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Foreign Exchange Reserves

In the wake of foreign exchange reserves of the country reaching US $ 100 billion, the Reserve Bank of India (RBI) has undertaken a review of the main policy and operational matters relating to management of the reserves, including transparency and disclosure. In this connection, it is proposed to compile half-yearly Reports on management of foreign exchange reserves for bringing about more transparency and also for enhancing the level of disclosure in this regard. These Reports will be prepared with reference to positions as of 31st March and 30th September each year, with a time lag of about 3 months. This is the first such Report with reference to September 30, 2003. The Report is in three parts: Part I is an assemblage of various quantitative information with regard to external reserves that are already in the public domain, such as, level of foreign exchange reserves, sources of accretion to foreign exchange reserves, external liabilities *vis-à-vis* foreign exchange reserves, prepayment/repayment of external debt, Financial Transaction Plan (FTP) of the IMF, adequacy of reserves, *etc.* Part II is an exposition of various matters relating to management of reserves. Here the emphasis is on describing the main qualitative aspects of reserve management. Since this is the first Report of its kind, an elaboration of these aspects is considered useful. Part III consists of a cross-country comparison of disclosure in respect of management of external reserves.

Part I

Movement of Reserves

1. Introduction

India has come a long way since the onset of economic reforms in 1991, which was largely triggered by serious difficulties on the external front. In over a decade of economic reforms, the level of foreign exchange reserves has steadily increased from US $ 5.8 billion as at end-March 1991 to US $ 75.4 billion by end-March 2003 and further to US $ 91.1 billion by end-September 2003 (Table 1). Although both US Dollar and Euro are intervention currencies, the foreign exchange reserves are denominated and expressed in US Dollar only.

2. Review of Growth of Reserves since 1991

India's foreign exchange reserves have grown significantly since 1991. The reserves, which stood at US $ 5.8 billion at end-March 1991 increased gradually to US $ 25.2 billion by end-March 1995. The growth continued in the second half of the 1990s, with the reserves touching the level of US $ 38.0 billion by end-March 2000. Subsequently, the reserves rose to US $ 54.1 billion by end-March 2002, US $ 75.4 billion by end-March 2003 and further to US $ 91.1 billion by end-September 2003 (Chart 1). Table 2 details the major sources of accretion to foreign exchange reserves during the period from March 1991 to September 2003.

Table 1 : Movement in Reserves

(US $ million)

Date	FCA	SDR	GOLD	Forex Reserves
Sep. 30, 2002	59,663	10 (7.4)	3,300	62,973
Dec. 31, 2002	66,994	7 (5.0)	3,444	70,445
Mar. 31, 2003	71,890	4 (2.9)	3,534	75,428
Jun. 30, 2003	78,546	1 (0.9)	3,698	82,244
Sep. 30, 2003	87,213	4 (2.5)	3,919	91,136

Note : 1. FCA (Foreign Currency Assets): FCA is maintained as a multicurrency portfolio, comprising major currencies, such as, US dollar, Euro, Pound sterling, Japanese yen, *etc.* and is valued in US dollar.

2. SDR: Values in SDR have been indicated in parentheses.

3. Gold: Physical stock has remained unchanged at approximately 357 tonnes.

3. Sources of Accretion to Reserves in the Recent Period

The increase in foreign exchange reserves in the recent period has been on account of capital and other inflows. Major sources of increase in foreign exchange reserves have been: (a) Foreign investment; (b) Banking capital; (c) Increase in other types of capital inflows; (d) Short-term credit and (e) Valuation changes in reserves.

Table 2 : Sources of Accretion to Foreign Exchange Reserves since 1991

(US $ billion)

Items			1991-92 to 2003-04 (upto September 2003)
A		**Reserve Outstanding as on end-March 1991**	**5.8**
B.I.		**Current Account Balance**	**-31.4**
B.II.		**Capital Account (net) (a to e)**	**115.5**
	a.	Foreign Investment	55.4
	b.	NRI Deposit	21.8
	c.	External Assistance	11.8
	d.	External Commercial Borrowings	15.3
	e.	Other items in capital account	11.2
B.III.		**Valuation change**	**0.8**
B.IV.		**Gold Valuation**	**0.4**
		Total (A+BI+BII+BIII+BIV)	**91.1**

Chart 1 : Movements in Foreign Exchange Reserves

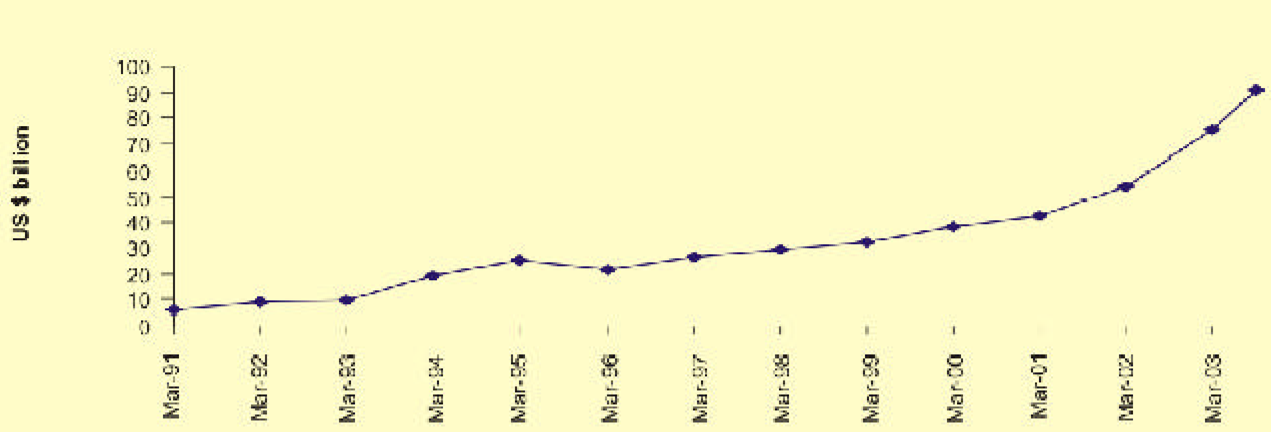

Table 3 presents sources of accretion to reserves during April-September 2003-04.

An analysis of the sources of reserves accretion during the entire reform period from 1991 onwards reveals that the increase in forex reserves has been facilitated by an increase in the annual quantum of foreign direct investment (FDI) from US $ 133 million in 1991-92 to US $ 4.7 billion in 2002-03. During the first half of 2003-04 (April-September 2003), the quantum of FDI inflows into India was of the order of US $ 1.6 billion. Outstanding NRI deposits increased from US $ 13.7 billion at end-March 1991 to US $ 31.3 billion at end-September 2003. FII investments into the Indian capital market, which commenced in January 1993 have increased since then. Cumulative net FII investments, increased from US $ 827 million at end-December 1993 to US $ 19.2 billion at end-September 2003. Turning to the current account, India's exports which were US $ 17.9 billion during 1991-92 increased to US $ 52.7 billion in 2002-03. Invisibles, such as, private remittances have also contributed significantly to the current account. Net invisibles inflows increased from US $ 1.6 billion in 1991-92 to US $ 17.0 billion in 2002-03. During April-September 2003, net invisible inflows amounted to US $ 12.3 billion. India's current account deficit which was as high as 3.1 per cent of GDP in 1990-91 turned into a surplus of 0.7 per cent in 2002-03. A small surplus of US $ 207 million

Table 3: Sources of Accretion to Foreign Exchange Reserves

(US $ billion)

Items			April-September 2003	April-September 2002
I.		**Current Account Balance**	**0.2**	**2.0**
II.		**Capital Account (net) (a to e)**	**13.3**	**4.6**
	a.	Foreign Investment	5.2	1.6
	b.	Banking Capital	3.1	2.5
		Of which: NRI Deposits	2.0	1.5
	c.	Short term credit	2.2	0.3
	d.	External Commercial Borrowings	-0.3	-1.7
	e.	Other items in capital account	3.1	1.9
III.		**Valuation change**	**1.8**	**2.0**
		Total (I+II+III)	**15.3**	**8.6**

was posted in the current account during the first half (April-September) of 2003-04, driven mainly by the surplus in the invisible account

4. External Liabilities *vis-à-vis* Foreign Exchange Reserves

The accretion of foreign exchange reserves needs to be seen in the light of total external liabilities of the country.

India's International Investment Position (IIP), which is a summary record of stock of country's external financial assets and liabilities is available as of March 2003 (Table 4).

5. Prepayment/Repayment of External Debt

The significant increase in forex reserves enabled prepayment of certain high-cost foreign currency loans of the Government of India from the Asian Development Bank (ADB) and the World Bank amounting to US $ 3.03 billion during February 2003.

Table 4 : International Investment Position of India

(US $ million)

	Item	March 2003 P
A	**Assets**	
1.	Direct investment abroad	5,054
2.	Portfolio investment	721
3.	Other investments	12,832
4.	Foreign Exchange Reserves	76,080
	Total Foreign Assets	**94,687**
B	**Liabilities**	
1.	Direct investment in India	30,827
2.	Portfolio investment	32,138
3.	Other investments	91,788
	Total Foreign Liabilities	**1,54,753**
	Net Foreign Liabilities (B-A)	**60,066**

P : Provisional

Source : Official website of Reserve Bank of India (http://www.rbi.org.in)

Resurgent India Bonds (RIB) were redeemed on October 1, 2003. The Reserve Bank had put in place arrangements in close consultation with State Bank of India to ensure that redemption of these bonds was carried out smoothly, in time and without causing any impact on domestic liquidity, money market or on the foreign exchange market. The total amount of bonds redeemed, inclusive of the interest component was of the order of US $ 5.5 billion.

6. Financial Transaction Plan (FTP) of the IMF

International Monetary Fund (IMF) designated India as a creditor under its Financial Transaction Plan (FTP) in February 2003, in terms of which India participated in the IMF's financial support to Burundi in March-May 2003 to the tune of SDR 5 million and to Brazil in June and September 2003 to the tune of SDR 350 million.

7. Adequacy of Reserves

Adequacy of reserves has emerged as an important parameter in gauging its ability to absorb external shocks. With the changing profile of capital flows, the traditional approach of assessing reserve adequacy in terms of import cover has been broadened to include a number of parameters which take into account the size, composition and risk profiles of various types of capital flows as well as the types of external shocks to which the economy is vulnerable. The High-Level Committee on Balance of Payments, which was chaired by Dr. C. Rangarajan, erstwhile Governor of Reserve Bank of India, had suggested that, while determining the adequacy of reserves, due attention should be paid to payment obligations, in addition to the traditional measure of import cover of 3 to 4 months. In 1997, the Report of the Committee on Capital Account Convertibility under the chairmanship of Shri S.S.Tarapore suggested four alternative measures of adequacy of reserves which, in addition to trade-based indicators, also included money-based and debt-based indicators.

In the more recent period, assessment of reserve adequacy has been influenced by the introduction of new measures that are particularly relevant for emerging market countries like India. One such measure requires that the usable foreign exchange reserves should exceed scheduled amortisation of foreign currency debts (assuming no rollovers) during the following year. The other one is based on a "Liquidity at Risk" rule that takes into account the foreseeable risks that a country could face. This approach requires that a country's foreign exchange liquidity position could be calculated under a range of possible outcomes for relevant financial variables, such as, exchange rates, commodity prices, credit spreads *etc*. The Reserve Bank has done exercises based on intuition and risk models in order to estimate "Liquidity at Risk (LAR)" of the reserves.

The traditional trade-based indicator of reserve adequacy, *viz*., import cover of reserves, which fell to a low of 3 weeks of imports at end-December 1990, rose to 11.3 months of imports at end-March 2002 and has increased further to around 14 months of imports or about five years of debt servicing at end-March 2003. At end-September 2003, the import cover of reserves was of 15.6 months. The ratio of short-term debt to foreign exchange reserves declined from 146.5 per cent at end-March 1991 to 6.1 per cent at end-March 2003. Similarly, the ratio of volatile capital flows (defined to include cumulative portfolio inflows and short-term debt) to reserves declined from 146.6 per cent as at end-March 1991 to 38.2 per cent as at end-March 2003.

8. Investment Pattern and Earnings from Foreign Exchange Reserves

The foreign exchange reserves are invested in multi-currency, multi-market portfolios as per the existing norms, which are similar to international practices in this regard. As at end-September 2003, out of the total foreign currency assets of US $ 87.2 billion, US $ 31.7 billion was invested in securities, US $ 39.6 billion was deposited with other central banks and Bank for International Settlements (BIS) and US $ 15.8 billion was in the form of deposits with foreign commercial banks. (Table 5).

During the year 2002-03 (July-June), the return on foreign currency assets, excluding capital gains less depreciation, decreased to 2.8 per cent from 4.1 per cent during 2001-02, mainly because of lower international interest rates.

Table 5 : Deployment Pattern of Foreign Exchange Reserves

(US $ Million)

	As on March 31, 2003	As on September 30, 2003
(1) Foreign Currency Assets	71,890	87,213
(a) Securities	26,929	31,740
(b) Deposits with other central banks & BIS	33,463	39,635
(c) Deposits with foreign commercial banks	11,498	15,838
(2) Special Drawing Rights	4	4
(3) Gold(including gold deposits)	3,534	3,919
(4) Total Foreign Exchange Reserves	75,428	91,136

Part II

Management of Reserves

1. Objectives

The guiding objectives of foreign exchange reserves management in India are similar to those of any emerging market economies in the world. The demands placed on the foreign exchange reserves may vary widely depending upon a variety of factors including the exchange rate regime adopted by the country, the extent of openness of the country's economy, the size of the external sector in a country's GDP and the nature of markets operating in the country. Even within this divergent framework, most countries have adopted the primary objective of reserve management as preservation of the long-term value of the reserves in terms of purchasing power and the need to minimise risk and volatility in returns. India is not an exception in this regard. While safety and liquidity constitute the twin objectives of reserve management in India, return optimisation becomes an embedded strategy within this framework.

2. Legal Framework and Policy Guidelines

The essential legal framework for reserves management is provided by the Reserve Bank of India Act, 1934. Specifically, sub-sections 17(12), 17(12A), 17(13) and 33(1) of the Reserve Bank of India Act, 1934 define the scope of investment of external assets. In brief, the law broadly permits the following investment categories:

(i) Deposits with other central banks and Bank for International Settlements(BIS).

(ii) Deposits with foreign commercial banks.

(iii) Debt instruments representing sovereign/sovereign-guaranteed liability. Residual maturity for debt papers should not exceed 10 years.

(iv) Other instruments / institutions as approved by the Central Board of the Reserve Bank.

In addition, the Reserve Bank has framed appropriate guidelines stipulating stringent criteria for issuers/counterparties/investments with a view to enhancing the safety and liquidity aspects of the reserves.

3. Risk Management

The risks attendant on deployment of reserves, *viz.*, credit risk, market risk, liquidity risk and operational risk and the systems employed to manage these risks are detailed in the following paragraphs.

(i) Credit Risk: Credit risk is defined as the potential that a borrower or counterparty will fail to meet its obligation in accordance with agreed terms. The Reserve Bank has been extremely sensitive to the credit risk it faces on the investment of foreign currency assets and gold in the international markets. Investments in bonds/treasury bills, which represent debt obligations of Triple-A rated sovereigns and supranational entities do not give rise to any substantial credit risk. Placement of deposit with BIS and other central banks like Bank of England is also considered credit risk-free. However, placement of deposits with commercial banks as also transactions in foreign exchange and bonds/treasury bills with commercial banks/investment banks and other securities firms give rise to credit risk. Stringent credit criteria are, therefore, applied for selection of counterparties. Credit exposure *vis-a-vis* sanctioned limit in respect of approved counterparties is monitored on line. The basic objective of an on-going tracking exercise is to identify any institution (which is on the Reserve Bank's approved list) whose credit quality is under potential threat and to prune down the credit limits or de-list it altogether, if considered necessary. A quarterly review exercise is also carried in respect of counterparties for possible inclusion/ deletion.

(ii) Market Risk

(a) Currency Risk: Currency risk arises due to uncertainty in exchange rates. Foreign exchange reserves are invested in multi-currency, multi-market portfolios. In consultation with Ministry of Finance, decisions are taken regarding the long-term exposure on different currencies depending on the likely currency movements and other considerations in the medium- and long-term (such as, the necessity of maintaining major portion of reserves in the intervention currency and of maintaining the approximate currency profile of the reserves in line with the changing external trade profile of the country as also for diversification benefits). The Top Management of the Reserve Bank is kept informed of the currency composition of reserves through a weekly Management Information System (MIS) Report.

(b) Interest Rate Risk: The crucial aspect of the management of interest rate risk is to protect the value of the investments as much as possible from the adverse impact of the interest rate movements. The focus of the investment strategy revolves around the overwhelming need to keep the interest rate risk of the portfolio reasonably low with a view to minimising losses arising out of adverse interest rate movements, if any. This approach is warranted as reserves are viewed as a market stabilising force in an uncertain environment.

(iii) Liquidity Risk: The reserves need to maintain a high level of liquidity at all times in order to be able to meet any unforeseen and emergency needs. Any adverse development has to be met with reserves, and hence a highly liquid portfolio is a necessary constraint in the investment strategy. The choice of instruments determines the liquidity of the portfolio. For example, Treasury securities issued by the US government can be liquidated in large volumes without much distortion to the price in the market, and thus can be considered as liquid. Also, most of the investments with BIS can be readily converted into cash. In fact, excepting fixed deposits with foreign commercial banks, almost all other types of investments are in highly liquid instruments which could be converted into cash at short notice. The Reserve Bank closely monitors the portion of the reserves which could be converted into cash at a very short notice to meet any unforeseen/emergency needs.

(iv) Operational Risk and Control System: Internally, there is a total separation of the front office and back office functions and the internal control systems ensure several checks at the stages of deal capture, deal processing and settlement. There is a separate set up responsible for risk measurement and monitoring, performance evaluation and concurrent audit. The deal processing and settlement system is also subject to internal control guidelines based on the principle of one point data entry and powers are delegated to officers at various levels for generation of payment instructions. There is a system of concurrent audit for monitoring compliance in respect of all the internal control guidelines. Further, reconciliation of accounts is done regularly.

In addition to annual inspection by the internal machinery of the Reserve Bank for this purpose and statutory audit of accounts by external auditors, there is a system of appointing a special external auditor to audit dealing room transactions. The main objective of the special audit is to see that risk management systems and internal control guidelines are adhered to.

There exists a comprehensive reporting mechanism covering all significant areas of activity/operations relating to reserve management. These are being provided to the senior management periodically, *viz.*, on daily, weekly, monthly, quarterly, half-yearly and yearly intervals, depending on the type and sensitivity of information.

4. Management of Gold Reserves

Gold holdings of the Reserve Bank have undergone relatively few changes in the recent years. At present, the Reserve Bank holds about 357 tonnes of gold, forming about 4.3 per cent of total foreign exchange reserves as on September 30, 2003. Of these, 65 tonnes are being held abroad since 1991 in deposits with Bank of England and BIS. The average return on these deposits, which are of a short-term nature, was around 0.6 per cent during the financial year 2002-03, as compared with 0.9 per cent in the previous year.

Part III

Cross-Country Position Regarding Disclosure

The Reserve Bank has progressively increased disclosure in respect of management of foreign exchange reserves. The Reserve Bank's approach with regard to transparency and disclosure closely follows international best practices in this regard. The Reserve Bank is among the 49 central banks all across the globe, which have adopted the Special Data Dissemination Standards (SDDS) template for publication of detailed data on foreign exchange reserves. The data template provides some information on a number of parameters including currency composition, investment pattern and forward positions. These data are made available on monthly basis on the Reserve Bank's Website.

Last year, India was included in a group of 20 countries selected by IMF for preparation of country case studies in respect of management of foreign exchange reserves. The case studies, together with a summary thereof have been adopted by IMF as the accompanying document to reserve management guidelines prepared earlier by it. This document, which is now available in the public domain, contains all essential information on reserve management for the 20 participating countries, including India.

Annex I provides a summary of the present status of disclosure in respect of a cross-section of countries. As may be observed therefrom, only a handful of central banks, *viz.*, Reserve Bank of New Zealand, Reserve Bank of Australia, Bank of Norway *etc*. have a higher level of disclosure than RBI.

Annex I

Cross-Country Position in respect of Disclosure

Country/Central Bank	Disclosures
Reserve Bank of Australia (RBA)	• Statistical information on reserves and foreign currency transactions (monthly - Monthly Bulletin) • Overview of reserves management operations and the return relative to the benchmark (annual - Annual Report) • Outline of the composition of the benchmark portfolios and discussion of the RBA's approach to risk management (annual - Annual Report)
Bank of Canada (BC)	• Operations of the Exchange Fund Account (EFA) (annual - Annual Report) • Asset Management Benchmark (annual - Annual Report) • Disaggregated reserves position (weekly - BC's website) • Comprehensive breakdown of reserves position (monthly - third business day of the following month) • Documentation of chain of authority, decision making and delegation in reserve management (BC review articles)

Country/Central Bank	Disclosures
Central Bank of Chile (CBC)	• Accounting value of reserves (weekly) • Level of international reserves and foreign currency liquidity (monthly) • End-of-year value of reserves, accounting measure of absolute return measured in local currency terms, the composition of returns and the way CBC achieves the liquidity goal of reserve management (types of instruments where reserves are invested, discussion on control aspects with regard to management of risks)(annual - Annual Report)
Czech National Bank (CNB)	• Regular publication of the level of reserves in the "Statistics" section of its website • Chapter on reserve management - absolute and relative performance and risk profile of reserves (annual - Annual Report)
Hong Kong Monetary Authority (HKMA)	• Bi-annual accounts of foreign exchange reserves • Headline figures for foreign exchange reserves (monthly) • Foreign currency assets (quarterly) • International reserves, analytical accounts and abridged Exchange Fund Balance Sheet and Currency Board Accounts (monthly)
Bank of Israel (BI)	• Foreign Exchange reserves (monthly) • BI's objectives, investment policy (does not include precise currency composition) and investment performance in absolute terms and relative to benchmark (annual - Annual Report)
Bank of Korea (BK)	• Size of foreign exchange reserves (twice a month) • General investment philosophy and direction (without disclosing the benchmark, currency mix, portfolio mix and portfolio returns) (annual - Annual Report) • Annual financial statement expressed in domestic currency
Reserve Bank of New Zealand (RBNZ)	• Extensive disclosures in the notes to the accounts - includes risk management policies, quantitative risk exposures, net reserve management income *etc*., - (annual - Annual Report)
Bank of Norway (BN)	• Detailed accounts of foreign exchange reserves - includes book value, return on the total and sub portfolios in the local currency return comparison with the benchmark, currency composition *etc*., (annual - Annual Report)
UK (Exchange Equalisation Account)	• Breakdown of assets and liabilities into broad currency blocs, SDRs and gold (quarterly) • Reserves data (IMF SDDS) (monthly) • Annual financial accounts (annual)