

Report of the Working Group on Instruments of Sterilisation

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Introduction

Forex flows have implications for the conduct of domestic monetary policy and exchange rate management. How such flows impact domestic monetary policy depends largely on the kind of exchange rate regime that the authorities follow. In a fixed exchange rate regime, excess forex inflows, resulting from current and capital account surpluses or net surpluses, would perforce need to be taken to forex reserves to maintain the desired exchange rate parity. In a fully floating exchange rate regime, the exchange rate would itself adjust according to demand and supply conditions in the foreign exchange market, and there would be no need to take such inflows into the forex reserves. In such a scenario, in the presence of heavy forex inflows, it is possible that the exchange rate may appreciate significantly though an appreciation may not automatically restore equilibrium in the balance of payments. While in practice in all countries, the central banks do intervene in the forex markets there are some features in emerging markets where a more intensive approach to intervention may be warranted in the context of large inflows. In emerging markets, capital flows are often relatively more volatile and sentiment driven, not necessarily being related to the fundamentals in these markets. Such volatility imposes substantial risks on the market agents, which they may not be able to sustain or manage. Where the exchange rate is essentially market determined, but the authorities intervene in order to contain volatility and reduce risks to the market participants and for the economy as a whole, some difficult choices need to be made. First, a choice has to be made whether to

intervene or not to intervene in the forex market; and second, if the choice is made to intervene, the extent of intervention.

2. What choices are made depend on a number of considerations. The key issue under consideration of the monetary authority is to determine whether the capital inflows are of a permanent and sustainable nature or whether such inflows are temporary and subject to reversal. In practice, however, such determination is difficult to achieve. Since external capital flows cannot be easily predicted and can also reverse even in the presence of sound fundamentals, monetary authorities have to make choices for day-to-day exchange rate and monetary management. When the monetary authority intervenes in the foreign exchange market through purchases of foreign exchange it injects liquidity into the system through the corresponding sales of domestic currency. Conversely, when it sells foreign exchange domestic liquidity is absorbed from the system. Such operations in the foreign exchange market cause unanticipated expansion or contraction of base money and money supply, which may not necessarily be consistent with the prevailing monetary policy stance. The appropriate management of monetary policy may require the monetary authorities to consider offsetting the impact of such foreign exchange market intervention, partly or wholly, so as to retain the intent of monetary policy through such intervention. Most techniques to offset the impact of forex inflows can be classified as either market based or non-market based approaches. The market based approach involves financial transactions between the central bank and the market, which leads to withdrawal or injection of liquidity, as the case may be. The non-market based approach involves the use of quantitative barriers, rules or restrictions in market activity, which attempt to keep the potential injection of liquidity outside the domestic financial system. The market based approach aimed at neutralising part or whole of the monetary impact of foreign inflows is termed as sterilisation.

3. Conceptually distinct, but operationally overlapping steps in the sterilisation process are: (a) decision of the monetary authority to intervene by substituting foreign currency with domestic currency in case of excess capital inflows, and (b) decision to intervene further in the bond or money market to substitute domestic currency so released out of the intervention in forex market with bonds or other eligible paper.

While open market operations (OMO) involving sale of securities constitute the commonly used instrument of sterilisation, there are several other instruments available to offset the impact of capital inflows on domestic money supply. However, there are occasions when it is difficult to distinguish the normal liquidity management operations of a central bank from its sterilisation operations.

4. Apart from exchange rate flexibility and forex market intervention, there are several other policy responses that can be used to manage large capital inflows. (a) *Trade liberalisation*: Trade liberalisation could have the effect of increasing imports leading to a higher trade and current account deficit and this would enable the economy to absorb the capital inflows. However, trade liberalisation is generally irreversible and hence may not be suitable for dealing with temporary or reversible capital inflows. Furthermore, rapid trade liberalisation can also lead to additional capital inflows which may have the effect of actually making the current account deficit unsustainable in the future when such capital inflows slow down or reverse. Thus, decisions on trade liberalisation have to be based on the overall view of the economy and not just on issues related to forex inflows, although inflows may provide some comfort in terms of timing the transition to a more liberal trade regime. (b) *Investment Promotion*: Absorption of capital flows for growth promoting purposes can be considered through measures designed to facilitate greater investment in the economy. Implementation of such measures would be desirable to reduce the current account surplus or expand the relatively low level of current account deficit, leading to productive absorption of capital flows. However, such measures would become progressively effective over a period of time. (c) *Liberalisation of the Capital Account*: Liberalisation of outflows under the capital account can be considered while taking advantage of the excess forex inflows, particularly, with regard to the timing for such action. However, the liberalisation of outflows can also have the effect of increasing inflows further if it reinforces the positive sentiment relating to the host country. (d) *Management of External Debt*: Pre-payment of external debt can be used to reduce the accretion of forex inflows. Such pre-payment is attractive provided the cost differential between the domestic and external debt is adequate after taking into account the associated costs of pre-payment like penalties and other charges. Measures can also be taken to moderate the access of corporates and intermediaries to

additional external debt. However, such measures would generally be of the non-market variety involving reinforcement of the capital control regime. (e) *Management of Non-Debt Flows*: Non-debt flows consist of foreign direct investment (FDI) and portfolio investments. Usually, FDI decisions are taken in a medium term perspective, and are accorded higher priority in the hierarchy of capital flows; thus, there is very little reason to restrict FDI flows. In the case of portfolio investment flows, once such flows are permitted there are few quantitative or price instruments that are available to impede them without seriously undermining market sentiment. (f) *Taxation of Inflows*: Price based measures to restrict forex inflows could include the imposition of a “Tobin” type tax. However, such a tax has rarely been practised as it is too blunt an instrument to be used for discouraging forex inflows. It does not distinguish between the different types of flows or transactions, whether permanent or temporary, debt or non-debt, long-term or short-term, or between export receipts or import payments. Furthermore, to be effective “Tobin” type taxes have to be implemented across countries; otherwise, there may be opportunities for circumvention. Moreover, a “Tobin” type tax is of limited use where forex transactions are largely related to underlying transactions as is the case in India. (g) *Use of Foreign Exchange Reserves*: As foreign exchange reserves rise, it is often suggested that such reserves can be used for "productive" domestic activities through on-lending in foreign currencies to residents. If the reserves are used in such fashion domestically they are not then available as forex reserves. Further, if the use of such reserves is through domestic credit provision for rupee expenditure, the forex resources so used would again end up in the forex reserves. Such an action would be equivalent to not on-lending the foreign exchange resources in the first place. If the reserves are on-lent for overseas operations, this could lead to encumbrance on the reserves and once again they would not be characterised as reserves since they would not then be available for usage. Considerations of safety and liquidity that are essential for forex reserves would also be compromised if forex reserves are used in such fashion.

5. In the context of large forex inflows as India is experiencing at present, an ongoing view has to be taken by the authorities for operational purposes on: (a) the extent of forex market intervention and consequent build-up of reserves; and (b) whether to sterilise or not and if so, to what extent. It is evident that operations

involving sterilisation are undertaken in the context of a policy response which has to be viewed as a package encompassing exchange rate policy, level of reserves, interest rate policy along with considerations related to domestic liquidity, financial market conditions as a whole, and degree of openness of the economy.

6. The policy response depends on several considerations involving trade-offs between the short term and the long term; judgement on whether capital flows are temporary or enduring; as well as on the operation of self-correcting mechanisms in the market and market responses in terms of sentiments. Whereas the distinction between short term and long term flows is conceptually clear, in practice, it is not always easy to distinguish between the two for operational purposes. Moreover, at any given time, some flows could be of an enduring nature whereas others could be short term and, hence, reversible. More important, what appears to be short term, could tend to last longer and *vice versa*, imparting a dynamic dimension to judgment about their relative composition. Arguments in favour of unsterilised intervention in forex markets are that it could lead to an alignment of domestic interest rates with international interest rates and this could have beneficial effects on investment and growth. In the short run, however, it could lead to asset price volatility, imprudent lending and adverse selection. In such a scenario, there could be adverse effects on the real economy with possibilities of capital reversals. There is, therefore, greater agreement on the policy response of sterilisation as a temporary measure since it addresses temporary inflows effectively and it can be implemented quickly. If the inflows are more enduring it provides time to formulate a longer term response. Even in the case of mixed flows, some enduring and some short term, some degree of sterilisation would need to be considered. The main argument in favour of sterilisation is that it keeps base money and money supply unchanged, thereby avoiding the undesirable expansionary effects of capital inflows. Furthermore, forex market intervention accompanied by sterilisation allows the monetary authority to build international reserves that will help to withstand future shocks, and provide comfort and confidence to market participants. On the other hand, prolonged sterilisation may not be possible without upward pressure on interest rates, which could itself attract further forex inflows, thereby neutralising the impact of sterilisation. Sterilisation also has its financial costs. If it is conducted through OMO, the net cost of sterilisation to

the central bank is the difference between the interest rate on domestic securities and the rate of return on foreign exchange reserves, adjusted for any exchange rate change. The larger the extent of sterilisation and greater the yield differentials, the higher is the cost. In the literature, these are referred to as “quasi-fiscal” costs since central bank costs are passed on to the sovereign through a lower transfer of profits. Similarly, when sterilisation is effected through an increase in reserve requirements, this could adversely affect the profitability of the financial system as it is a tax specifically on banks and could give rise to dis-intermediation. Sterilisation as a process, therefore, involves a range of costs and benefits. On balance, there must be adequate preparedness to undertake sterilisation operations, which includes availability of instruments though the need for and size of such operations will be governed by several larger policy considerations.

Indian Context

7. In recent years, there has been a significant increase in capital inflows to India. Consequently, the reserves have increased from US \$ 54 billion as at the end of March 2002 to US \$ 95 billion by November 21, 2003. The liquidity impact of such large inflows has been managed through the day-to-day Liquidity Adjustment Facility (LAF) and open market operations (OMO), besides other measures, such as, building up of government balances with the Reserve Bank, particularly through increased issuances of 91-day Treasury Bills and limited forex swaps. The OMO sales have been significant at Rs.52,716 crore during 2002-03 and Rs.35,733 crore during 2003-04 (up to end-October). In the process, the stock of government securities available with the Reserve Bank has declined progressively in the recent years. As at end-October 2003, the stock of government securities with the Reserve Bank amounted to Rs.93,281 crore. After excluding the securities accounted for by way of investment of surplus balances of the Central Government, investments by State Governments in respect of earmarked funds, the Reserve Bank’s repo operations and the securities that are in non-marketable lots, the outstanding amount of government securities in the books of the Reserve Bank stood at about Rs.60,000 crore. Hence, OMO sales would be able to sterilise additional capital inflows of about US \$ 13 billion (assuming the exchange rate at Rs.45.50 to the US dollar). If the pace of decline in

the stock of government securities with the Reserve Bank on account of the open market sales is allowed to continue, the OMO using government securities may soon cease to be available as an instrument to absorb the excess liquidity from the system.

Constitution of the Group

8. In the above background, the Financial Markets Committee (FMC) of the Reserve Bank suggested formation of a Working Group to examine the entire gamut of issues arising out of increasing foreign currency assets of the Reserve Bank in the face of depleting stock of Government securities and the associated implications for the capacity of the Reserve Bank to sterilise the monetary impact of sustained capital inflows. Accordingly, a Group was set up to review the potential constraints on the use of OMO for liquidity management taking into account the medium term national and international framework and to suggest refinement of the existing instruments and the introduction of the new instruments of sterilisation of capital inflows keeping in view the cross-country experience. The Group was chaired by the Executive Director-in-Charge of the FMC and comprised the in-charges of the Monetary Policy Department (MPD), the Department of External Investments and Operations (DEIO), the Internal Debt Management Department (IDMD) (i.e., all the three members of FMC), the Department of Government and Bank Accounts (DGBA), the Department of Economic Analysis and Policy (DEAP) and the Legal Department as the members. The Secretariat for the Group was provided by the IDMD. Names of the members of the Group and the officials associated with the preparation of the report are given in **Annex I**.

Structure of the Report

9. The Report has four sections. **Section I** provides an overview on the experience of the Reserve Bank in the management of liquidity arising out of substantial capital inflows in the recent times. **Section II** surveys the instruments of sterilisation as well as other instruments deployed by the emerging market economies (EMEs) to manage capital inflows. **Section III** presents an assessment of the existing instruments of sterilisation, their advantages and disadvantages and suggests some refinements. It also explores the possibilities of introducing new instruments that may

or may not require amendment to the Reserve Bank of India (RBI) Act. **Section IV** presents the summary of major recommendations of the Group.

Section I

Management of Capital Flows into India: An Overview

1.1 In recent years, India has experienced a significant spurt in forex inflows. Net capital flows increased from an average of US \$ 5.8 billion per annum in the second half of the 1980s to US \$ 9.1 billion per annum in the second half of 1990s and peaked at US \$ 12.6 billion or 2.7 per cent of GDP in 2002-03. In addition, the current account of the balance of payments also registered a surplus during 2001-02 and 2002-03. With a view to neutralising the impact of excess forex flows, resulting from current and capital account surpluses, the Reserve Bank has intervened in the foreign exchange market in regular intervals. As a result, the Foreign Currency Assets (FCA) of the Reserve Bank rose by US \$ 21.3 billion (Rs.92,358 crore) during 2002-03 and US \$ 19.6 billion (Rs.77,730 crore) during 2003-04 (up to November 21, 2003) (**Table 1**). On a year-on-year basis, the accretion to FCA was US \$ 28.1 billion (Rs.1,14,087 crore). The foreign exchange reserves increased from US \$ 54 billion as at the end of March 2002 to US \$ 95 billion as on November 21, 2003.

1.2 The liquidity impact of large inflows was managed mainly through the repo and reverse repo auctions under the day-to-day Liquidity Adjustment Facility (LAF). Liquidity absorption through LAF repos on a daily average basis, amounted to Rs.11,212 crore during 2002-03 and Rs.29,310 crore during 2003-04 (up to October). The LAF operations were supplemented by outright open market operations, i.e. outright sales of the government securities, to absorb liquidity on an enduring basis. OMO sales amounted to Rs.52,716 crore during 2002-03 and Rs.35,733 crore during 2003-04 (up to November 21). Including the amounts sold to the State Governments for investment of their durable surplus/reinvestment of maturity proceeds, and investments in the Consolidated Sinking Fund (CSF) and the Guarantee Redemption Fund (GRF), the open market sales of the Reserve Bank amounted to Rs.53,780 crore during 2002-03 and Rs.36,360 crore during 2003-04 so far (up to November 21) (**Table 1**). Unlike in the previous years, there was no open market purchases during these two years. The Reserve Bank, however, took devolvments during 2002-03, while securities were privately placed with the Reserve Bank in both 2002-03 and 2003-04. After netting out the securities either privately placed with or devolved on

the Reserve Bank, the net OMO sales amounted to Rs.17,605 crore during 2002-03 and Rs.31,360 crore during 2003-04 (up to November 21). As a result, there has been a progressive reduction in the quantum of securities with the Reserve Bank. This apart, as per the current operations, the usage of the entire stock of securities for outright open market sales is constrained by the allocation of a part of the securities for day-to-day LAF operations as well as for investments of surplus balances of the Central Government, besides investments by the State Governments in respect of earmarked funds (CSF/GRF) while some of the government securities are also in non-marketable lots. Hence, although the outstanding stock of government securities amounted to Rs.93,281 crore as at end-October, 2003, only about two-thirds of the amount were readily available for the conduct of OMO. The position in respect of accretion to the foreign currency assets and the OMO operations is presented in **Table 1**.

Table 1: Accretion to Foreign Currency Assets and Open Market Operations (1996-97 to 2003-04)

(Rs. Crore)					
Year	Accretion to Foreign Currency Assets	Open Market Purchases	Open Market Sales*	Net OMO Sales	Net OMO Sales (net of Private Placements and Devolvments)
1	2	3	4	5 = 4-3	6
1996-97	21,922	623	11,206	10,583	6,885
1997-98	22,139	467	8,081	7,614	-5,414
1998-99	22,905	0	26,348	26,348	-11,857
1999-2000	27,512	1,244	36,614	35,370	8,370
2000-01	31,558	4,471	23,795	19,324	-11,827
2001-02	64,636	5,084	35,419	30,335	1,443
2002-03	92,358	0	53,780	53,780	17,605
2003-04 (April-November 21)	77,730	0	36,360	36,360	31,360

* Including the amount sold to State Governments for investment of durable surplus/reinvestment of maturity proceeds, and investments in the Consolidated Sinking Fund and the Guarantee Redemption Fund.

1.3 A need was felt to augment the stock of government securities for continued operation of OMO and LAF. Accordingly, the readily available securities amenable to OMO with the Reserve Bank was augmented by the conversion of the entire stock of special securities issued by the Government to the Reserve Bank in lieu of outstanding *ad hoc* Treasury Bills (amounting to Rs.1,21,818 crore). While the first round of such conversion of securities worth Rs.20,000 crore took place way back in

1997-98, Rs.40,000 crore was converted during 2002-03 and the balance Rs.61,818 crore by September 2003.

1.4 In addition to LAF and OMO, excess liquidity from the financial system was absorbed through the building up of surplus balances of the Government with the Reserve Bank, particularly by raising the notified amount of 91-day Treasury Bill auctions, and forex swaps. During 2002-03, the Reserve Bank raised the auction of 91-day Treasury Bills from Rs.250 crore to Rs. 1000 crore during December 11, 2002 to January 29, 2003. Again, the Reserve Bank raised the auction size of these Treasury Bills from Rs.500 crore to Rs.1,500 crore in each of the eight auctions conducted during August-September 2003. The resultant surplus cash balances were invested in government securities out of the Reserve Bank's portfolio. Similarly, under the debt swap scheme mutually agreed to between the Central and State Governments, the State Governments were permitted to prepay high cost debt owed to the Centre, amounting to Rs.13,766 crore during 2002-03 and Rs.32,602 crore during 2003-04 so far taking advantage of the excess liquidity in the system. This also resulted in surplus cash balances with the Central Government which were invested in government securities out of the Reserve Bank's portfolio. While this amounted to effective sterilisation of liquidity in the system, the measure reduced the availability of securities for the Reserve Bank's OMO/LAF operations. The Reserve Bank also conducted limited swaps involving sell/buy of foreign currencies with the market participants. Such forward purchases increased from US\$ 475 million in September 2002 to US\$ 2.4 billion in March 2003 and further to US\$ 4.8 billion in August 2003 in the run-up to the redemption of Resurgent India Bonds (RIBs), before declining sharply to US \$ 1.4 billion in end-September 2003.

1.5 In addition to the market-based measures as outlined above, the Reserve Bank and the Government undertook various non-market based measures to limit the implications of forex flows for the conduct of domestic monetary policy. In February 2003, the Government pre-paid a part of its high cost external debt amounting to US \$ 3.03 billion to the Asian Development Bank and the World Bank by privately placing marketable securities with the Reserve Bank; in the process the securities with the Reserve Bank available for sterilisation were augmented. This apart,

relaxations were effected in regard to outflows, both under the current and capital accounts and restrictions were imposed on debt inflows. For example, norms for release of foreign exchange by authorised dealers for various purposes were simplified and restrictions were eased in respect of certain remittances/repatriation abroad. Domestic entities were allowed to retain significant proportions of their earnings abroad to meet future foreign exchange requirements. Overseas investments by resident entities were also liberalised. Measures were taken to discourage debt inflows, such as, external commercial borrowings (ECBs) and non-resident deposits. Some of the recent measures taken in this regard are highlighted below:

Liberalisation of Current Outflows

- Release of foreign exchange by the authorised dealers for purposes, such as, medical treatment abroad, overseas employment, emigration, maintenance of close relatives abroad has been allowed up to US\$ 100,000 without any reference to the Reserve Bank.
- Limit for remittance towards consultancy services from outside India was raised from US\$ 100,000 to US\$ 1 mn. per project.
- Repatriation of sale proceeds of immovable property acquired by the NRIs/PIO out of the Rupee resources was allowed within the overall limit of US\$ 1 mn. per calendar year provided the property was held by them for a period of not less than 10 years, subject to applicable taxes. The facility is available even if the property was held for shorter period provided the property and the sale proceeds were held cumulatively for a period not less than 10 years. Repatriation of sale proceeds of assets by NRIs/PIO and foreign nationals by way of inheritance / legacy allowed within the overall annual limit of US\$ 1 mn., subject to tax compliance.

Liberalisation of Capital Outflows

- General permission was granted for prepayment of external commercial borrowings (ECBs) without any limit.
- Rules for issue of ADRs/GDRs were simplified to allow sponsoring, listing on overseas exchanges, retention of proceeds abroad and free conversions and repatriability.

- The limit for overseas direct investment under the automatic route has been raised to US \$ 100 million or 100 per cent of the net worth of the investing Indian companies, in all bonafide activities except real estate and banking. However, no such limit applies if such investments are made out of the proceeds of ADR/GDR raised by the Indian companies. In the case of registered partnership firms, the eligibility of investment upto US\$ 10 million (or 100 per cent of net worth) under the automatic route has been extended to all bonafide activities. Listed Indian companies have been permitted to invest abroad in the shares of companies (a) listed on a stock exchange abroad and (b) which have the share holding of at least 10 per cent in an Indian company listed on a recognised stock exchange in India (as on 1st January of the year of the investment). They are also permitted to invest in rated bonds/fixed income securities of these companies. Such investments shall not exceed 25 per cent of the Indian company's net worth as on the date of the latest audited balance sheet. However, in respect of resident individuals, such investments can be made without any monetary limit provided such investments are out of their bank accounts. The overall ceiling for mutual funds' overseas investment has been raised to US \$ 1 billion.

Restrictions on Debt inflows

- A ceiling of 250 basis points above the corresponding US dollar was placed on the interest rates on fresh non-resident external (NRE) deposits effective July 17, 2003 which was reduced to 100 basis points on September 15, 2003 and further to 25 basis points on October 18, 2003.
- The Government has temporarily tightened the rules and procedures relating to ECBs by corporates in India in November 2003 as under: (i) In addition to banks, Developmental Financial Institutions (DFIs) and non-banking financial companies (NBFCs) would also become ineligible to access overseas markets for ECBs or issue guarantees connected with such borrowings; (ii) ECBs above \$ 50 million would be permitted only for financing import of equipments and meeting the forex requirements of infrastructure projects and the portion of ECBs not needed immediately cannot be brought into India but

would have to be parked outside; iii) The interest rate on normal ECBs would be subject to a ceiling of 150 basis points over the six month LIBOR for US dollars (as against 300 basis points earlier); iv) Even ECBs taken under the automatic route - without the prior permission of the Reserve Bank / Government - would have to be hedged unless the borrower has access to natural hedge in the form of uncovered forex receivables.

Section II

Instruments for Managing Capital Inflows: A Survey of Emerging Market Economies

2.1 In the context of surges in forex flows, emerging market and transition economies have aimed at retaining discretion in the conduct of domestic monetary policy by ‘sterilising’ the expansionary impact of the forex inflows. In addition, countries have, on the one hand, accelerated the process of liberalisation of forex outflows and on the other hand, imposed restrictions or provided dis-incentives to limit forex inflows. This section surveys the various instruments used to manage capital flows. As explained in the introduction, the instruments have been classified according to whether these are market based or not.

A. Market Based Instruments to deal with Forex Inflows

(a) Repos/Money Market Operations

2.2 Central banks use repos and other money market based instruments to sterilise capital inflows particularly during periods of heavy but reversible capital inflows. Thailand conducts daily repurchase market operations where the rates are market determined. Thailand also conducts 14-day repo operations to signal the central bank’s monetary policy stance. As the wider differential between domestic and foreign interest rates caused greater inflow of short-term speculative capital, Thailand signaled an easy monetary policy stance by reducing the 14-day repo rate from 1.75 per cent to 1.25 per cent on June 27, 2003. Korea conducts repos with varying tenor (maximum 91 days); in practice, however, the maturities are within 15 days (which is the period for CRR maintenance). Singapore’s money market operations (through short-term money market instruments and repos) which are conducted to achieve a desirable level of bank liquidity provides for automatic sterilisation.

(b) Foreign Exchange Swaps

2.3 Several Latin American countries and central European countries have used foreign exchange swaps as an instrument of sterilisation. Among Asian economies, countries, such as, Thailand, Singapore and Malaysia have used foreign exchange

swaps as instruments of monetary policy, particularly during periods of steep accretion to reserves followed by a subsequent loss of reserves. Among the developed countries, foreign exchange swaps have been successfully used as a tool for sterilisation in Australia, Germany and Switzerland. The Bundesbank had used such swaps (involving favourable swap margin to domestic banks) that encouraged the German commercial banks to invest abroad in the form of portfolio investment, that in turn led to significant reduction in net short-term external liabilities of the commercial banks. The central bank of Switzerland used swaps very effectively as the key instrument of sterilisation in the 1990s, even though since 1999 its reliance on this instrument seems to have declined considerably.

(c) Standing Deposit Facilities

2.4 A few central banks have used standing deposit facilities (overnight/term) to absorb liquidity from the financial system. Bank Negara Malaysia can borrow from banks and non-bank financial intermediaries in the form of special deposits. Financial institutions in Taiwan were allowed to park their redeposits comprising mostly of postal savings deposits with their central bank. The central bank also took deposits from banks when it reduced reserve requirements.

(d) Central Bank Securities

2.5 Central banks in a number of countries, like, Chile, China, Colombia, Indonesia, Korea, Malaysia, the Philippines, Peru, Russia, Sri Lanka, Taiwan, Thailand, and European economies in transition (particularly Poland) have resorted to the issuance of their own securities to conduct open market operations (outright and repos) for sterilisation. Typically, the need for issuing central bank securities (CBS) has emerged from (i) inadequate volume of government securities for the conduct of open market operations, reflecting fiscal surplus or mild deficits of the government which also imply the availability of headroom to the fisc to recapitalise the central bank should central banks incur losses from such operations; (ii) absence of access of central banks to government securities; or (iii) undeveloped/underdeveloped markets for government securities. The CBS are usually of short-to-medium term tenor

(mostly up to one year and for a few countries, such as, Korea and Taiwan up to two years), and carry market-related yields. They are issued at the discretion of the central bank through auctions/tender.

2.6 The Bank of Korea (BoK) introduced Monetary Stabilisation Bonds (MSBs) in 1961. The pre-existence of a vibrant corporate bond market facilitated the use of MSBs. Since the 1980s, MSBs were increasingly used as tools for structural adjustment of liquidity (rather than day to day management of liquidity) and were issued in 11 maturities ranging from 14 days to 2 years (with the 2-year MSBs currently accounting for about three-fourths of the total issuance). Five denominations of the bond are available: 1 million won, 5 million won, 10 million won, 50 million won and 100 million won. These bonds can be issued according to face value or discount method. Currently, discounted MSBs have ten different expiry dates: 14-day, 28-day, 63-day, 91-day, 140-day, 182-day, 364-day, 371-day, 392-day, and 546-day bonds. Finally, the 2-year MSBs have the maximum maturity and are issued by face value method years. The stock of MSBs is of the same order as the cumulative stock of government securities issued and the volume of trading in the secondary market is of a similar magnitude. Bond funds are the major holders of Treasury bonds and MSBs. In January 2003, BoK announced a regular schedule for timing of issue of MSBs for each maturity. OMOs though MSBs are conducted through a process of competitive bidding as well as over the counter at a fixed price. Such sterilisation operations have entailed costs, which have been significant, as the bonds carry market related interest rate. MSBs are subject to a prudential ceiling of 50 per cent of broad money.

2.7 The Bank Negara Malaysia (BNM) is statutorily permitted to issue securities up to the limit of three times its paid-up capital and General Reserve Fund, with the consent of the Government. Malaysia issued BNM bills equivalent to 2 per cent of GDP in 2000; the issuance increased sharply in recent years, leading to substantial sterilisation costs. Indonesia's central bank can issue central bank Certificates of Deposit (CDs) to conduct OMOs. Similarly, the Taiwanese central bank issues Negotiable Certificates of Deposits (NCDs) to mop up excess liquidity from the financial system. The NCDs are issued through competitive/non-competitive bidding

in various denominations with maximum maturity of three years and sold, either on outright basis or under repos.

2.8 The People's Bank of China (PBC) started outright issue of central bank bills since April 22, 2003 and financial institutions hold over RMB400 billion Yuan of PBC bills (in comparison, they hold RMB2 trillion Yuan worth of government bonds and financial bonds). These bills are short-term securities with maturities up to one year and are issued to members of the inter-bank bond market. PBC bills partially helped the central bank to overcome the constraints imposed by the limited government bond holdings of the central bank. However, partly reflecting the under-developed financial markets, interest rates on PBC bills rose by 1 percentage point since August 2003. In September 2003, in the context of reduced impact of PBC bills, the PBC imposed CRR on its liabilities. In the recent past, despite marginal increase in the yields, on occasions PBC has failed to entice the banks to subscribe to its bills.

2.9 Poland experienced sharp surges in capital flows in the mid 1990s. In the context of a pegged exchange rate, the National Bank of Poland (NBP) conducted sterilisation operations by introducing central bank securities of different maturities during 1994-97, which were subsequently replaced by 28-days securities of NBP. Since the NBP securities carried a market interest rate, sterilisation involved large costs (1 to 1.15 per cent of GDP during 1995-97 and 0.7 to 0.8 per cent in subsequent years). Even though foreign exchange reserves consistently increased from about US \$ 5 billion in 1994 to about US \$ 30 billion by 1998-99, the central bank's profits fell drastically from about US \$ 1.2 billion to less than US \$ 300 million during the same period, largely reflecting the impact of sterilisation costs. As a result, Poland allowed faster evolution of a flexible exchange rate system and after 1999, the profits of NBP started rising reflecting the impact of the altered exchange rate regime and returned to the 1994 level by the end of 2001.

2.10 The Central Bank of Peru used Certificates of Deposits (CDBCRPs) generally for the purpose of sterilisation during the 1990s. It auctioned a predetermined volume of CDBCRPs among financial institutions with the volume of auction depending on the projected excess liquidity in the market that it intended to sterilise. In the auction,

offers with the lowest interest rates were selected until the amount needed for sterilisation was achieved (since 1997, these certificates were being used for conducting repos). During 2000, large volume of CDBCRPs were issued. The certificates issued during this period involved interest cost in the range of 13 to 18 per cent, depending on the month of issue and maturity. Most of the certificates had the tenor of 3 to 6 months, followed by up to 3 months, with very little issuance in the 1 year category.

2.11 To ensure the stability of the domestic financial system as well as the liquidity condition, the Bank of Thailand (BoT) can borrow Baht domestically by means of issuing bills, bonds or other securities. From 1995 to mid-1997, the BoT issued bonds to absorb excess liquidity arising from huge capital inflows from abroad and in the context of the government's budget surplus, which led to a decline in government bonds outstanding. Starting with 10 billion Baht in 1995, the amount was raised to 30 billion Baht in 1996, 80 billion Baht and 130 billion Baht in March and April of 1997 respectively, with maturity ranging from one month to four years and at an interest rate of 8.5 - 11.125 per cent per annum. In weekly auctions conducted in November 2003, BoT mobilized 3 billion Baht in each of the auctions by way of 364-day bond. The cut-off yield on such auctions conducted since September 2003 ranged 1.22-1.57 per cent.

2.12 Country experiences have shown that large issuances of the CBS put a strain on the central bank's balance sheet, leading to large losses which can jeopardize the very existence of the central bank. This is because continuous sterilisation through the CBS bids up the rates at which successive issuances of the CBS can be made. Over time, the widening differential between the domestic and foreign rates of interest erodes the profitability of the central bank. In addition to Poland, several central banks have suffered losses. These include Chile (1.4 per cent of GDP), Colombia (0.5-0.7 per cent in the early 1990s) and Mexico (0.2-0.4 per cent during 1990-92). Central banks of Indonesia, Malaysia and Sri Lanka have also incurred significant losses out of issuing their own papers. Scheduled amortisation of CBS and coupon payments also attenuated the conduct of monetary policy in some of these countries, particularly when monetary tightening was the policy stance.

2.13 Another drawback of issuance of CBS is that such issuance results in two sets of competing risk-free papers (along with government securities), with a similar yield curve. In countries with large fiscal deficits, the problem is exacerbated by public confusion regarding the relationship between the two. Furthermore, there is a fragmentation of debt markets, which can lead to instability in the Government borrowing programme. Where the central bank is invested with the responsibility for public debt management, the CBS can potentially sharpen the trade-off for the central bank between the objectives of monetary policy and those of the former (as was experienced by the Philippines in the 1980s). Some of the emerging market economies (EMEs) tackled the problem of competing sovereign papers by allowing the central bank to issue government papers specifically to be used for sterilising capital inflows (e.g., Korea). However, the operational problem of sharing the interest burden between the government and the central bank led to the abandonment of this arrangement.

2.14 Many countries seem to have encountered the limits to the use of CBS for sterilisation at some point of time or the other. For example, unable to completely neutralise the monetary impact of capital inflows in recent years by issuing central bank bills to commercial banks, China had to raise CRR by one percentage point to 7 per cent in September 2003.

2.15 At the same time, depending on the trade-offs between financial costs to the central bank (and ultimately to the government by way of adjustment in the surplus transfer from the central bank to the government) and the perceived benefits to the economy, a large number of central banks continue to use their own papers for sterilisation. For example, although Korea faced high costs of servicing and repayment of central bank bonds during the mid-1990s and had to choose reserve requirements and discount facilities as alternative instruments, it has issued MSBs on a large scale in recent years. Korea has also progressively increased the ceiling on MSBs, which now stands at 50 per cent of broad money.

(e) Government/Public Sector Deposits with the Central Bank

2.16 Many countries have regulated excess liquidity in the financial system by diverting the government/public sector deposits from the commercial banking system to the central bank. These countries include Malaysia, Singapore, Thailand and Indonesia. Since the government gets market related interest on these deposits, there is no direct quasi-fiscal cost to the government. The interest burden of the central bank, however, increases. The Government of Singapore, in particular, issues government securities in excess of the fiscal requirements and parks the surplus funds with the central bank (MAS) as deposits. These deposits have allowed the MAS to reduce its outstanding draining operations. In Peru, towards the end of 1990s when the fiscal balance turned into a surplus, the surplus government revenue was parked with the central bank. When the deposits were kept as term deposits, they fetched market rate of interest. In the last three years of the 1990s, public sector deposits with the central bank represented about 5 per cent of the stock of end-year base money in Peru.

(f) Treasury Bills

2.17 Countries have varied the size of Treasury Bill auctions to modulate domestic liquidity. For example, New Zealand has preferred to raise the issue size of Treasury Securities auctions, with the Government itself choosing to bear the burden of coupon payments to protect the bottom line of the central bank.

(g) Reserve Requirements on Deposit Liabilities

2.18 Faced with a year-on-year M3 growth at 21 per cent, China raised the Cash Reserve Ratio (CRR) by 1 percentage point to 7.0 per cent on September 21, 2003 by way of a reversal of its earlier policy of reducing the role of CRR as a monetary policy instrument (accordingly CRR was lowered sharply from 13 per cent to 6 per cent in 1999). Reserve requirements in Taiwan depend on the type of liability of the bank. The average reserve requirement is close to 5 per cent for time and demand deposits and the highest level of reserve requirement is close to 15 per cent. In the face of large inflow of foreign capital, Taiwan revised the reserve requirement

upwards. Malaysia keeps the option to raise reserve requirements to deal with surges in liquidity. The Bank of Korea (BoK) has lowered CRR in line with shift to indirect instruments. Generally, Korea does not vary reserve requirements for monetary policy purposes. Korean banks are required to maintain reserve requirements of 3 per cent on an average basis. BoK can, however, raise CRR up to 50 per cent and set marginal CRR at 50-100 per cent. In Singapore, banks are required to maintain interest free minimum cash balances with the Monetary Authority of Singapore (MAS) equivalent to 3 per cent of their liabilities.

2.19 Countries have also imposed differential reserve requirements between domestic and foreign currency liabilities and/or resident and non-resident deposits. For example, in order to deal with surges in capital inflows, Thailand imposed reserve requirements on non-resident deposits in the mid-1990s.

B. Non-Market Based Measures to Deal with Capital Flows

(a) Liberalisation of Capital Outflows

2.20 Many emerging market economies (EMEs) have liberalised restrictions on capital outflows in the wake of surges in inflows. Countries, such as, Taiwan and China have utilized forex assets for foreign direct investment abroad. Taiwan has allowed insurance companies to invest in foreign securities and domestic securities investment and trust companies to raise funds from the domestic market and invest in foreign securities under an aggregate ceiling. China has allowed domestic firms to retain forex earnings rather than surrender to the central bank. Several international financial institutions (IFIs) were allowed to issue local currency bonds in Taiwan and to use swap derivatives for remitting the funds abroad.

(b) Restrictions on Capital Inflows

(i) Capital Controls

2.21 Some of the EMEs like Thailand have recently reimposed capital controls. Thailand announced policies to restrict short-term external capital inflows. Financial institutions were allowed to borrow Baht from nonresidents or engage in similar

transactions without underlying trade or investment for amounts not exceeding 50 million Baht per entity except for contracts over 3 months. Transactions subject to these norms include direct borrowing, issuance of short-term debt instruments to nonresidents, purchase of foreign exchange/domestic currency outright forward, sell/buy foreign exchange/domestic currency swap, other derivatives transactions similar to borrowing, and sale of foreign currency with value date less than two days. Transactions that have underlying trade or investment, however, have been allowed without restrictions. These measures came into effect from September 12, 2003. Recently China announced that foreign institutional investors with at least \$10 billion in assets and after obtaining the approval of the government may buy yuan-denominated stocks and bonds with a lock-in period of three years. The regulations - similar to those in Taiwan and Malaysia - have been designed to dissuade short-term investors.

(ii) Unremunerated Reserve Requirements

2.22 In 1987, Chile used a novel system of progressive unremunerated reserve requirement (URR) ranging from 10 to 25 per cent with a view to discouraging short-term capital flows. Prudential regulations also helped in limiting the foreign liabilities of commercial banks, which were linked directly to the banks' equity. In June 1991, all external loans were subjected to non-interest-yielding reserve requirement. In May 1992, the reserve requirement of 20 per cent was raised to 30 per cent and also extended to most other forms of foreign capital (including trade credits, foreign deposits with domestic banks and ADR/GDR proceeds). Colombia too resorted to URR to discourage short-term capital inflows.

(iii) Interest equalization Tax/Tobin tax

2.23 Tobin tax, first proposed in 1978, was originally intended to deter short-term currency speculation. Tobin Tax has several advantages. First, it penalises volatile short term transactions. Second, depending on elasticity of flows to the tax rate, even a low tax rate can lead to substantial revenue generation. The revenue may be kept aside to meet international financial shocks. Third, Tobin Tax helps to curb speculative behaviour in the foreign exchange market.

2.24 Variants of Tobin tax are available in the cross-country experience. An interest equalization tax that equates the rate of return on domestic and foreign assets have been imposed on capital flows in countries like Brazil and Chile. When the returns on domestic and foreign assets are equalized through the tax, a major motivation driving capital inflows is neutralised. In November 1993, Brazil introduced a financial transaction tax of 5 per cent (payable when the foreign capital enters the country) and also applied another 3 per cent tax when the proceeds of foreign borrowings were converted into domestic currency. In December 1993, it imposed a 15 per cent withholding tax on profits, dividends and bonuses for all foreign capital. In June 1991, Chile introduced a stamp tax scheme on external loans at 1.2 per cent, irrespective of the maturity of the foreign loan.

(c) Other Measures

(i) Moral Suasion

2.25 Central banks also exercise moral suasion to modulate capital flows. For example, the central bank of Taiwan urged the Taiwanese forex market participants to hedge their currency exposure risk and warned those who normally do not engage in foreign exchange forward transactions not to suddenly buy or sell foreign exchange forwards in huge amounts.

(ii) Allowing IFIs to Raise Local Currency Bonds

2.26 Taiwan allowed international financial institutions (IFIs) to raise local currency bonds and remit foreign exchange through the swap route.

(iii) Forex Market Intervention By Governments

2.27 In Japan, the Minister of Finance is legally authorized to conduct intervention as a means to achieve foreign exchange rate stability.¹ The Bank of Japan, as the agent of the Minister of Finance, executes foreign exchange intervention operations in

accordance with the directions of the Minister of Finance.² . The details of the intervention including the amount, currency pair, and method of intervention are determined by the Minister. Intervention by the Bank of Japan as the agent of the Minister of Finance is conducted through the account of the Japanese Government, which is called the Foreign Exchange Fund Special Account (FEFSA). This fund consists of foreign currency funds and yen funds. In case of U.S. dollar buying/yen selling intervention, for example, the yen funds to be sold are raised by issuing Financing Bills (FBs). In the event of U.S. dollar selling/yen buying intervention, U.S. dollar funds held in the FEFSA are used for buying the yen in the markets. The Japanese Government holds large amounts of foreign currencies in the FEFSA, partly as a result of foreign currency buying/yen selling interventions in past yen appreciation phases. The Minister of Finance makes decisions on investments of these currencies paying careful attention to liquidity and safety. Most of these funds have been invested in securities issued by the authorities of major industrial countries, which are almost immune from liquidity risk.

2.28 The Government of Korea issues Foreign Exchange Stabilisation Bonds (FESBs) to purchase foreign currencies and manage overseas capital. FESBs can be expressed in foreign currency denominations and are medium-term bonds.

Summary

2.29 A summary table on instruments used for managing capital inflows by emerging market economies is enclosed as **Annex II**. It is observed that in the face of large capital inflows, which could not be neutralised through traditional methods, countries have resorted to a variety of other instruments/measures keeping in view the prevailing monetary policy objectives, the fiscal situation, and institutional and market developments.

Section III

Instruments of Sterilisation: Lessons for India

3.1 Without prejudice to a view on the need of intervention and the extent of sterilisation, which has to be based on several considerations, the Group reviewed the

various instruments used in India (detailed in **Section I**) and in other countries (detailed in **Section II**) and noted the various trade-offs involved in the choice and the extent of use of such instruments to deal with the emerging situation. In light of the above, the Group deliberated on the suitability of various instruments to the current conditions in India. Notwithstanding the need or otherwise for deployment of such instruments, an assessment of suitability of each instrument would enable the Reserve Bank to be equipped well in advance should a need arise in the future for their use in the interest of monetary and financial stability. In the choice of instruments for sterilisation, it is important to recognise the benefits from and the costs of sterilisation in general and the relative costs/benefits in the usage of a particular instrument. The various instruments have differential impact on the balance sheets of the central bank, government and the financial sector. For example, in the case of OMO sales, the differential between the yield on government securities and return on foreign exchange assets is the cost to the Reserve Bank. Sales of government securities under OMO also involves a transfer of market risks to the financial intermediaries, mostly banks. The repo operations under LAF have a direct cost to the Reserve Bank. In the context of an increase in CRR, the cost is borne by the banking sector if CRR balances are not remunerated. However, if the CRR balances are remunerated, the cost could be shared between the banking sector and the Reserve Bank. The extent of capital flows to be sterilised and the choice of instruments, thus, also depend upon the impact on the balance sheets of these entities.

3.2. In analysing the implications of costs of sterilisation, it is essential to recognise the consolidated nature of the balance sheet of the central bank and the Government. Any cost on the central bank's balance sheet is largely reflected in the Government's accounts by way of transfer of surplus. Where instruments of sterilisation involve the cost being borne by the central bank's balance sheet, the resultant transfer of surplus to the Government is reduced, thereby impacting the fisc indirectly. Where the sterilisation cost is borne directly by the Government, the impact on the fisc is direct. In the Indian context, the Group recognised that the extent to which instruments that result in the cost of sterilisation being borne by the Reserve Bank/Government of India would depend on the capital inflows that would need to be sterilised and the headroom available in the fisc.

3.3 When measures that directly impact the financial system/non-government sector are resorted to, it would represent a "tax". This could, however, be justified in view of the benefits that accrue to this sector from sterilisation. In the absence of sterilisation, there could be excessive volatility in the financial markets, interest and exchange rates, leading to erosion of competitiveness of the economy; this would have an adverse impact on the economy at large and the non-government sector in particular. Against the above background, the Group is of the view that while the Reserve Bank may continue to resort to the existing instruments of sterilisation, looking ahead, consideration needs to be given to the addition of new instruments to enhance its ability to sterilise the impact of increase in its foreign currency assets. While some of the existing instruments can be modified and strengthened within the ambit of the RBI Act, introduction of some new instruments for sterilisation would require amendment to the RBI Act.

3.4 Against the background of international experience with various instruments of sterilisation and the application of available instruments with the Reserve Bank within the existing financial and legal structure, the Group felt that there is a need for a two-pronged approach: (i) strengthening and refining the existing instruments; and (ii) exploring new instruments appropriate in the Indian context. The appropriate mix of instruments would depend on the prevailing circumstances, the associated costs and benefits, and the opportunity cost of not using sterilisation as a policy option.

3.5 The options for sterilisation of inflows by using/refining the existing instrument without changing the legal framework would include the following:

(i) Liquidity Adjustment Facility (LAF)

The Liquidity Adjustment Facility (LAF) over the past two years has served as the primary means for day-to-day liquidity management through the absorption or injection of liquidity by way of sale or purchase of securities followed by their repurchase or resale under the repo/reverse repo operations. These operations have the added advantage that sale of securities does not require the financial system to take the market risk involved in such purchase of securities. Further, the access to this facility is at the discretion of market participants enabling them to undertake their own liquidity management. Thus, this facility has all the advantages of reserve

maintenance without being an across-the-board mandatory requirement. The Group observed that in this fiscal year (April - October 2003), the average absorption on daily basis has been Rs.29,310 crore as against Rs.13,836 crore in the corresponding period of the previous year. Hence, it must be recognised that, in effect, the LAF has also effectively acted as an instrument of sterilisation. Furthermore, in addition to the normal operation of the overnight/14-day repos, in the month of October 2003 repos for longer tenure of 28-days were also conducted for five consecutive days. Operations under LAF, however, require the availability of adequate stock of government securities with the Reserve Bank. Moreover, these operations involve costs, which impact on the balance sheet of the Reserve Bank. Most importantly, if the LAF is used as an instrument of sterilisation, it loses its character as a day-to-day liquidity adjustment tool operating at the margin. On balance, the Group is of the view that it is not desirable to use the LAF as an instrument of sterilisation on an enduring basis; however, for limited periods, it can be used in a flexible manner along with other instruments.

(ii) Open Market Operations (OMO)

The main instrument of sterilisation used by the Reserve Bank is the open market operations (OMO). The Reserve Bank has conducted OMO for absorbing excess liquidity in the system through outright sale of securities. During 2003-04 (up to end-October 2003), Rs.35,733 crore was absorbed through OMO sales as against Rs. 52,716 crore in the full fiscal year 2002-03. Although the Reserve Bank should continue to make use of this instrument as and when necessary, in view of the finite stock of government securities with the Reserve Bank, such operations for sterilisation can obviously not continue indefinitely. There are also additional concerns on the mismatches arising from using long term securities for sterilising short term flows. In a bank-based system, as in India, OMO sales ultimately involve a transfer of risks associated with government securities to the banking system. As the OMO sales entail the permanent absorption of the liquidity, in the event of the liquidity not being of an enduring nature, the alternative of using the existing stock of securities for longer term repos (up to 3 to 6 months) as an option can also be considered. There could, however, be an issue of possible lack of attractiveness of

longer term repos with market participants as they could be taking liquidity risk for a long period since these are non-tradable.

(iii) Balances of the Government of India with the Reserve Bank

The surplus balances of the Government with the Reserve Bank effectively act as an instrument of sterilisation. As the RBI Act does not permit payments of interest on deposits or current accounts of Central government, State governments, local authorities and banks or other persons under sections 17(1) and 19(6) of Reserve Bank of India (RBI) Act, 1934, the surplus balances of the Central Government are invested in government securities from out of the portfolio of the Reserve Bank, thus enabling the Central Government to obtain a return on such balances as per the agreement entered into with the Central Government in 1997. As a consequence, the stock of government securities to that extent becomes unavailable for monetary management operations, such as, LAF and OMO. In the light of reduction in stock of government securities with the Reserve Bank, consideration can be given to the review of the 1997 agreement. The Group examined if the Government balances can be deployed as interest bearing deposits with the Reserve Bank so that the excess liquidity with the Government may be sterilised without the use of Government securities (e.g., Peru, Malaysia, Thailand and the ECB) and whether it should recommend amendment to the RBI Act permitting the Reserve Bank to pay interest on Government surplus balances with the Reserve Bank. The Group, however, feels that in the context of the consolidated balance sheet, the cost of sterilisation in any case has to be borne by the fisc directly or indirectly irrespective of remuneration of such balances. Further, keeping in view of the fact that the RBI Act does not require it to pay interest to Government on its surplus balances with the Reserve Bank, the Group suggests that the existing agreement of 1997 may be revisited so that Government surpluses with the Reserve Bank are not automatically invested and can remain as interest-free balances with the Reserve Bank, if required. This would release government securities for use for further sterilisation operations. This arrangement would also facilitate enhancing the notified amount of Treasury Bills that would enable the Reserve Bank to deal with transient and volatile capital flows. Since such issuance would have to be over and above Government's cash needs, it would

result in surplus balances with the Reserve Bank which can be dealt with in a manner as indicated above.

(iv) Forex Swaps

Some central banks use foreign exchange swaps for sterilisation as it helps postponement of creation of liquidity generated by capital inflows and the consequent accretion to reserves. Accordingly, central banks resort to sell/buy swaps in the forex market for sterilisation purposes and also to correct distortions, if any, in the forward premia, which is usually the case when these are not aligned to the interest rate differential. The cost of such swaps gets reflected in the premium paid by the central bank and the earnings on the foreign exchange reserves foregone. The extent to which such swaps can be undertaken depends on the depth of the forex market. The recent experience of building up of forward purchase obligations to meet repayment of Resurgent India Bonds (RIB) showed that such operations could result in pressure on the market to meet deliveries. It was also observed that forex sold by the Reserve Bank through swaps has been used by the market for extending forex loans to customers for meeting rupee expenditure. To the extent that such loans are not hedged, the forex finds its way back into the reserves of the Reserve Bank attenuating the efficacy of swaps as a sterilisation instrument. Moreover, sell/buy swaps, even when undertaken on a large scale, do not have any lasting impact in correcting distortions in forward premia. Also, the cost of swaps, as captured in the accounts of the Reserve Bank, has increased with the appreciation of the rupee. Hence, while limited use of this instrument for very short periods may be useful, any decision to use this instrument extensively has to be taken with due care and circumspection.

(v) Cash Reserve Requirements

The use of Cash Reserve Ratio (CRR) as a direct method of monetary policy intervention has the ability of sterilising liquidity by raising the proportion of net demand and time liabilities (NDTL) of banks to be kept impounded with the central bank. However, it is an inflexible instrument of monetary policy that drains liquidity across the board for all banks without distinguishing between banks having idle cash balances from those that are deficient. In case, CRR is not remunerated, it has the distortionary impact of a “tax” on the banking system. CRR is also discriminatory in that it has an in-built bias in favour of financial intermediaries that are not required to

maintain balances with the Reserve Bank. As against repos/OMO that can be used flexibly to withdraw liquidity from surplus entities while injecting liquidity to the deficient ones, CRR is not a preferred option. It is also to be noted that the medium term objective of monetary policy is to bring down the CRR to its statutory minimum level of 3.0 per cent of NDTL. Further, the proposed legislative changes would make CRR more flexible, which can then be brought down to below 3.0 per cent. Nevertheless, use of CRR as an instrument of sterilisation, under extreme conditions of excess liquidity and when other options are exhausted, should not be ruled out altogether by a prudent monetary authority ready to meet all eventualities.

(vi) Private Placements for Prepayment of External loans

In February 2003, the Government of India prepaid higher cost external debt with an average maturity of about 9.3 years amounting to US \$ 3.03 billion by substituting them with equivalent amount of domestic debt of Rs.13,000 crore through private placement of marketable securities with the Reserve Bank. Thus, this transaction was public debt neutral. This transaction was also money supply neutral because this did not involve any change in reserve money as the reduction in the foreign currency assets with the Reserve Bank (US \$ 3.03 billion) was offset by a matching increase in the net domestic assets with the Reserve Bank (Rs.13,000 crore). Apart from being money supply and public debt neutral, this transaction helped in reduction of the future debt servicing cost of the Central Government. An off-shoot of this transaction was that the Reserve Bank acquired additional marketable securities which can be used for the conduct of open market operations to sterilise capital inflows. However, the decision to make pre-payment of external loans in future has to be taken by the Central Government on its merit keeping in view all the relevant factors, e.g. interest rates, expectation regarding future exchange rate, etc. Augmentation of marketable securities through private placement on account of pre-payment would thus only be a by-product.

New Instruments

3.6 The Group also considered the introduction of certain new instruments which would involve amendments to the RBI Act as indicated below:

(i) Interest Bearing Deposits by Scheduled Banks

An option for impounding excess liquidity in the banking system is to pay interest on deposits parked by banks on a voluntary basis with the central bank. Cross-country experience suggests that a few countries, such as, Malaysia and Taiwan, have exercised this option. Presently, in India, interest cannot be paid to the scheduled banks on the minimum CRR balance of three per cent held by them and in excess of the amount stipulated to be maintained as CRR on a mandatory basis (currently at 4.50 per cent of NDTL). This is because, in terms of sub section (1B) of Section 42 of the RBI Act, the Reserve Bank may pay to scheduled banks interest at such rates as may be determined by the Reserve Bank on the amount by which such balance actually maintained is in excess of the minimum balance of three per cent of the demand and time liabilities in India of such scheduled bank. The report of the Internal Working Group to review all laws relating to regulatory responsibilities of the Reserve Bank (Chairman: Shri N.V. Deshpande) recommended, *inter alia*, amendment to sub section (1B) of Section 42 of the RBI Act to enable the Reserve Bank to pay interest on the cash balance required to be maintained under that section. The Deshpande Working Group recommended that the Reserve Bank should have the freedom to offer interest on the entire CRR balance rather than only on eligible additional balance over the minimum level. The Deshpande Working Group has also recommended amendment of the RBI Act to provide for clean borrowing from market participants with interest payment in the interest of appropriate conduct of monetary policy

The Group has noted that the Reserve Bank of India (Amendment) Bill, 2001 [Bill] proposing comprehensive amendments to RBI Act to accord greater operational flexibility to the Reserve Bank is under active consideration of the Government. Clause 8 of the Bill proposes important changes in section 42 of RBI Act whereby the concept of minimum CRR and additional CRR would be done away with. The Reserve Bank would have the discretion to fix the rate of CRR without any minimum or maximum limit. Existing subsections (1A) & (1B) of Section 42 would be deleted. Regarding payment of interest on CRR, new sub-section (1A) is proposed to be inserted in Section 42 read as under :-

“(1A) Where the Bank does not, under sub-section (5) demand the payment of penalty imposed by sub-section (3) it may pay interest at such rate or rates as may be determined by the Bank from time to time on the amount of such balances actually maintained with it by the scheduled banks.”

If this amendment is carried out, the Reserve Bank would have the discretion to fix the rate of CRR without any minimum or maximum limit and the deposits held in the Reserve Bank above or below the CRR level can be remunerated. In other words, the Reserve Bank would determine from time to time, interest at any rate that it may deem fit to be paid on the amount of balances actually maintained with it by scheduled banks. The Reserve Bank will have the discretion to pay interest even on the amount of balances maintained with it by scheduled banks in excess of the CRR requirements. The Group feels that these amendments, which are already under consideration of the Central Government, need to be pursued. However, the extent to which such an option can be exercised has to be carefully evaluated in the context of its impact on the Reserve Bank’s balance sheet.

(ii) Issuance of Central Bank Securities

3.7 In the context of a declining stock of government securities with the Reserve Bank to conduct sterilisation operations, the Group deliberated in detail whether issuances of securities by the Reserve Bank could be enabled to facilitate OMO. In this context, it may be mentioned that a number of central banks in emerging market economies have resorted to issuance of central bank paper to facilitate sterilisation. Such central bank paper, however, has been issued by countries which have experienced fiscal surpluses or mild deficits. Moreover, central banks that issued their own paper for the conduct of monetary policy operations have had to incur losses, sometimes as high as 1 per cent of GDP, more so when the interest rates on such papers are bid up by repeated issuances. Maintenance of a healthy central bank balance sheet is essential for the smooth conduct of central banking functions. Unlike in the case of countries with fiscal surpluses or low deficits, the Reserve Bank may

not have the assurance of recapitalisation from the Government given the level of combined fiscal deficit of the Centre and States (at nearly 10 per cent of the GDP). Till date, the RBI Act, 1934 has served well to protect the Reserve Bank's balance sheet from the risk that issuance of central bank papers could entail, since under section 19(5) of the RBI Act, 1934 the Reserve Bank may not draw or accept bills payable otherwise than on demand, i.e. issue securities. Furthermore, under section 17(14) of the RBI Act, the scope for borrowing by the Reserve Bank is very limited, since in terms of this section, the Reserve Bank can borrow money for a period not exceeding one month provided (i) the lender is a scheduled bank in India or a bank which is the principal currency authority of any country under the law and (ii) the total amount of such borrowings shall not at any time exceed the amount of the paid-up capital of the Reserve Bank (i.e., Rs.5 crore as at present) if the lender is a resident entity. Under sections 17(1) and 19(6), the Reserve Bank cannot pay interest on balances kept with it except under the CRR. Apart from the impact on the Reserve Bank's balance sheet as indicated above, issuance of central bank securities can fragment the debt market due to availability of two competing sovereign issues, one of the Central Government and the other of the Reserve Bank. Normally central banks issue securities at the short end of the maturity spectrum, on the premise that the capital inflows are transient and may reverse over a short period; in the event of reversal, liquidity could be matched by the maturing central bank paper. However, the Group felt that in the Indian context, issuance of government securities at the short end, particularly for the cash management needs, would also be quite significant and, therefore, market fragmentation remains a key issue. On balance, and keeping in view the current fiscal situation, the Group is of the view that it may not be desirable to pursue the option of issuance of central bank paper.

Issuance of Market Stabilisation Bills/Bonds by the Central Government

15. The Group considered the following new instrument not requiring amendment to the RBI Act if the existing instruments are found to be inadequate to meet the size of operations in future.

16. In view of the finite stock of government securities available with the Reserve Bank for sterilisation, particularly, as the option of issuing central bank securities is neither permissible under the Act nor desirable as indicated above, the Group considered whether the Central Government could issue a special variety of bills/bonds for sterilisation purposes. Unlike in the case of central bank securities where the cost of sterilisation is borne indirectly by the fisc given the consolidated balance sheet approach as discussed earlier, the cost of issuance of such instruments by the Government would be directly and transparently borne by the fisc. To operationalise such a new instrument of sterilisation and ensure fiscal transparency, the Group recommends that the Central Government may consider setting up a Market Stabilisation Fund (MSF) to be created in the Public Account. This Fund could issue new instruments called Market Stabilisation Bills/Bonds (MSBs) for mopping up enduring surplus liquidity from the system over and above the amount that could be absorbed under the day to day repo operations of LAF. Issuance of such bills/bonds by the Government will obviate any confusion that may arise if the Reserve Bank also issues its own securities. To impart liquidity to these bills/bonds, they may be raised through auctions and permitted to be actively traded in the secondary market. The amounts raised would be credited to the Market Stabilisation Fund (MSF). The Fund account would be maintained with and operated by the Reserve Bank. The maturity, amount, and timing of issue of MSBs may be decided by the Reserve Bank in consultation with the Central Government depending, *inter alia*, on the expected duration and quantum of capital inflows, and the extent of sterilisation of such inflows. As the funds raised through MSBs would remain immobilised in the books of the Reserve Bank it would not entail any redemption pressure on the Central Government at the time of maturity. As inflows raised through such bills/bonds will not enter the Consolidated Fund of the Central Government, the

impact on the fisc would be limited only to the extent of interest payments on the outstanding bills.

3.10 The Group also suggested that besides the use of the above monetary policy/fiscal policy instruments, non-market measures aimed at curbing inflows and liberalising outflows during the phases of excessive forex inflows should not be ruled out within the overall framework of movement towards capital account convertibility in a sequential manner.

Section IV

Recommendations of the Group

4.1 The major recommendations of the Group for use of various instruments are as follows:

(a) Use of existing instruments not requiring amendment to the RBI Act

- It is not desirable to use the LAF as an instrument of sterilisation on an enduring basis; however, for limited periods, it can be used in a flexible manner along with other instruments.
- Open market operations of outright sales of government securities should continue to be an instrument of sterilisation to the extent that securities with the Reserve Bank can be utilised for the purpose. However, as the OMO sales entail the permanent absorption of the liquidity and transfer market risk to participants, the alternative of using the existing stock of securities for longer-term repos (up to 3 to 6 months) as an option can also be considered.
- Surplus balances of the government may be maintained with the Reserve Bank without any payment of interest so as to release securities for OMO. This would entail a review of the 1997 agreement between the Government of India and the Reserve Bank.

- While limited use of forex swaps for very short periods may be useful, any decision to use this instrument extensively has to be taken with due care and circumspection.
- Use of CRR as an instrument of sterilisation, under extreme conditions of excess liquidity and when other options are exhausted, should not be ruled out altogether by a prudent monetary authority ready to meet all eventualities.
- Whereas the stock of marketable securities with the Reserve Bank can be replenished by way or private placement of securities with the Reserve Bank for pre-payment of Government of India's external debt and such securities can be subsequently used for sterilisation by the Reserve Bank, the Group is of the view that the prepayment of external debt has to be decided on its own merit and that prepayment should not be linked to the objectives of sterilisation.

(b) Use of new instruments requiring amendment to the RBI Act

- The RBI Act may be amended to provide for flexibility in determination/remuneration of CRR balances so that interest can be paid on deposit balances actually maintained by scheduled banks with the Reserve Bank.
- In the context of current fiscal situation and consideration of market fragmentation, it is not desirable to pursue the option of issuance of central bank paper.

(c) Use of a new instrument not requiring amendment to the RBI Act

- The Government may issue Market Stabilisation Bills/Bonds (MSBs) for mopping up liquidity from the system. The amounts so raised should be credited to a fund created in the Public Account and the Fund should be maintained and operated by the Reserve Bank in consultation with the Government.

Annex I
Members and other officers associated with the
preparation of the Report

A. Members

1. Smt. Usha Thorat, Executive Director (Chairperson)
2. Shri D. Anjaneyulu, Principal Monetary Policy Adviser, Monetary Policy Department (MPD)
3. Dr.N.D.Jadhav, Principal Adviser, Department of Economic Analysis and Policy (DEAP)
4. Dr.T.C.Nair, CGM-in-Charge, Department of External Investments and Operations (DEIO).
5. Shri V.S.Das, CGM-in-Charge, Department of Government and Bank Accounts (DGBA)
6. Shri M.A.Batki, Legal Adviser, Legal Department
7. Shri H.R.Khan, CGM-in-Charge, Internal Debt Management Department (IDMD) (Convenor)

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B. Other Officers

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|------------------------------|---|
| 1. Shri Deepak Mohanty | Adviser, MPD |
| 2. Shri G.Padmanabhan | CGM, IDMD |
| 3. Dr.R.K.Pattnaik | Adviser, DEAP |
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| 5. Smt.Abha Prasad | Director, IDMD |
| 6. Shri T. Rabishankar | Deputy General Manager, IDMD |
| 7. Shri Sitikantha Pattanaik | Assistant Adviser, DEAP |
| 8. Dr. Sunando Roy | Assistant Adviser, DEAP (Resource Person) |
| 9. Shri Arghya Kusum Mitra | Assistant Adviser, IDMD (Resource Person) |

Annex II
Instruments for Managing Capital Inflows: A Summary Table

	Foreign Exchange Swaps for OMOs	Central Bank Securities for OMOs	Deposits with Central Bank	CRR	Government Deposits	Tobin tax	Unremunerated Reserve Requirements
Korea		√					
Peru		√			√		
China		√		√			
Brazil						√	
Chile		√				√	√
Colombia		√					√
Thailand	√	√		√ *	√		
Singapore	√				√ @		

Malaysia	√	√	√	√	√		
Indonesia		√			√		
Taiwan		√	√				
Poland		√					

* Non-resident deposits (mid-90s).

@ Also forced saving in the form of PFs (25% of earnings) (1990s).

¹ The Foreign Exchange and Foreign Trade Law stipulates that the "Minister of Finance shall endeavor to stabilize the external value of the yen through foreign exchange trading and other measures" (Article 7, Section 3).

² The Bank of Japan Law stipulates that the Bank buy and sell foreign exchange "as the agent of the government.....,when its purpose is to stabilize the exchange rate of the national currency" (Article 40, Section 2). The Foreign Exchange Fund Special Account Law stipulates that the Minister of Finance may entrust operations involving the Foreign Exchange Fund that are stipulated in the Article 5 to the Bank of Japan (Article 6, Section 1).