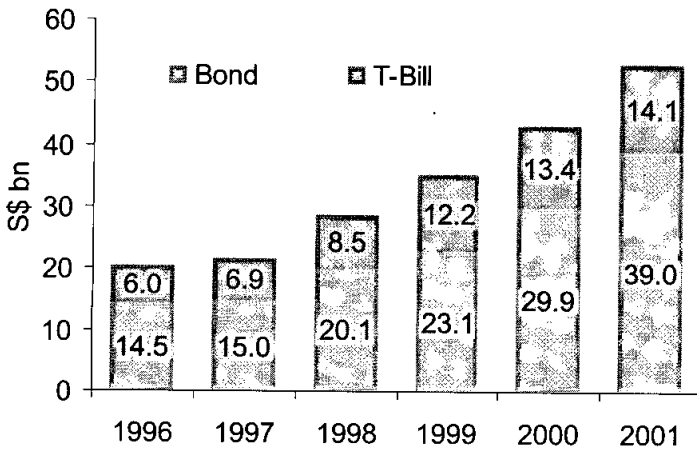
of funding away from loans to bonds. Total corporate debt issuance has shown a steady increase from \$5.1 billion in 1995 to a record \$72 billion in 2001 (Chart 3). Although corporate bond issuance for the first half of this year has fallen by 51% relative to that in H12001 (in line with reduced need for capital expenditure funding given the weak global environment), the market continued to see a diverse range of issuers tapping the S\$-denominated debt market.

*Singapore Government Securities (SGS) market*

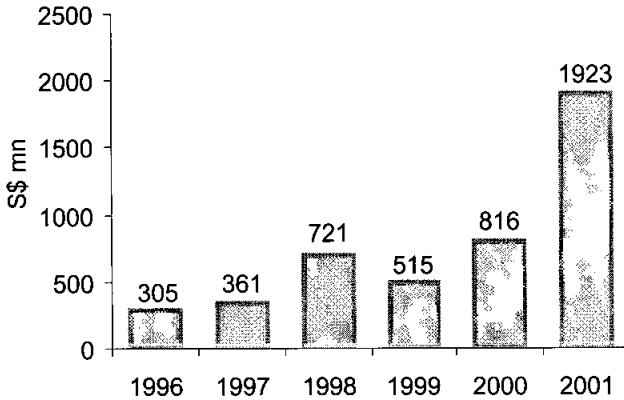
Over the years, MAS has implemented a series of initiatives to further enhance the depth and breadth of the SGS market.

The outstanding amount of SGS has seen steady growth from S\$20.5 billion in 1996 to S\$53.1 billion in 2001 (Chart 3). The growth in market size over the years reflects MAS' effort to develop the SGS market as part of its overall strategy to broaden and deepen Singapore's capital markets. Breaking the \$1 billion mark, the average turnover for SGS was at a record \$1.92 billion per day in 2001. This amount represents a significant increase (about double) from last year's daily average turnover of \$816 million (Chart 4).

**Chart 3: Outstanding SGS Issue**

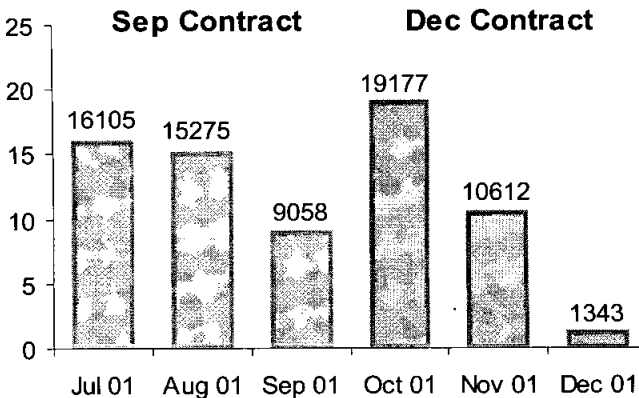


**Chart 4: SGS Average Daily Volume**

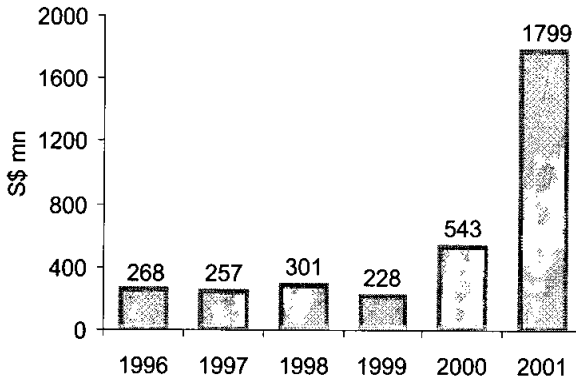


The 5-year SGS bond futures contract was launched by SGX-DT in July and saw an encouraging start. Both September and December contracts experienced healthy trading volumes, except in the month of December when the SGS market experienced a sharp selloff, (Chart 5). Average daily volume for the months of July to December stood at 587 contracts, with open interest hitting a peak of 4,145 contracts on 25 August 2001. As part of Singapore's strategy to broaden the capital market instruments, the inaugural 15-Year SGS Bond was launched on 3 September 2001, extending the benchmark yield curve from 10 years to 15 years.

**Chart 5: 5-yr Bond Futures Turnover**



**Chart 6: Repo Average Daily Volume**



Average daily repo volume increased by more than six-fold since 1996. In 2001, the average daily repo volume was S\$1.8 billion, about the equivalent of the previous five years' average daily repo volume combined. (Chart 6) Overall, the heightened SGS outright trading volume and repo volume are a manifestation of an increasingly active and liquid SGS market, adding breadth (in terms of instruments) to the financial system as a whole.

(Annual data, S\$ Billion)

<b>SINGAPORE</b>	1990	1995	1998	1999	2000	2001
Business-Sector Lending of Commercial Banks (Amounts) <sup>1</sup>	47.77	92.09	128.92	126.12	133.18	141.35
Business-Sector Lending of All Financial Institutions (Amounts)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Total Assets of Commercial Banks (Amounts)	134.00	224.58	309.97	326.30	344.01	384.63
Total Assets of All Financial Institutions (Amounts)	803.04	880.21	1110.37	1072.31	1120.96	1164.49
The Size of Money Market by Financial Instruments <sup>2</sup>	N.A.	N.A.	N.A.	19.50	50.50	72.04
Commercial Papers	N.A.	N.A.	N.A.	1.50	28.60	32.90
Certificate of Deposits	N.A.	N.A.	N.A.	1.90	0.36	1.39
Inter-bank deposits/loans	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Others (please specify)	N.A.	N.A.	N.A.	16.10	21.54	37.75
The Size of Bond Market by Financial Instruments <sup>2</sup>	N.A.	41.56	60.63	78.30	92.74	134.43
Government Bond	8.68	18.56	28.63	35.30	43.24	53.63
Corporate Bond	N.A.	23.00	32.00	43.00	49.50	80.80
Others (please specify)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Funds Raised by the Private Sector in the Stock Market (Amounts)	3.04	1.68	1.61	6.14	5.51	3.12
Funds Raised by the Private Sector in the Bond Market (Amounts)	1.63	3.77	3.90	9.27	14.53	20.41
Total Number of Companies Listed in the Stock Market	188	297	378	416	496	511

Notes: 1. Business-sector means non-financial private sector.

2. The size of market implies issuance or transaction amounts by financial instruments.

N.A - not available

## **12. SRI LANKA**

### **12.1 The Objective(s) of Monetary Policy**

The main objective of the Central Bank of Sri Lanka (CBSL) in conducting monetary policy is to achieve price stability, i.e. both the domestic and the external value of the rupee, and a sustainable level of economic growth through effective utilisation of resources in the country. To achieve these objectives, the Bank has the responsibility of maintaining an appropriate growth in money supply to meet the demand for transactions. An excessive money growth would lead to demand fuelled inflationary pressure, while inadequate money growth would lead to deflation with a lower economic growth. Both situations would adversely affect price stability. Hence, the CBSL prepares a desired path of monetary expansion, which is known as the monetary programme, for maintaining an adequate supply of money.

The stance or nature of monetary policy depends largely on whether priority is placed on price stability or the promotion of economic growth using monetary policy. When there is a continuous increase in prices and inflationary pressure in the economy, monetary policy is aimed at the stabilisation objective and the policy stance is contractionary. Monetary policy is aimed at the development objective and expansionary monetary policy will be followed whenever there is a deceleration in economic activities, but subject to availability of monetary space for such an expansion.

At present, monetary management is based on a monetary targeting framework. The CBSL follows an intermediate targeting approach. The CBSL specifies the intermediate targets (monetary aggregates), compatible with other macroeconomic variables, to be able to assess the effects of monetary policy measures. Reserve money is used as an intermediate target.

The CBSL is studying the feasibility of introducing the inflation targeting framework which would be a medium to long-term undertaking. Inflation targeting would only be feasible in a conducive fiscal environment, which necessitates reduction in the current fiscal deficit.

### **12.2 The Effect of Money on Output and Inflation**

A study done on the links of money supply to the price level and output in Sri Lanka (internal paper) reveals that there is a positive relationship between



money supply and prices level. The study suggests money supply is leading inflation. This analysis used annual data over the period 1953 to 2000. A separate study done for the period of 1953 to 1995 reveals that the impact of money supply movement on price level has time lags ranging from 9 to 12 months.

### **12.3 The Interest Rate and Credit Policies**

At present, all interest rates in Sri Lanka are market determined. There are no regulations imposed by the CBSL over the interest rate of financial institutions. However, interest rates on lending by commercial bank and other financial institutions to specific sectors and projects for which refinance credit facilities are provided by the CBSL under the foreign funded project loans are administratively determined by the Bank.

In the 1960's to 1980's and early 1990's, Sri Lanka implemented directed lending policies which included selective credit controls, ceilings on credit to non-priority sectors and refinance credit facilities at subsidised interest rates. These credit controls were gradually eliminated and fully removed by 1992. At present, there is no directed lending policy other than the refinance credit facilities provided to various development projects under the foreign funded project loans or grants.

### **12.4 Exchange Rate Regime and Capital Mobility**

The exchange rate policy of Sri Lanka has evolved from a regime of fixed exchange rates to a managed float and finally to an independent float. The fixed exchange rate system was maintained in Sri Lanka during the 1960's and most of the 1970's with a rigid system of exchange controls.

In November 1977, Sri Lanka made a major shift from restrictive policies towards a liberal policy regime with the partial liberalisation of external trade and payments. The dual exchange rate system known as the Foreign Exchange Entitlement Certificate Scheme (FEECS) was introduced in 1968 but was abolished after a unified exchange rate was introduced. With the unification, the exchange rate was allowed to float, providing scope for the exchange rate to be determined largely on the basis of demand and supply conditions in the markets. The new system marked a radical departure in Sri Lanka's exchange rate policy by shifting from a fixed exchange rate regime to a managed floating exchange rate system.

Under the managed floating system, the Central Bank initially quoted fixed daily rates for six major currencies. However, after 1982, the Bank limited its quotations only to the intervention currency, the US dollar, allowing the commercial banks to determine the cross rates for other currencies based on market conditions. At the beginning, the margin between the buying and selling rates maintained by the Central Bank was very small. The margin was gradually raised from one per cent to 2 per cent during 1992 to 1995. It was further raised progressively from 2 per cent to 5 per cent during 1995 to 2000 and from 5 to 10 per cent during June 2000 to January 2001, allowing market forces greater scope to determine the exchange rate. Together with the liberalisation of the exchange rate under the managed float system, the country also liberalised its payments system and by March 1994, it had removed all restrictions on current external transactions and accepted Article VIII of the Articles of Agreement of the IMF. By now, capital account transactions were also largely liberalised, except for restrictions on investment abroad and borrowing abroad by residents, and investment in domestic debt instruments by non-residents.

An increased balance of payment deficit, largely due to high oil import prices and security related additional imports, resulted in a reduction in official foreign reserves in 2000 and there were expectations that external reserves would decline further. The Central Bank was therefore, faced with a major challenge in managing the exchange rate with the crawling band. Since the declaration of the government in May 2000 that the country was on a war footing, the market had expected heavy expenditure by the government which, together with rising petroleum prices and declining reserves, generated a market expectation of a rupee depreciation. Exporters started to hold on to their foreign exchange earnings and finance their operations through rupee funds, while importers advanced their operations and started forward bookings for imports. In order to cover both spot and forward sales to customers, commercial banks too intensified their buying in the spot market. Because of these developments, the market exchange rate started operating around the Central Bank's selling rate most of the time, requiring the Bank to sell foreign exchange to defend the exchange rate. The Central Bank responded to this by widening the spread between its buying and selling rates and increasing its interest rate on several occasions during 2000. Accordingly, the Central Bank widened the margin between its buying and selling rate of foreign exchange (US Dollar) from 2 per cent to 5 per cent in June 2000 and was further progressively raised from 5 to 10 per cent during June 2000 to January 2001. The Bank gradually increased its reverse repo rate (lending rate) from 13 per cent to 20 per cent during May to November 2000.

However, in spite of the progressive widening of the band, the market rate reached the selling rate of the Bank immediately after the widening, proving the fact that maintaining an exchange rate band was no longer sustainable given the market conditions prevailing at the time. The Central Bank observed that in the current economic environment, regular widening of the intervention band may lead to a formation of market expectations of continuous depreciation of the rupee, thus exerting unnecessary pressure on the official external reserves of the country. At the same time, increases in interest rates that were supposed to provide stability in the exchange market could not be maintained for a long period, as high interest rates would be detrimental to economic activity in the long run.

On 23 January 2001, Sri Lanka took a major step forward in the liberalisation of foreign exchange transactions by allowing commercial banks to determine the exchange rate freely. The Bank no longer announces its buying and selling rates in advance. Instead, it participates actively in buying and selling at or near market prices. The new system permitted freer transactions in the market, while stabilising the value of the rupee and helping authorities to build up official foreign assets.

The new system has already halted the drain on official foreign reserves and has helped to build them to a more comfortable level. With the restoration of stability in the exchange market, the Central Bank was able to gradually reduce its interest rates which was raised to defend the exchange rate. Further, the market is developing its own strategies and instruments to settle large import bills without resorting to the Central Bank for foreign exchange reserves, as was the previous practice. Under the present exchange rate regime, it is not necessary for the Bank to use monetary policy to defend the exchange rate, as it is not considered as a nominal anchor. The Bank could now target its monetary policy to achieve the prime objectives of price stability and financial system stability. However, the Central Bank will intervene in the market to prevent large fluctuations in the exchange rate and will use monetary policy to maintain exchange rate stability, if fluctuations threaten domestic price stability. Under the present regime, a turn around in the balance of payments is expected and with the stabilisation of the foreign exchange market, interest rates are expected to stabilise at a lower level.

### **Capital Mobility**

In Sri Lanka, the capital account has been partially liberalised. With the introduction of the economic liberalisation process in 1977, a gradual process of partial liberalisation of the capital account was started in 1978 with commercial banks being permitted to maintain Non-Resident Foreign Currency (NRFC) accounts. The establishment of Foreign Currency Banking Units (FCBUs) which were permitted to extend loans and advances to any non-resident or approved resident enterprises such as Board of Investments (BOI) companies was a further step in the process. The major developments were:

- a) In 1990, foreign investors were permitted to increase their investments in shares in listed companies from 40 per cent of the issued share capital up to 100 per cent, subject to exclusions, limitations and conditions set out by the Controller of Exchange. The 100 per cent transfer tax on share purchases by foreign investors was abolished.
- b) In 1990, commercial banks were permitted to open and operate Share Investment External Rupee Accounts (SIERA) for foreign investors to facilitate investment in the Colombo Stock Exchange.
- c) In 1994, the repatriation and surrender requirements in respect of export proceeds were abolished.
- d) In 1995, commercial banks were permitted to obtain foreign loans up to 15 per cent of their capital and reserves.
- e) In 1996, permission was also granted to private sector firms to undertake investments more freely in foreign countries on a case-by-case approval basis.
- f) In 2001, non-residents were permitted to invest in dollar denominated government securities.
- g) In the budget for 2002, most restrictions on FDI inflows were relaxed, subject to rules of the relevant regulatory authorities.

Regulations on capital flows are maintained only in the following major areas in Sri Lanka:

1. Non-resident investments in fixed income securities issued by the private sector such as corporate debentures.
2. Private borrowings from abroad.
3. Investment abroad by residents.

A committee appointed to study the opening up of the capital account has identified the following possible sequencing in further relaxation of existing controls. First, the existing limitations on inward foreign direct investments may be removed while developing necessary regulatory systems in some sectors. Secondly, the private sector may be allowed to borrow long-term from international capital markets on the basis of their credit worthiness and non-residents may be allowed to invest in fixed income securities such as corporate debentures. Finally, investment abroad and short-term borrowings by residents could be liberalised. The sequencing should provide sufficient time for the domestic financial sector to prepare for a more competitive and liberalised environment. Prior to the opening up of the capital account for short-term flows, political and macroeconomic stability is desirable. In this context, a credible fiscal sustainability programme has to be implemented to reduce macroeconomic imbalances. In the meantime, authorities must continue their efforts to strengthen financial sector and supervisory regulations and develop sophisticated monitoring systems for capital flows.

## **12.5 Monetary Policy Transmission Mechanism**

At present, in terms of monetary policy transmission, the interest rate mechanism is regarded as the most relevant for Sri Lanka. The way in which changes in monetary policy are transmitted to the ultimate variables of output and price levels is as follows:

A change in the Central Bank's primary policy tools, the repo rate and / or the reverse repo rate, would have an almost immediate impact on interest rates in the call money market (i.e. the money market among commercial banks). Changes in call rates would lead, within a very short period, to changes in other flexible short-term rates, such as the yield on Treasury bills, and the lending rates of banks to prime customers. These changes would, with a time lag, affect the general lending rates of commercial banks, the yield on medium-term government debt securities (i.e., Treasury bonds) and the deposit rates offered by banks. The next step would be the impact on the general levels of credit given by the commercial banks. The final stage in the process would be the impact that the change in the availability of credit and in interest rates would have on prices and output.

In the present context of a floating exchange rate regime, the exchange rate cannot be used as a monetary policy instrument for price stability. Asset price management and working through the wealth effect is also unlikely to be very

effective in the near future given the development stage of domestic financial markets. Therefore, the interest rate mechanism is the main instrument used to transmit monetary policy to the rest of the economy.

In the implementation of monetary policy, reserve money (base money) which includes currency in circulation and the deposits of commercial banks, is used as an operating target. Monetary policy instruments are used to influence these targets, so that they in turn, affect the financial objective of price stability and help to increase output and employment.

The monetary targeting framework is operated through a monetary programme. This monetary programme is prepared by the Central Bank, taking into account economic factors such as the expected fiscal and balance of payment developments, economic growth, desired level of growth in credit and in inflation. Based on these factors, the monetary programme sets out the desired path for monetary growth and determines the reserve money target necessary to achieve this monetary growth. Based on the annual target of reserve money, a monthly path is prepared. The CBSL continuously monitors developments in the reserve, mainly on a weekly basis, and takes necessary measures to maintain it within the target levels. The CBSL conducts its Open Market Operations (OMO) to achieve the planned target for reserve money. The Central Bank uses its policy interest rates viz; the Repo and Reverse Repo rates, as instruments to influence these operations in order to maintain the expected target in the reserve money.

The monetary programme, however, is neither a single fixed constant constructed once a year nor is it a simplistic formula for OMO. Rather, it is a dynamic framework, which has the flexibility to change an economic condition. Hence, it is revised frequently, as the need arises, to provide broad guidelines for Central Bank OMO.

### **Effectiveness of the Monetary Transmission Mechanism**

Several studies on the monetary transmission mechanism in Sri Lanka has found that although the interest rate channel is the most effective mechanism compared to the direct credit control mechanism in 1970's and 1980's, the effectiveness of the interest rate channel has been limited due to various reasons. The reasons for the limited effectiveness were identified to be imperfections and lack of integration of different sub-markets in the financial sector, i.e., lack of competitiveness and competing instruments in the banking sector, the oligopolistic

nature of market operations, underdeveloped mortgage and long term markets, comparatively inefficient and less market-oriented examples set by the two state banks, the existence of high Statutory Reserve Requirement (SRR) and finally, the high proportion of non-performing loans.

In Sri Lanka, it has been found that while there is a strong correlation between the policy rates and the money market rates, and between policy rates and bank lending rates, the correlation between these rates and deposit rates is relatively low. The slow adjustments of deposit rates seems to reflect a number of factors, including (i) the practice of commercial banks to follow the lead of the two large state banks in setting deposit rates, which in turn do not adjust their deposit rates sufficiently to keep reasonable margin, given their high intermediation cost and low profitability (ii) absence of competing instruments to bank deposits because of the undeveloped nature of the domestic financial markets, and (iii) high SRR which increases the cost of intermediation and makes banks reluctant to adjust their deposit rates.

There has been no significant changes in the present monetary transmission channel i.e., interest rate channel, operating through the monetary targeting framework, during the last decade. The CBSL continued to use the credit channel, i.e., direct selective credit control mechanism in 1970's and 1980's. During the same period, the Bank Rate (Central Bank lending rate to commercial banks) was also used to indicate desired directions in interest rate change. The credit control was gradually reduced from 1978 and it was fully removed in 1992. The use of the Bank Rate was also gradually abandoned from 1978. Banks were gradually discouraged from borrowing under the Bank Rate facility and by 1985 even though the Bank Rate was announced as indicative rate for interest rate changes, borrowings had ceased. The credit control mechanism was gradually replaced by the present interest rate mechanism and the Bank Rate was replaced by the repo and reverse repo rates of CBSL as the main mechanism for signaling to the market the desired interest rate changes and monetary policy stance.

## **12.6 Development of the Financial Market**

During the recent past, various measures have been taken to create a conducive policy environment for the development of financial markets in Sri Lanka with emphasis on the debt securities market. A series of tax incentives were granted to develop the equity and debt markets and to increase the array

of financial instruments available in Sri Lanka. In 1996, brokers' fees and share transactions of investment companies and Unit Trusts were exempted from turnover tax. During 2000, the stamp duty for mortgage assets backed securities were removed with a view to promoting the diversification of financial instruments, and creating an environment conducive to financial innovation. In the second half of 1977, the Colombo Stock Exchange introduced an automated trading (screen based) system replacing the century old "open outcry" system. The above policy measures helped domestic enterprises to raise funds in the stock market as an alternative to bank borrowings.

Recently, a number of instruments have been introduced to the money and capital market in Sri Lanka as an alternative to bank borrowings. These include commercial papers, debentures issues and securitisation.

Commercial papers (CP) are short-term money market instruments issued by companies to raise funds to meet working capital requirements. CPs give both the borrower and lender better rates of return than those offered by traditional banking products. Most commercial papers are for 3 month or 6 month maturities. In Sri Lanka, deposit-raising institutions are not allowed to issue commercial papers. Commercial papers are usually underwritten, endorsed or guaranteed by a commercial bank for acceptability and are usually issued on discount basis. The guidelines for commercial paper issues have been issued by the Bank Supervision Department of the Central Bank. The main investors in commercial papers are banks, other financial institutions, unit trust and firms. In 2001, the total value of commercial paper issues was Rs.23 billion, while the outstanding value at the end of the year was Rs.6.5 billion.

Issuing debentures for medium- to long-term maturities has become an important source of capital raising in Sri Lanka in the recent years. Most of the debenture issues are listed in the Colombo Stock Exchange and are tradable in the secondary market. Listed debenture issues for the 1999-2001 period amounted to Rs.12.5 billion. The maturity period of debentures varies from 3 to 7 years.

Securitisation is another method of raising medium- to long-term funds as an alternative to bank borrowings. It is the structured process of raising funds through the issuance of marketable securities backed by future cash flows from income-producing assets such as housing loans, leasing, credit card receivable, etc. The first securitisation exercise was carried out by the Lanka Orix Leasing Company in 1995 for a value of Rs.366 million, backed by their leasing receivables.



Subsequently, the LOLC issued securities amounting to Rs.190 million in two exercises. In 2002, the Housing Development Finance Corporation (HDFC) issued securities for Rs. 500 million, backed by its housing loans. These were the only known issuers of securitisation and as such, the securitisation market is not well developed in Sri Lanka.

**SRI LANKA**

(Annual Data in Local Currency, in LKR mil-

	1990	1995	1997	1998	1999	2000	2001
1. Banking-Sector Lending of Commercial Banks <i>(outstanding amounts)</i>	126,103	210,703	263,198	294,868	325,927	364,369	396,754
2. Banking-Sector Lending of All Financial Institutions			341,155	389,591	435,663	484,425	524,800
Commercial Banks	126,103	210,703	263,198	294,868	325,927	364,369	396,754
Other LSBs			55,775	69,111	80,885	88,231	93,745
Finance Companies		9,664	14,990	17,918	20,904	22,853	24,473
Rural Banks	675	3,281	7,192	7,694	7,947	8,972	9,828
<i>(outstanding amounts)</i>							
3. Total Assets	218,152	564,706	544,740	811,338	900,134	1,060,742	1,191,657
Commercial Banks	167,703	435,274	605,148	605,148	670,637	804,957	918,470
Other Financial Institutions	50,449	129,432	180,490	206,190	229,497	255,785	273,187
4. The Size of Money Market by Financial Instruments							
Commercial Papers		n.a.	n.a.	16,457	16,203	14,145	23,300
Certificate of Deposits (o/s)		7,930	11,196	14,078	16,484	21,088	22,740
Inter-Bank Deposits/Loans		653616	1015487	880,567	955,054	1,065,491	1,496,617
Others							
5. The Size of Bond Market by Financial Instruments							
Government Bond			10,000	48,915	112,367	125,322	47,100
Corporate Bond			885	2668	1743	2056	1539
Others							
6. Funds Raised by the Private Sector in the Stock Market	70	2144	505	110	258	20	0
7. Funds Raised by the Private Sector in the Bond Market (listed Debentures)	-	-	885	2668	1,743	2,056	1,539
8. Total Number of Companies Listed in the Stock Market	175	226	239	240	237	239	238
9. Average Exchange Rate (Rs./US\$)	40.06	51.25	58.99	64.59	70.39	75.78	89.36

Sources: Annual Reports, CBSL; Monetary2- reports

## **13. TAIWAN**

### **13.1 The Objective(s) of Monetary Policy**

According to the Central Bank of China Act, the Bank's operational objectives include promoting financial stability, ensuring sound banking operations, maintaining the stable internal and external value of the currency and, within the scope of the above objectives, fostering economic development. Seemingly by law, stabilising output or prices is neither the sole nor even the prior goal of monetary policy in Taiwan. However, in practice, by adopting a strategy of monetary targeting, the Bank in effect takes both GDP growth rate and inflation rate as primary determinants to set its monetary policy. Under the current framework, a projected money growth rate target is announced and explained to the public on an annual basis and regularly reviewed during the year. By way of such procedure, the intended goals of monetary policy can be disclosed quite precisely.

### **13.2 The Effect of Money on Output and Inflation**

Empirical studies reveal that movements of monetary aggregates and output are correlated in Taiwan. In particular, income has a response to money multiplier of M2 or even M2 itself. Evidence also shows that a positive shock from M2 may have an effect on GNP growth rate lasting for about two years. Nonetheless, it is found that the correlation of M2 and real income appears to be transitory, and the very long-run relationship may likely be negligible. It is further noted that the magnitude of the effect of money shocks on output is varied in different sample periods.

The general findings indicate that variations of money and prices in Taiwan are correlated with each other in spite of some evidence suggesting that their relationship may be insignificant due to the economy's openness. For those that have found a positive correlation, they also find movements of M2 have been followed by that of CPI with a lead time ranging from one to four quarters.

### **13.3 Interest Rate and Credit Policy**

Restrictions on interest rates have been sequentially removed since the mid-1980s. At present, all interest rates are market-determined. One of the implications of interest rate liberalisation is that the Bank has to rely more on market-oriented tools to conduct its monetary policies.

The Bank occasionally makes use of directed lending policies whenever needed. From August 2000 to August 2001, to help stimulate the real estate market and relieve the burden of home owners, the Bank, in joint effort with the Ministry of Finance and the Ministry of the Interior, coordinated financial institutions in allocating a total of NT\$ 520 billion of Preferential Housing Loans to the youth and general home buyers. In this programme, the Ministry of the Interior subsidised 0.85 percent of the mortgage rates, in which an amount of NT\$120 billion was exclusively distributed to the youth with credit guarantees. An additional NT\$ 200 billion was earmarked for the programme in April 2002, while the mortgage rate subsidy was cut down to 0.425%. By the end of August 2002, banks altogether extended a total of NT\$ 565.8 billion under this package.

### **13.4 Exchange Rate and Capital Mobility**

Prior to February 1979, management of foreign exchange in the Republic of China was characterised by a central clearing and settlement system. Following the establishment of the Taipei Foreign Exchange Market in February 1979, a flexible exchange rate system was formally implemented. Since then, market forces play a major role in the determination of the new Taiwan dollar exchange rate. However, under the current regime, in consideration of the possible disruptions caused by seasonal or irrational factors, the Bank still maintain the discretion to intervene.

According to conventional wisdom, an economy keeping its foreign exchange rate floating and having a framework of imperfect capital mobility, can maintain domestic monetary independence. This may imply that the way of properly implementing a strategy of managed capital flows can help an emerging economy retain exchange rate stabilisation and has the advantage of gaining relatively higher potency of monetary policy. Nevertheless, for many years, Taiwan has made constant efforts to improve the efficiency of allocating its international capital by gradually releasing restrictions on capital mobility in an orderly process.

At present, Taiwan has greatly removed the control over its capital accounts. For instance, the maximum investment amount in the Taiwan stock market for each qualified foreign institutional investors (QFIIs) has been raised to US\$ 3 billion and there is no limitation imposed on the overall investment of QFIIs. In addition, the trading stocks held by a QFII would not be limited by the requirement of a "lock period." Even if they are still subjected to some requirements, QFIIs

could apply for exchanging their approved investment principal and capital gains into foreign currencies. As for offshore borrowings of private firms in Taiwan, the foreign exchange settlements relating to the borrowings of domestic companies from their overseas subsidiaries and the repayment thereof have been excluded from a US\$ 50 million general remittances quota. This measure is to encourage the repatriation of outbound capital.

In short, other than the purpose to facilitate the economy to accommodate international capital mobility in a well-organised manner, the policy regarding capital controls is considered sensible and relatively restricted in Taiwan. The details on how and to what extent the current arrangement of capital flows impact the effectiveness of monetary policy need further investigations. To say the least, experience indicates that mitigating the volatilities of capital movements and hence maintaining the desired stabilisation but flexibility of the new Taiwan dollar exchange rate is, among other things, the most apparent benefit. Monetary policy, as mentioned previously, can then be less influenced by external events and induce less offsetting effects thereby.

### **13.5 Monetary Transmission Mechanism**

There are a variety of channels through which monetary policy can affect economic activities. Whether the channel is through interest rate, financial aggregates, exchange rate, or asset prices, each of them more or less plays a certain role in different time settings. Currently in Taiwan, the roles of both interest rate and credit channels seem more evident and important. However, the importance of the interest rate channel is expected to further increase while that of the credit channel will diminish somewhat in the future.

Based on the result from VAR studies, output variations are statistically related to movements in monetary aggregates, bank lending, and interest rates. The relationships seem to be asymmetric among business cycles though. By and large, they are much stronger in periods of economic slowdown than expansion. During economic upturns, output responses more to interest rate shocks. On the other hand, shocks from monetary aggregates and bank lending have much more impact on output during economic downturns. In addition, results also suggest that bank credits play a less important role than M2 as an intermediate target of monetary policy in Taiwan.

The information content of a yield curve may become increasingly important. Empirical studies show that the overnight call-loan rate significantly affects

yields on money market instruments with maturity less than a year. The result is interpreted to partially support the expectations theory of the term structures. To a large extent, if the longer-term indicators of interest rates can be easily created, the importance of the direct interest rate channel can be further reinforced and recognised.

Taiwan is a highly open and small economy, the influences of exchange rate on economic activities are quite apparent. Nevertheless, partly because its effects are very often mixed with those of interest rates and they also have long lags, identifying the function of the exchange rate channel can be very difficult and complex. Some empirical studies also point out that the new Taiwan dollar exchange rate seems to have correlation with output, but the conjecture needs further investigation.

As for asset prices, an empirical study finds that policy instruments have effects on stock prices. The former, in turn, can help to predict future variations of GDP. These findings suggest that there may be a wealth channel in Taiwan's monetary policy transmission mechanism. However, after using out-of-sample exercises it was discovered that the information content of stock prices to predict GDP and CPI is in fact quite limited. As far as information content is concerned, a price index of real estate is a better indicator.

Similar to other countries, Taiwan in the last few years has been experiencing a transition of structural changes that went along with improvements in information and communication technology and the emergence of financial consolidation and globalisation. All of these developments have potential impacts on the operation of monetary transmission mechanism.

After the financial deregulation that started in mid-1980s, there have been prevailing financial innovations as well as growing direct finance and openness in the financial system of Taiwan. In considering these changes, the set of financial price indicators, including interest rates, exchange rates and asset prices, have been increasingly playing an important role for monetary policy. On the other hand, as direct finance in capital markets, including equity and debt instruments markets, become more essential for borrowers and investors, the function of bank intermediation in particular will diminish. Therefore, the credit channel in general may become less reliable for monetary policy to work through.

The Bank is also aware of the influence of the changing financial system on the acquiring of a well-defined monetary aggregate. When assets are very

easily moving in and out of money components, maintaining a stable and consistent monetary aggregate has clearly become much more difficult, if not entirely impossible. The situation in part reflects falling costs of shifting between money and non-money assets. As a result, the efficacy of using a monetary aggregate as a primary indicator for designing monetary policy can be very likely impaired.

The use of electronic media to conduct transactions in certain areas of financial markets is getting popular in Taiwan. For example, the number of transactions and the volume being traded that are ascribed to stock investors who place their orders on-line and over the phone has grown substantially over the last few years. Statistics from Taiwan Stock Exchange Corporation shows that the new pattern of transactions accounted of about one fifth of the entire market activities in July 2002, and the figure is expected to increase in the future. The change in trading pattern reflects in part a decline in entry costs that has resulted in the increase in financial market participation. The increase in participation reflects an increase in real financial wealth by which it is implied that the wealth effect of monetary policy may become more visible. In addition, more participation in the financial market and the larger holdings of real assets may bring about the increased sensitivity of interest rates to the economy in general. This appears to strengthen the interest rate channel of monetary transmission mechanism.

The falling costs of trading, the more efficient information network, and the more connected financial markets arising from the improvement in information processing technology and in communication are likely to shorten the length of time required for monetary policy to take effect. Nevertheless, in certain cases, the effectiveness of monetary policy may be reduced, or at least decelerated, particularly in the case of monetary contraction. For instance, increasing efficiency of financial market implies that many business firms can meet their funding needs through sources other than bank loans. Accordingly, even if a contractive policy action did raise bank loan rates and affect credit availability, it has less impact on these firms, which implies the credit channel will be less effective.

If anything could slow down the transmission of interest rate effects, it would primarily be the lack of competition in the financial system. Therefore, if there is a lack of market competition, the development of financial consolidation basically would not cast any substantially adverse influence on the fundamental of the interest rate channel. Nevertheless, the financial integration resulting

from consolidation may further diversify the sources of funding and help to remove barriers in capital markets. In Taiwan, about 98% of business firms are of small and medium size, and they account for 40% in total value of production. Currently, these firms rely heavily on bank lending and will therefore benefit from more diversified funding sources and lower financial market barriers in the future. If this is the case, the strength of the credit channel may be further reduced.

### **13.6 Development of the Financial Market**

Recently, the declining interest rates in the money market resulted in a boom in bond funds and an increase in issuance of both corporate and government bonds in Taiwan. The annual growth rate of direct financing rose from 18.44% at end-1997 to 25.61% at end-2001. On the other hand, the annual growth rate of bank lending decreased from 11.96% (at the end of the year) at the end of 1997 to -2.92% at the end of 2001. Related statistics are provided in the following table.



## TAIWAN

(N.T. dollars in billions)

	1990	1995	1997	1998	1999	2000	2001
Business-Sector Lending of Commercial Banks <sup>1</sup>	4,643.2	10,798.0	12,538.7	13,207.7	13,804.9	14,461.3	14,037.8
Business-Sector Lending of All Financial Institutions	4,985.6	11,423.7	13,341.6	14,078.5	14,708.8	15,444.1	15,075.5
Total Assets of Commercial Banks	6,739.2	13,973.6	15,926.6	17,382.7	18,540.8	19,272.4	19,908.2
Total Assets of All Financial Institutions	8,535.2	16,799.2	19,670.2	21,432.3	23,035.3	24,438.6	25,867.5
The Size of Money Market by Financial Instruments <sup>2</sup> :							
Commercial Papers	5,948.8	26,925.2	46,552.0	62,651.5	55,043.7	56,942.3	50,216.6
Certificate of Deposits	7,404.8	8,367.8	5,684.9	2,636.7	3,654.3	6,111.8	7,542.4
Inter-bank deposits/loans	14,154.2	13,091.6	11,077.1	15,770.4	9,366.7	9,535.7	11,492.7
Others (Treasury Bill)	193.4	0.8	166.3	80.7	676.1	85.3	190.7
The Size of Bond Market by Financial Instruments <sup>2</sup> :							
Government Bond	1,591.0	20,796.0	40,318.9	54,678.3	52,110.6	68,354.7	118,334.5
Corporate Bond	1.5	4.7	46.9	110.5	149.9	243.6	287.9
Others (Bank Debenture)	0.5	0	0	0	0	0	10.0
Funds Raised by the Private Sector in the Stock Market <sup>3</sup>	43.3	112.8	500.9	435.1	222.4	250.2	75.7
Funds Raised by the Private Sector in the Bond Market <sup>3</sup>	6.2	43.3	120.7	196.5	113.5	181.6	161.7
Total Number of Companies Listed in the Stock Market	19.9	34.7	40.4	43.7	46.2	53.1	58.4

- Notes: 1. Business-sector means non-financial private sector.  
2. The size of market implies transaction amounts by financial instruments.  
3. Funds raised by public enterprises are included.

## **14. THAILAND**

### **14.1 The Objective(s) of Monetary Policy**

Prior to the 1997, the Bank of Thailand (BOT) pursued a fixed exchange rate regime with the value of the baht pegged to a basket of currencies. The focus of monetary policy at this stage was to provide a stable environment that facilitated international trade and investment. Following the abandonment of the fixed exchange rate in July 1997, monetary policy aimed at stabilising the baht using money market interest rates as the operating instrument. After the completion of the IMF programme, the BOT carefully and extensively sought the most appropriate monetary framework for Thailand—one that would best concentrate market expectations and strengthen the credibility of monetary policy—and formally adopted an inflation target in May 2000. The BOT chose to target core inflation, which excludes volatile raw food and energy prices, to remain within the range of 0-3.5 percent. A return to a fixed exchange rate regime was not considered a viable option in light of capital inflow volatility and the recent crisis. Targeting broad money was deemed inappropriate owing to instability in the relationships between money aggregates, output, and inflation reflecting rapid and ongoing changes in the financial system.

By making price stability the primary long-run goal of monetary policy, an inflation targeting framework serves to: i) improve communication between policy-makers and the public; ii) provide discipline and accountability in the making of monetary policy and iii) place greater emphasis on forward-looking economic forecasts. In so doing, it helps to contain inflation as well as reduce uncertainty about its future course, thereby improving business planning and commercial investment decisions. Within this framework, the BOT is allowed sufficient flexibility to respond quickly to fast changing domestic and external developments while ensuring price stability in the long run. To determine the appropriate stance of monetary policy, the Monetary Policy Committee (MPC), comprising of the BOT's management board as well as external advisers, meets every six weeks on a pre-announced schedule. The Monetary Policy Committee (MPC) sets monetary policy in order to attain price stability conducive to sustainable economic growth. The MPC also monitor factors contributing to external stability.

### **14.2 The Effect of Money on Output and Inflation**

A recent internal study on the monetary transmission mechanism in Thailand suggests that in terms of the relative timing of output and price responses to

monetary shocks, the effects in Thailand are not that dissimilar to those in more developed countries, including several European countries as well as the US. In particular, while output displays the familiar U-shaped response (following a tightening of policy) with the maximum impact occurring after 4-5 quarters, the aggregate price level initially responds very little and starts to decline only after about a year, though quite persistently so.

Part of the explanation of why the price response maybe slower in Thailand than in other developing countries could be the fact that exchange rate pass-through is relatively small in Thailand. Empirical results for Thailand indicate that only around 10 percent of fluctuations in the exchange rate is transmitted onto domestic inflation after one year compared with 41 percent, 35 percent, and 27 percent for Indonesia, Chile, and Mexico, respectively. Combined with the historically small role of the exchange rate channel in the Thai monetary transmission mechanism (Thailand had a fixed-exchange rate regime for most of the 1990s), the impact of monetary shocks on prices that comes through exchange rates has been relatively small.

More recently, the persistently large output gap that has beset the Thai economy since the crisis, has limited the pricing power of firms and contributed to more sluggish price responses. Finally, a significant portion of the CPI basket in Thailand is made up of products and services which are subject to price controls (eg. bus fares, education, and telecommunication) which creates some degree of inertia in the general price level.

### **14.3 The Interest Rate and Credit Policy**

Thailand embarked on the process of financial liberalisation in the early 1990s with emphasis in the early stages on increasing competition in the financial system. Three key reforms were implemented, namely, interest rate liberalisation, relaxation of financial regulation, and relaxation of capital controls. Ceilings on lending rates were abolished in June 1992 and all interest rates are now market determined.

Directed lending has been pursued by successive governments to varying degrees. These are conducted primarily through Specialized Financial Institutions (SFIs) under the supervision of the Ministry of Finance (MOF). The main players include:

**The Government Saving Bank (GSB)**

The GSB's main functions are to mobilise savings and finance government budget deficits. In the past, a large proportion of the GSB's funds had been invested in government securities, mostly government bonds and promissory notes, to finance government budget deficit. As the Government's fiscal position has improved markedly since 1988, the GSB has recently obtained approval from the Ministry of Finance to extend more credits to state enterprises and the private sector deemed in need of financial support, such as SMEs. The GSB mobilises funds mostly through savings and fixed deposits, as well as the sale of premium savings bonds.

**The Government Housing Bank (GHB)**

The basic function of the GHB is to provide housing finance to persons of moderate incomes. The GHB's principal sources of funds are deposits, domestic and foreign borrowing, capital stock and retained earnings.

**The Bank for Agriculture and Agricultural Cooperatives (BAAC)**

Since 1977, the BAAC has been providing credits directly to farmers and through agricultural cooperatives and farmer groups at low interest rates. Most loans are short or medium term, with only a limited amount of long-term loans with maturities of over 3 years. Moreover, the BAAC cooperated with both the government and the private sector in providing technologies and personnel to help advise farmers and cooperatives under a number of agricultural development projects.

**The Industrial Finance Corporation of Thailand (IFCT)**

The IFCT operates along the line of a private development bank. It specialises in financing fixed assets through the extension of medium- and long-term loans to different industries, particularly those in the private sector. One of the goals is to facilitate the development of the capital market in Thailand. The IFCT is not allowed to extend credits to any company owned more than one-third by the government. Although established under a special Act, the IFCT is mostly owned by private entities, mainly Thai commercial banks. The IFCT's shares are listed and traded in the Stock Exchange of Thailand (SET). In the past, the IFCT obtained a large bulk of its funds from foreign borrowing. However, the share

of foreign borrowing has declined steadily over the years. More recently, the IFCT has started to mobilise funds through borrowing from the Bank of Thailand and issuing IFCT notes and bills of exchange in the domestic market.

**The Small Industry Finance Corporation (SIFC)**

The SIFC was established in May 1992 in line with the government's policy to promote the development of domestic industries. The SIFC provides financial support to small industries, in terms of new establishment and improvement of production capacity and efficiency, so that they would play a more important role in economic and social development, particularly in rural areas. SIFC's debtors are mainly small businesses.

**The Export - Import Bank of Thailand (EXIM-Bank)**

The EXIM-Bank started operation in February 1994 with the objective of promoting Thai exports and investment overseas by providing direct loans, loan guarantee, export insurance, or other financial services as necessary. Due to the fact that the EXIM-Bank cannot take deposit from the general public as is the case with commercial banks, its sources of fund, therefore, come mainly from mobilisation of funds from domestic and foreign borrowing, the issuance of financial instruments, loan from the Bank of Thailand for purchase of export bill.

**The Small Industry Credit Guarantee Corporation (SICGC)**

In order to promote industrial development according to the National Economic and Social Development Plan, the Small Industry Credit Guarantee Corporation was established in February 1992. The SICGC's main function is to provide credit guarantee to viable small industries that may lack sufficient collateral to obtain credits on their own. Most of the loans with guarantee by the SICGC were granted by IFCT, SIFC and commercial banks.

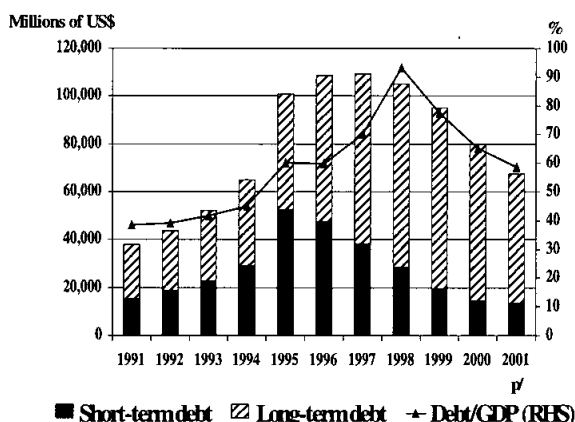
**14.4 Exchange Rate Regime and Capital Mobility**

Prior to 1997, Thailand had operated under a fixed exchange rate regime. The switch to the current floating exchange rate regime took place on 2 July 1997 following heavy speculative attacks, which had been building up for some time.

**Prior to the Floating Exchange Rate Regime**

Before the deregulation and liberalisation in the early 1990's, the pegged exchange rate system against a basket of currencies provided a stable financial environment conducive to economic growth. By facilitating good export performance and encouraging investment, the peg helped Thailand achieve exceptionally high rates of growth for many years. From 1971-1995, the Thai economy recorded an average growth rate over 7 percent with moderate inflation.

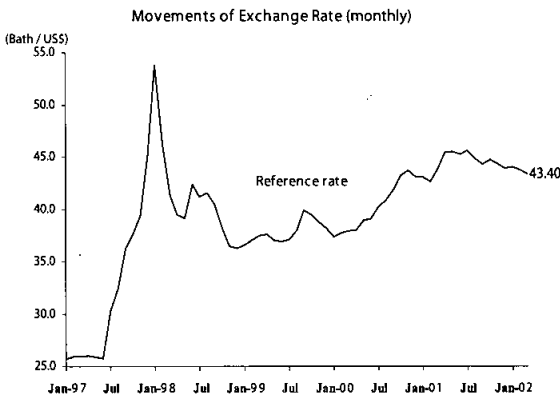
**External Debt**



However, the pegged exchange rate regime meant that monetary policy had very limited room to maneuver. It also created a situation where the public became accustomed to a stable exchange rate, leading to a perception of very low exchange rate risk. In this context, the rapid financial deregulation that had begun in earnest after 1987 encouraged large capital inflows which helped to deepen the financial system but also tempted Thai financial institutions and corporations to overly rely on short term foreign borrowing. The latter, in turn, was used to build up excessive exposure in several areas, including the real estate and construction sectors, resulting in bubble growth and deteriorating asset quality.

With continued expansion of investment at a rapid pace, the debt profile of

Thai corporations became skewed heavily towards short-term foreign currency denominated obligations, exacerbating both the maturity as well as currency mismatch in the balance sheets of the corporate sector. With real estate and equity prices over-inflated, collateral valuation underlying many debt obligations also became out of line with fundamentals. At the same time, the fixed exchange rate regime meant that the baht appreciated in line with the US dollar resulting in a real exchange rate that became increasingly over-valued. The economy therefore rested on precarious fundamentals and became vulnerable to shifts in investor's confidence and abrupt reversals in capital inflows.



Against this backdrop, pressure on the baht intensified in December 1996 and the Bank of Thailand was forced to intervene heavily on several occasions. With no let-up in the pressure on the baht and after a significant draw down of international reserves, the Bank of Thailand abolished the fixed exchange rate and moved to a floating system on 2 July 1997.

### **The Floating Exchange Rate Regime After the Crisis**

After the floatation of the baht, the immediate macroeconomic policy priority turned towards the restoration of both internal and external stability. With the support of an IMF programme, Thailand began to put in place a series of economic adjustments and reforms to deal with the structural problems in the economy and restore investor confidence.

In regards to the monetary policy framework, a new nominal anchor was needed after the fixed exchange rate regime was abandoned. The BOT formally adopted an inflation target in May 2000. Together with a managed float currency regime, this framework gave the BOT sufficient flexibility to respond quickly to fast changing domestic and external developments while ensuring price stability in the long-run. The flexibility in the exchange rate helped the economy to adjust and correct previous imbalances. While the baht depreciated steeply initially, the currency stabilised after about 6 months both in terms of value and volatility. The current account, meanwhile, moved from deficit to surplus reflecting debt repayments and reduced imports.

So far, the new monetary policy framework and currency regime has served Thailand well in facilitating the economic recovery. However, the monetary transmission mechanism continues to be impaired by remaining structural weaknesses in the economy, especially in regards to non-performing loans in the banking sector and high leverage in the corporate sector. While much progress has been made in this respect, the reform agenda is still unfinished and needs to be completed as quickly as possible.

In the case of Thailand, the flexibility accorded by the managed float system has advantages in terms of facilitating adjustment to shocks as well as accommodating longer-term structural changes in the economy. The adoption of flexible exchange rates has added much needed flexibility into the framework of monetary policy in Thailand. However, the public is still coming to terms with the increased volatility that inevitably accompanies such greater flexibility and large movements in exchange rates continues to cause some unease in the market. Partly in an effort to stem these concerns, the BOT attempts to smooth out excessive volatility in the exchange rate while at the same time allowing the level to reflect fundamental forces in the medium-term. Looking forward, the greater flexibility in the exchange rate should increase the effectiveness of monetary policy by increasing the role of exchange rates in the monetary transmission mechanism.

Thailand embarked on a course of financial and exchange control deregulation in the early 90's by accepting Article VIII of the Articles of Agreement of the International Monetary Fund. During 1990-1994, most controls regarding inflows and outflows of foreign capital were lifted and Thailand was left with only a few restrictions, specifically directed towards residents. As a result, foreign capital, including direct investment, portfolio investment, and loans, were freely permitted both on the inflows and repatriation.



During the currency crisis, options to defend the peg was very limited due to the aggressive speculation on the baht and the depletion of international reserves as a result of previous interventions. As a result, the BOT introduced the so-called '2-tier market' measure by asking for co-operation from financial institutions to limit baht lending, including certain type of foreign exchange transaction, only to those non-residents with genuine underlying commercial or investment activities. This measure effectively closed off all the channels that foreign speculators used for borrowing baht from local bank for currency speculations, including the direct borrowing and funding through foreign exchange transaction such as swap and forward. As a result, a 2-tier foreign exchange market was created: one onshore and the other offshore where supply of the baht was limited.

In order to better balance the benefits and costs of measures to deter currency speculation, as well as to regain foreign investors confidence and facilitate foreign investment, the BOT decided to lift the 2-tier market measure, replacing it with a less restrictive measure, the so-called 50 million baht guideline. This policy was implemented at the end of January 1998, after the external sector showed signs of improvement and the baht became more stable. Under the scheme, credit facilities including loans, foreign exchange swaps, currency swaps, interest rate swaps, options, and forward rate agreement provided by financial institution to non-residents are subject to a maximum outstanding limit of 50 million baht per counterparty. This limit does not apply to bona fide trade and investment transactions.

Apart from being more flexible, the 50 million baht measure limits the extent of offshore currency speculation, while enhancing foreign investors' confidence and boosting activity in the FX market. However, drawbacks to this measure include cost of document examination and foreign investors' perception that capital flows in Thailand are not completely free.

With the globalisation trend and the attempt from both developed and developing countries to move towards freer trade and investment, it is likely that Thailand will eventually not only lift current restrictions that discriminate between domestic and offshore investors, but also engage in further capital account deregulation. However, the experience from the previous crisis suggests that such liberalisation has to be done carefully, being mindful of the potential instability that may accompany such a move. The process of liberalisation will, therefore, be a long-term one which will be implemented gradually taking into account the readiness of the economy to withstand external shocks.

readiness of the economy to withstand external shocks.

## **14.5 Monetary Transmission Mechanism**

A recent internal study on the transmission mechanism in Thailand suggests that the real effects of monetary policy have been transmitted mostly through the direct interest rate and bank-lending channels. The exchange rate and asset price channels have been less significant by comparison. The importance of the interest rate channel in Thailand stems partly from the historically high degree of leverage among Thai firms, while much of bank debt is at floating rates. In this respect, the most important factor that determines the effectiveness of the interest rate channel is the degree of pass-through from money market rates (which policy influences directly) to retail rates (which are set by banks). As for the bank-lending channel, its importance in Thailand has owed much to the fact that Thai firms have relied heavily on bank finance as the alternatives have been limited.

The analysis of the transmission mechanism revealed a set of key findings that can be summarised by the following stylised facts about the response of the economy to a tightening of monetary policy:

*Stylised fact 1:* The aggregate price level initially responds very little, but starts to decline after about a year and quite persistently so.

*Stylised fact 2:* Output follows a U-shaped response, bottoming out after around 4-5 quarters and dissipating after approximately 11 quarters.

*Stylised fact 3:* Investment appears to be the most sensitive component of GDP to monetary policy shocks.

These observations are generally consistent with findings in other countries, using similar methodology, including the US and European countries.

The empirical results point to a transmission mechanism in which investment is particularly sensitive to monetary shocks and banks act as an important conduit for monetary policy to real activity. The responses of key macroeconomic variables to monetary shocks are generally in line with those in other countries. The evidence, however, suggests that problems in the corporate and banking sectors may have undermined the monetary transmission mechanism over the last few years.

An analysis of the degree of pass-through from market interest rates to

banks' retail rates, which—given Thailand's heavy reliance on bank lending—constitutes a key element of the transmission mechanism and reveals that the degree of pass-through in Thailand is generally lower than those in developed countries. Moreover, the sensitivity of retail rates to money market rates appear to have declined in the aftermath of the 1997 financial crisis, undoubtedly a by-product of unresolved banking sector problems and high liquidity in the system, as well as the changing competitive landscape associated with a smaller number of active financial institutions and less capital inflow.

Furthermore, the role of the bank lending channel appears to have declined in the past 3 years along with the sensitivity of retail rates to money market rates. This has taken place in conjunction with the rise in prominence of non-bank sources of finance and continued weaknesses in the banking sector. To the extent that the latter has acted as a constraint on new bank credit, it would have tended to offset the impact of monetary easing. In addition, by effectively limiting investment demand, excess capacity and balance sheet weaknesses in the corporate sector have also blunted both the bank lending and traditional interest rate channels.

Looking forward, there are two sets of opposing forces that will determine the strength of the bank lending channel. On the one hand, resolution of remaining banking sector problems and continued expansion of consumer credit should alleviate supply side constraints and increase the importance of bank loans in the economy. On the other hand, reliance on bank-finance should decline as capital markets become more developed, while banks are likely to strengthen their ability to cushion any fall in bank reserves and retail deposits associated with a tightening of policy, thereby reducing the sensitivity of loans supply to monetary shocks. Nonetheless, given that fundamental capital market development tends to take place gradually and the continued importance of small firms in Thailand, the overall effect in the medium-term should be an increase in the significance of the bank lending channel.

#### **14.6 Development of the Financial Market**

The development of the capital market to facilitate direct financing provides an efficient mechanism for the allocation of financial resources and is now an important alternative to bank lending for the corporate as well as public sector in mobilising long-term funds. Capital market development is a response to the global trend towards disintermediation and securitisation which

intermediary shifts away from being principal agent towards the provision of fee-based services.

A key distortion in the money market has been the role of the BOT as direct counterparty in all repurchase transactions and the presence of the Financial Institutions Development Fund (FIDF) as the biggest borrower in the market. The former has hindered development of the repurchase market, distorted market pricing/signaling, and constrained broader and more efficient open market operations. Fiscalisation of the FIDF losses would allow the withdrawal of the BOT from its role as central counterparty in the repurchase market and facilitate the transition from the current BOT-run repo market to bilateral and private repo markets. The market would no longer be distorted and liquidity conditions can be better gauged from repo transactions amongst primary dealers.

Since 2000, the BOT have started to conduct bilateral repo transactions exclusively with primary dealers in parallel with the existing repo market. In January 2002, the BOT permitted finance companies to engage in borrowing transactions with institutional investors via the private repo market. One of the aims of the private repurchase market is to promote the domestic debt market by providing investors with a new fund-raising alternative. The BOT tried to encourage the establishment of the private repo market so that financial institutions can access short-term funds or have an avenue for short-term investment in place of the current repurchase market.

In addition, government security market development has been hindered by limited Treasury bill issuance and irregular auctions of bonds and Treasury bills to institutional investors. After a decade of no new borrowing due to strong fiscal position, the government only resumed borrowing via the domestic bond markets in 1999 to finance deficits.

In 2002, the development of the Thai capital market received high priority from the government with the launch of the Capital Market Master Plan. The Plan aims to intensify the development of the domestic capital market in line with international best practices in terms of standards, efficiency, and transparency. The Capital Market Master Plan places emphasis on six broad aspects in the development of Thailand's capital market. These include:

1. Promoting the capital market as an efficient source of funding:
  - Removal of barriers and obstacles to the issuance, as well as the burden on the cost of financing through the capital market

- Promotion of corporate advisory businesses
  - Privatisation of State-Owned Enterprises (SOEs) and support wider listing in the Stock Exchange of Thailand (SET)
  - Revision of the Board of Investment's (BOI's) policy to leverage on investment promotional measures and the incentives for listing in the SET
2. Increasing liquidity in the trading of securities:
- Widening the outreach for the sale of securities including through the promotion of electronic trading
  - Establishment of a market maker system
  - Implementation of short-term measures such as a local matching fund and equity fund
3. Improving the quality and quantity of securities issued
- Establishment of a committee to select and screen qualified companies for listing in the Stock Exchange of Thailand or the Market for Alternative Investment (MAI)
  - Promotion of the derivatives market, through expediting the passage of the pending legislation governing derivatives and futures transactions, as well as preparation for the setting up of the futures market.
4. Expansion of the investor base through the promotion of a credible and conducive environment for investment. This should help improve the integrity and soundness of the Thai capital markets to both domestic and international investors:
- Promotion of good corporate governance such as through the rating of firms' corporate governance, and reduction of listing fees for companies that practice good corporate governance.
  - Establishment of an arbitrator to settle disputes between market participants
  - Encouraging the setting up of organisations for the protection of the rights of minority shareholders
5. Strengthening of intermediary institutions, through strengthening fund management businesses and securities business
6. Development of an infrastructural framework comparable to international standards and best practices, including:
- Introduction of the straight-through-processing system
  - Development of an efficient consolidated database system

The above initiatives should help deepen and widen the Thai capital market as an important source of financing for both the government and the private sector. This is crucial during the time when banks - the traditional intermediaries - have not fully resumed their intermediary function. A stronger capital market where participants can be confident of the integrity of rules and regulation such as investor protection and disclosure requirements will help attract funds, from both foreign and domestic (the depositor base of the banking system) thus helping to achieve a better structure for the credit or money market, and the capital market.

## THAILAND

	(Annual data, in local currency, bath billions)					
	1990	1995	1998	1999	2000	2001
Private Sector Lending of Commercial Banks	1479.0	4300.9	5472.7	5248.3	4723.7	4447.9
Private Sector Lending of All Financial Institutions	1821.2	4702.5	7202.2	6128.8	5334.9	4982.1
Total Assets of Commercial Banks	1806.6	5066.5	7164.9	6973.4	6640.2	6616.0
Total Assets of All Financial Institutions	1806.6	6663.5	8668.4	7707.3	7307.8	7187.7
Size of Money Market by Financial Instruments						
Commercial Papers	na	na	na	na	na	na
Certificate of Deposits	na	na	na	na	na	na
Interbank deposits/loans	na	na	na	na	57.1	60.0
The Size of Bond Market by Financial Instruments						
Government Bond	na	43.0	411.9	587.4	658.9	706.7
Corporate Bond	na	133.6	177.6	402.0	501.2	538.1
Others (State Enterprise, FIDF bonds, and T-bills)	na	247.8	336.8	399.5	474.9	638.4
Funds Raised by the Private Sector in the Stock Market (Market Cap)	na	129.6	330.0	465.7	119.8	99.2
Funds Raised by the Private Sector in the Bond Market	na	47.5	37.8	289.3	151.2	106.7
Total Number of Companies Listed in the Stock Market	na	na	418.0	392.0	381.0	382.0

## **Appendix I: Questionnaire on Monetary Transmission Mechanism**

1. Please describe the objective(s) of monetary policy. If there has been any change(s) in the targeting regime of monetary policy over the last decade, e.g. from monetary targeting to inflation targeting, please explain the background and rationale for such change(s).
2. In the advanced countries, monetary expansion is generally believed to affect output in the short run, even if such actions merely lead to changes in the price level in the long run. In many developing countries, monetary expansion may lead immediately to higher prices with little impact on the economic activities. Describe the experiences of your country related to this issue during the last decade. If your Bank has conducted research on this issue, please briefly summarise the findings of these research.
3. Please describe the interest rate and credit policies in relation to the following:
  - (1) Are all interest rates completely market-determined? If you have any regulation on interest rates, please elaborate which interest rates are regulated, for what reasons, whether and when these interest rates will be liberalised.
  - (2) If there is a directed lending policy in your country, please describe the main features of the policy, e.g. what are the beneficiary sectors, purposes, methods of financing, etc.
4. Please provide explanation on the exchange rate regime and capital mobility based on the following issues:
  - (1) If there is any change in the exchange rate regime over the last decade, what are the background, rationale and main features of the changes? If possible, please also provide assessments of the new regime, particularly on the problems faced and impact on the effectiveness of monetary policy.
  - (2) If you have any capital controls, describe the extent and impact on the effectiveness of monetary policy in detail. Is there any restriction on offshore borrowing by the private firms? Please provide information on the future time frame for liberalisation of capital market, if any.

5. In the monetary transmission mechanism, four channels have been identified and studied: interest rate channel, credit channel, exchange rate channel and other asset price channel.
  - (1) Among these, which channel(s) is (are) regarded as more effective than others in your country? What are the factors that influence the effective transmission channel? What indicators are used as operating targets for this effective channel(s) in implementation of monetary policy? If your Bank has conducted research on these issues, please provide a summary of the studies.
  - (2) In term of effectiveness, has there been any change(s) in the transmission channel(s) during the last decade? Have structural changes such as the Asian financial crisis and financial market liberalisation, altered the transmission channel of monetary policy? If yes, describe the change(s) and explain how it is accounted for, in the conduct of monetary policy. Please substantiate your explanation with empirical evidences on these issues in your country, if possible.
6. Please briefly describe and assess the measures to develop money and capital market as an alternative means of bank lending in your country over the last five years (1997-2001). Provide the following statistics:



(Annual data, in local currency)

	1990	1995	1998	1999	2000	2001
Business-Sector Lending of Commercial Banks (Amounts) <sup>1</sup>						
Business-Sector Lending of All Financial Institutions (Amounts)						
Total Assets of Commercial Banks (Amounts)						
Total Assets of All Financial Institutions (Amounts)						
The Size of Money Market by Financial Instruments <sup>2</sup> Commercial Papers Certificate of Deposits Inter-bank deposits/loans Others (please specify)						
The Size of Bond Market by Financial Instruments <sup>2</sup> Government Bond Corporate Bond Others (please specify)						
Funds Raised by the Private Sector in the Stock Market (Amounts)						
Funds Raised by the Private Sector in the Bond Market (Amounts)						
Total Number of Companies Listed in the Stock Market						

Notes: 1. Business-sector means non-financial private sector.

2. The size of market implies issuance or transaction amounts by financial instruments.