

## PART TWO: THE WORKING AND OPERATIONS OF THE RESERVE BANK OF INDIA

### III

## MONETARY POLICY OPERATIONS

III.1 The conduct of monetary policy during 2007-08 had to contend with several challenges posed by unprecedented capital flows, turbulent global financial markets, and hardening of inflation and inflationary expectations. Significant shifts in both global and domestic developments by the end of the year in relation to initial assessments impacted monetary conditions. The heightened uncertainty surrounding the global financial markets and the unusual policy responses of major central banks provided indications of the serious risks posed by the developments in financial markets. Vulnerability of the global financial system, large changes in the magnitude and direction of capital flows and exchange rate fluctuations made the conduct of monetary and liquidity management complex. The domestic outlook remained positive with indications of some moderation in industrial production and services sector activity. Expansion in non-food credit moderated and remained within the indicative trajectory of the Reserve Bank set out in the Annual Policy Statement released in April 2007. Inflationary pressures emerged during the fourth quarter of 2007-08 partly from supply-side factors such as the surge in global prices of commodities, especially foodgrains, crude oil and steel. The global factors along with domestic demand pressures in the backdrop of supply constraint exacerbated the inflationary pressures and inflationary expectations. This was despite the pre-emptive monetary/prudential measures initiated by the Reserve Bank on several occasions beginning September 2004. The inflationary spikes towards the end of the year, however, were in line with global trends.

III.2 This chapter delineates the monetary policy operations of the Reserve Bank during 2007-08 and 2008-09 (up to August 2008), which includes the conduct of monetary policy and management of liquidity. Large capital inflows, variations in cash

balances of the Central Government and rising inflationary pressures posed enormous challenges for the conduct of monetary policy and management of liquidity during the year. In recent months, sharp increases in wholesale price index and consumer price indices posed a major challenge for monetary management. Given the nature of the inflationary shock, monetary and fiscal policies were used in tandem to contain the inflationary pressure in the economy.

III.3 The Reserve Bank had constituted a Technical Advisory Committee (TAC) on Monetary Policy in July 2005 with external experts in the area of monetary economics, central banking, financial markets and public finance. The Committee was set up as a part of the ongoing process of changes in the institutional framework of monetary policy in India to improve the consultative mechanism. After its tenure ended in January 2007, the Reserve Bank reconstituted and expanded the TAC to benefit from the valuable inputs and suggestions from the external experts with tenure up to January 31, 2009. The expanded TAC has five external members and two members of the Central Board of the Reserve Bank. The Committee is headed by Governor, with the Deputy Governor in charge of monetary policy as the vice-chairman. The three other Deputy Governors of the Bank are also members of the Committee. The TAC meets at least once in a quarter to assess the macroeconomic and monetary developments and advises on the stance and measures of monetary policy. During 2007-08, the TAC generally met a week before the announcement of monetary policy reviews. It reviewed the macroeconomic and monetary developments, assessed the economic scenario, provided useful policy stance and suggestions and advised on monetary policy measures. In 2008-09 so far, apart from the usual meetings before the Annual Policy Statement for 2008-09 in April 2008 and the First

Quarter Review in July 2008, an additional TAC meeting was held on June 23, 2008 to advise the Reserve Bank on appropriate policy responses in the wake of sudden hardening of inflation rate. The role of TAC is advisory in nature. The responsibility, accountability and time path of the decision making remains entirely with the Reserve Bank.

**MONETARY POLICY OPERATIONS: 2007-08**

*Annual Policy Statement for 2007-08*

III.4 At the time of announcement of the Annual Policy Statement for 2007-08 (April 24, 2007), global growth was strong, although it was expected to moderate in 2007 relative to 2006. Inflationary pressures were becoming evident globally along with elevated levels of commodity and asset prices. In the global financial markets, the risks, including geopolitical risks, remained under-priced and diffused. On the domestic front, there was evidence of some cyclical elements though it was felt that a significant structural change was taking place in the Indian economy. There was accumulating confidence that the economy was possibly poised on the threshold of a step-up in the growth trajectory. However, demand pressures intensified alongside robust growth and increased supply side pressures were also in evidence. The Annual Policy Statement observed that international trade could not, by its nature, fully mitigate all supply side issues among all sectors and it was prudent to recognise that the first effects of the expansion in demand would be reflected in inflationary pressures and risks to macroeconomic and financial stability. The Annual Policy Statement further observed that the above mentioned factors had been in evidence in the form of sustained demand for capital goods, high rates of money and credit growth, indications of wage pressures in some sectors, rising input costs and the emergence of pricing power. Against this backdrop, the Annual Policy Statement noted that the overarching policy challenge was to manage the transition to a higher growth path while containing inflationary pressures.

III.5 For policy purposes, real GDP growth for 2007-08 in the Annual Policy Statement was placed at around 8.5 per cent, assuming no further escalation in international crude prices and barring

domestic or external shocks. In view of the lagged and cumulative effects of monetary policy on aggregate demand and assuming that supply management would be conducive, it was indicated that capital flows needed to be managed actively and in the absence of shocks emanating in the domestic or global economy, the endeavour would be to contain inflation close to 5.0 per cent in 2007-08. The Statement noted that there were indications that the Reserve Bank's self-imposed medium-term ceiling on inflation at 5.0 per cent had had a salutary effect on inflation expectations and that the socially tolerable rate of inflation had come down. In recognition of India's evolving integration with the global economy and societal preferences in this regard, the Statement further added that the resolve, going forward, would be to condition policy and perceptions for inflation in the range of 4.0–4.5 per cent. This objective would be conducive for maintaining self-accelerating growth over the medium-term.

III.6 In view of money supply growth remaining well above indicative projections in 2005-06 and 2006-07, the need to contain monetary expansion in 2007-08 at around 17.0-17.5 per cent in consonance with the outlook on growth and inflation was emphasised. Consistent with the projections of money supply, the growth in aggregate deposits in 2007-08 was placed at around Rs.4,90,000 crore. Based on the overall assessment of the sources of funding, a graduated deceleration of non-food credit, including investments in bonds/debentures/shares of public sector undertakings and private corporate sector and commercial paper (CP), was placed in the range of 24.0-25.0 per cent in 2007-08 consistent with the monetary projections from the average of 29.8 per cent over 2004-07.

III.7 The Annual Policy Statement observed that the stance of monetary policy in 2007-08 would be conditioned by the patterns in which the global and, more particularly, the domestic environment would unfold. The likely evolution of macroeconomic and financial conditions indicated an environment supportive of sustaining the growth momentum in India. The Statement reiterated that monetary policy,

while contributing to growth, had to ensure and maintain conditions of price and financial stability. Accordingly, the policy preference for the period ahead was articulated strongly in favour of reinforcing the emphasis on price stability and anchoring inflation expectations.

III.8 In the context of large capital inflows and implications for liquidity and monetary management, the Reserve Bank reviewed the interest rate prescriptions relating to NRI deposits, *viz.*, foreign currency non-resident (banks) (FCNR(B)) deposits and Non-Resident (External) Rupee Account (NR(E)RA) deposits, especially in the light of inflation and interest rate differentials between India and the rest of the world. In view of the then prevailing monetary condition, the ceiling on FCNR(B) deposits was reduced from LIBOR *minus* 25 basis points to LIBOR *minus* 75 basis points. Similarly, interest rate ceiling on NR(E) RA deposits was reduced by 50 basis points to make it same as the LIBOR.

#### *First Quarter Review*

III.9 In the First Quarter Review of the Annual Statement on Monetary Policy (July 31, 2007), the Reserve Bank observed that the prospects for growth in 2007-08 appeared positive. Against the backdrop of IMD's forecast of normal rainfall for the country as a whole, a return to trend growth in agriculture was expected. Growth in industrial and services sector activity was expected to be sustained. Overall, for policy purposes, the projection of real GDP growth for 2007-08 was retained at around 8.5 per cent, barring domestic or external shocks. The Review noted that there were indications that the combination of lagged and cumulative effects of monetary policy actions, and fiscal and administrative measures for supply management had had a salutary effect on inflation expectations. However, it noted that monetary management would need to be watchful of movements in commodity prices, particularly oil prices, the elevated levels of asset prices and the re-emergence of pricing power among producers as potential threats to inflation expectations. Assuming that aggregate supply management would continue to receive public policy attention and that a more active management of the capital account would be demonstrated, the outlook for inflation in 2007-08

remained unchanged in the Review. While non-food credit growth had decelerated, the Review indicated that the acceleration in money supply and reserve money warranted an appropriate response.

III.10 The Review observed that the global outlook was positive with continuing prospects for strong and stable growth but there were concerns about inflationary pressures worldwide. Monetary authorities were inclined to regard the prevailing levels of real interest rates as warranting further withdrawal of monetary accommodation and were indicating a preparedness to respond to the manner in which the inflation scenario evolved. The Review added that financial markets had been aggressively re-pricing risks; however, the wide diffusion of risks and the abundance of liquidity had imparted considerable uncertainty. Recurrence of volatility in equity and currency markets with worldwide ramifications had imparted an additional dimension of uncertainty to the evolution of the international economic environment. These developments necessitated intensified policy monitoring with a policy preference for insulating domestic real activity from the shocks. Looking ahead, the Review noted that monetary policy in India would continue to be vigilant and pro-active in the context of any accentuation of global uncertainties that posed threats to growth and stability in the domestic economy. The domestic outlook continued to be favourable and would dominate the dynamic setting of monetary policy in the period ahead. It was important to design monetary policy such that it protected growth by contributing to the maintenance of stability. Accordingly, it was stated that while the stance of monetary policy would continue to reinforce the emphasis on price stability and well-anchored inflation expectations and thereby sustain the growth momentum, contextually, financial stability might assume greater importance in the months to come.

III.11 Keeping the above in view, the Review noted that recent developments in financial markets in India and potential uncertainties in global markets warranted a higher priority for managing appropriate liquidity conditions in the policy hierarchy. Accordingly, the Review stated that the Reserve Bank would continue with its policy of active demand

management of liquidity through appropriate use of the CRR stipulations and open market operations (OMO) including the MSS and LAF, using all the policy instruments at its command flexibly, as and when the situation warrants. In view of the prevailing macroeconomic and overall monetary and liquidity conditions, it was decided to withdraw the ceiling of Rs.3,000 crore on daily reverse repo under the LAF effective August 6, 2007. The Reserve Bank, however, retained the discretion to re-impose a ceiling as appropriate. The second LAF, which was introduced from November 28, 2005 was withdrawn with effect from August 6, 2007. Also, on a review of the prevailing liquidity conditions, CRR was raised by 50 basis points to 7.0 per cent effective from fortnight beginning August 4, 2007.

*Mid-term Review*

III.12 In the Mid-Term Review released on October 30, 2007 the Reserve Bank observed that aggregate demand conditions remained firm and on the uptrend. The review noted that the key driver of the economy was the substantial increase in gross fixed investment indicative of the strong pace of capacity building underway while the growth in private consumption and exports remained relatively modest. Investment-driven growth was supported primarily by saving rates, that reached around 32-33 per cent of GDP, higher by 10 percentage points from the beginning of the decade. It noted that the momentum in investment continued in spite of changes in the interest rate cycle and transient slack in industrial activity. The review also noted that monetary aggregates were running well above initial projections, reflecting the impact of higher than expected deposit growth and the exogenous expansionary effects of capital inflows as well as the drawdown of fiscal cash balances. Within the monetary expansion, signs of slowdown in bank credit growth were visible, from excessively high rates of growth in the preceding four years. Moreover, the merchandise trade deficit widened sizeably, despite reasonably strong export growth, attesting to the spill-over of domestic demand into the external sector. The review emphasised that although inflation in terms of wholesale prices had eased considerably, it remained high in terms of consumer prices,

particularly for agricultural workers and rural labourers. The Mid-Term Review also raised concern on sub-prime crisis, the quality of debt unsettled in the financial market across the world and the threat to global growth and financial stability. The review mentioned the potential inflationary risk and the uncertainty emanating from systematic and sustained surge in international crude oil prices and historically high level of global food prices.

III.13 In view of the trends in the real sectors, the Mid-Term Review indicated that the momentum in the real economy would be maintained and accordingly placed GDP growth for 2007-08 at 8.5 per cent, same as set out in the Annual Policy Statement of April 2007 and the First Quarter Review. It reiterated that self-imposed medium-term inflation ceiling would be 5.0 per cent during 2007-08 and to condition inflation expectations in the range of 4.0-4.5 per cent as mentioned in the Annual Policy Statement 2007-08. Towards this end, the Mid-Term Review set out a medium-term inflation rate of 3.0 per cent consistent with India's broader integration into the global economy. The review also took note of the rising and volatile international crude oil prices and heightened levels of food prices that posed threats to inflation and inflationary expectations.

III.14 The Mid-Term Review stated that threats to inflation in the future emanated not only from domestic liquidity conditions but also from the underlying global pressures, though the possible impact of injection of liquidity by central banks to meet the turbulence in global financial markets was not clear at that stage. In any case, it noted that globally, pressures on future inflation were embedded in the high and volatile levels of international crude oil prices as well as prices of food and metals. Furthermore, the sharp increase in inflation in China had the possibility to transmit to major trading partners, given the dominant position of China in the global economy. Under such circumstances, the expansion in monetary aggregates and liquidity, essentially driven by capital inflows, were considered to be at unacceptably high levels, warranting priority in policy attention and posing extraordinary challenges for the conduct of monetary policy going forward. On a review of the

then prevailing monetary conditions, it was decided to increase the CRR by 50 basis points with effect from the fortnight beginning November 10, 2007 (Table 3.1).

### Third Quarter Review

III.15 The Third Quarter Review continued with an assessment of a positive outlook for 2007-08 on the basis of available information. It confirmed a positive outlook for agriculture and also found the prospects for the industrial and services sectors over the rest of 2007-08 to be favourable and positive. Assessing the evolving demand pattern, it noted that while the rate of fixed capital formation increased during the first half of 2007-08, that of private final consumption expenditure moderated. The strength of investment

demand was also visible in the strong growth of capital goods production achieved for April-November 2007, which turned out to be the highest since 1993-94.

III.16 The Review noted that from the time of Mid-Term Review, both reserve money and money supply accelerated, reflecting the significant expansionary effects of large capital inflows embodied in the sharp accretion to Reserve Bank's foreign currency assets. Non-food credit, which slowed down in the first half of 2007-08, picked up during the latter part of the year and constrained any slowdown in aggregate deposit growth that had been running well above indicative projections throughout 2007-08.

**Table 3.1: Movement in Key Policy Rates and Reserve Requirements**

(Per cent)

Effective since	Bank Rate	Reverse Repo Rate	Repo Rate	Cash Reserve Ratio	Statutory Liquidity Ratio
1	2	3	4	5	6
March 31, 2004	6.00	4.50	6.00	4.50	25
September 18, 2004	6.00	4.50	6.00	4.75 (+0.25)	25
October 2, 2004	6.00	4.50	6.00	5.00 (+0.25)	25
October 27, 2004	6.00	4.75 (+0.25)	6.00	5.00	25
April 29, 2005	6.00	5.00 (+0.25)	6.00	5.00	25
October 26, 2005	6.00	5.25 (+0.25)	6.25 (+0.25)	5.00	25
January 24, 2006	6.00	5.50 (+0.25)	6.50 (+0.25)	5.00	25
June 9, 2006	6.00	5.75 (+0.25)	6.75 (+0.25)	5.00	25
July 25, 2006	6.00	6.00 (+0.25)	7.00 (+0.25)	5.00	25
October 31, 2006	6.00	6.00	7.25 (+0.25)	5.00	25
December 23, 2006	6.00	6.00	7.25	5.25 (+0.25)	25
January 6, 2007	6.00	6.00	7.25	5.50 (+0.25)	25
January 31, 2007	6.00	6.00	7.50 (+0.25)	5.50	25
February 17, 2007	6.00	6.00	7.50	5.75 (+0.25)	25
March 3, 2007	6.00	6.00	7.50	6.00 (+0.25)	25
March 30, 2007	6.00	6.00	7.75 (+0.25)	6.00	25
April 14, 2007	6.00	6.00	7.75	6.25 (+0.25)	25
April 28, 2007	6.00	6.00	7.75	6.50 (+0.25)	25
August 4, 2007	6.00	6.00	7.75	7.00 (+0.50)	25
November 10, 2007	6.00	6.00	7.75	7.50 (+0.50)	25
April 26, 2008	6.00	6.00	7.75	7.75 (+0.25)	25
May 10, 2008	6.00	6.00	7.75	8.00 (+0.25)	25
May 24, 2008	6.00	6.00	7.75	8.25 (+0.25)	25
June 11, 2008	6.00	6.00	8.00 (+0.25)	8.25	25
June 25, 2008	6.00	6.00	8.50 (+0.50)	8.25	25
July 5, 2008	6.00	6.00	8.50	8.50 (+0.25)	25
July 19, 2008	6.00	6.00	8.50	8.75 (+0.25)	25
July 30, 2008	6.00	6.00	9.00 (+0.50)	8.75	25
August 30, 2008	6.00	6.00	9.00	9.00 (+0.25)	25

**Note:** 1. With effect from October 29, 2004, the nomenclature of repo and reverse repo was changed in keeping with international usage. Now, reverse repo indicates absorption of liquidity and repo signifies injection of liquidity. Prior to October 29, 2004, repo indicated absorption of liquidity while reverse repo meant injection of liquidity. The nomenclature in this Report is based on the new usage of terms even for the period prior to October 29, 2004.

2. Figures in parentheses indicate changes in policy rates/ratios.

III.17 Although available data showed some softening of inflation in terms of manufactures and primary food articles (since mid-July 2007), the Third Quarter Review noted that domestic inflationary conditions were increasingly becoming vulnerable to the adverse global developments. The Review noted that inflationary risks would be getting stronger in the period ahead. International foodgrain prices, which had escalated to historic peaks, were poised to enter a prolonged period of hardening, with demand projected to run well ahead of supply and historically low stocks, exacerbated by bio-fuel diversion. In the primary non-food category, the upside inflation risks emanating from the oilseeds/edible oil group increased substantially, both domestically and globally. The outlook on international metal prices remained uncertain with demand pressures from Asia continuing to be sustained by robust growth in the region.

III.18 The Third Quarter Review indicated that the build-up in the foreign exchange reserves during 2007-08 was unprecedented. The expansion of monetary and liquidity conditions made the task of management of liquidity complex and challenging. In this respect, the Review recognised the risk of increase in asset prices and risks for upward inflationary pressures for the Indian economy, alongside international price pressures particularly on account of oil, metal and food prices. The Review indicated that domestic monetary and liquidity conditions remained more expansionary than before and were likely to be amplified by global factors, particularly, in the wake of massive injections of liquidity by major central banks to activate frozen money markets. It was further stated that the liquidity conditions were being shaped by several underlying factors, and their developments had implications for liquidity management going forward and warranted appropriate and timely action. The Review also noted that the events in the second and third weeks of January 2008 indicated a potential for reversal in capital flows, though it was not certain as to how transient such events would be. The Review also cautioned that the strategic management of the capital account would warrant preparations for all situations and any unexpected events in future.

III.19 In view of the underlying momentum in the manufacturing and services sectors, the overall growth projection was maintained at 8.5 per cent as projected in the Annual Policy Statement April 2007 and reiterated in the Mid-Term Review. The Third Quarter Review reiterated the monetary policy stance of containing inflation close to 5.0 per cent in 2007-08, and going forward, of conditioning the inflation expectations in the range of 4.0-4.5 per cent as mentioned in the Annual Policy Statement and the Mid-Term Review for 2007-08. It also mentioned that consistent with India's broader integration into the global economy, the medium term objective would be to contain inflation around 3.0 per cent as was mentioned in the Mid-Term Review of 2007-08. The Review noted that aggregate deposit growth was above the Annual Policy projection of Rs. 4,90,000 crore for 2007-08 and also observed that growth in non-food credit was below 24.0-25.0 per cent as projected for 2007-08. It also noted that the growth in broad money remained above the indicative trajectory of 17.0-17.5 per cent for 2007-08 and felt the need to have appropriate responses to moderate it.

III.20 The Third Quarter Review stressed that over the period ahead, liquidity management would continue to receive priority in the conduct of monetary policy. It reinforced the emphasis on price stability while maintaining growth momentum. Credit quality and credit delivery for employment-intensive sectors as well as financial inclusion were also reiterated as policy priority. In view of the developments in international financial system and global macroeconomic scenario, monetary policy further emphasised the need to monitor the evolving heightened global uncertainties and domestic situation impinging on inflation expectations, financial stability and growth momentum for appropriate policy actions.

III.21 In the period following the Third Quarter Review, notable developments in the domestic inflationary scenario and liquidity conditions prompted a swift reinforcement of monetary policy stance. Year-on-year WPI inflation, which was 3.83 per cent on January 12, 2008, *i.e.*, at the time of the announcement of the Third Quarter Review, increased to 7.41 per cent on March 29, 2008 and

7.14 per cent as on April 5, 2008. Its overall impact on inflationary expectations required to be monitored and moderated. The increase in prices of primary articles during 2007-08 was led by food articles and non-food articles such as oilseeds. Increase in prices of edible oil, oil cakes, basic metals, alloys and metal products and basic and heavy inorganic chemicals contributed to the rise in manufacturing prices.

III.22 In the light of prevailing macroeconomic, monetary and anticipated liquidity conditions, and with a view to containing inflation expectations, the Reserve Bank on April 17, 2008 announced a hike in CRR by 50 basis points to 8.0 per cent in two stages, 25 basis points each, effective from the fortnights beginning April 26, 2008 and May 10, 2008, thereby absorbing an estimated amount of about Rs.18,500 crore of resources from the banking system in the first round. The increase in CRR was intended to absorb excess liquidity, pre-empt the stoking of demand pressures and contain the inflationary expectations. This monetary policy measure was consistent with the stance set out in the Annual Policy Statement and the Reviews of the Statement during 2007-08 (Box III.1).

#### **MONETARY POLICY OPERATIONS: 2008-09**

##### *Annual Policy Statement for 2008-09*

III.23 The Annual Policy Statement for 2008-09 (APS, April 2008) noted that there had been significant shifts in both global and domestic developments in relation to initial assessments for 2007-08. The outlook for the global economy deteriorated from the time of the Mid-Term Review of October 2007, and sharply after the Third Quarter Review of January 2008. The Annual Policy Statement noted that dangers of global recession had increased at the time of announcement of the Statement. It also added that from January 2008, the upside pressures from international food and energy prices appeared set to impart a degree of persistent upward pressure to inflation globally. On the domestic front, the outlook remained positive up to January 2008, with indications of moderation in industrial production, services sector activity, business confidence and non-food credit, as anticipated. The Annual Policy Statement noted that in the ensuing

months, consensus assessments of the prospects for growth in the year ahead were trimmed. Beginning from January 2008, risks to inflation and inflation expectations from the upside pressures due to international food, crude and metal prices became more potent and real than before. Against this backdrop, the Annual Policy Statement for 2008-09 emphasised the overreaching policy challenges to mitigate inflationary pressure and global uncertainties while maintaining the growth momentum of the economy.

III.24 Initial forecasts predicted a near-normal rainfall in the 2008 South-West monsoon season, at 99 per cent of the long period average for the country as a whole auguring well for the sustenance of trend growth in agriculture. The Statement noted that the expected decline in world GDP growth in 2008 in relation to the preceding year could temper the prospects of growth in the industrial and services sectors at the margin although the underlying momentum of expansion in these sectors was likely to be maintained. In view of this overall macroeconomic scenario, the Annual Policy Statement of April 2008 placed real GDP growth during 2008-09 in the range of 8.0 to 8.5 per cent for policy purposes assuming that (a) global financial and commodity markets and real economy would be broadly aligned with the central scenario as assessed at that stage; and (b) domestically, normal monsoon conditions prevail. In view of the lagged and cumulative effects of monetary policy on aggregate demand and assuming that supply management would be conducive, capital flows would be managed actively and in the absence of new adversities emanating in the domestic or global economy, the Annual Policy Statement indicated that the monetary policy endeavour would be to bring down inflation from the then high level of above 7.0 per cent to around 5.5 per cent in 2008-09 with a preference for bringing it as close to 5.0 per cent as soon as possible, recognising the evolving complexities in globally-transmitted inflation. The Statement also added that going forward, the Reserve Bank would continue to condition policy and perceptions for inflation in the range of 4.0-4.5 per cent so that an inflation rate of around 3.0 per cent

**Box III:1  
Stance of Monetary Policy in India**

**2007-08**

**Annual Policy Statement (April 2007)**

- To reinforce the emphasis on price stability and well-anchored inflation expectations while ensuring a monetary and interest rate environment that supports export and investment demand in the economy so as to enable continuation of the growth momentum.
- To re-emphasise credit quality and orderly conditions in financial markets for securing macroeconomic and, in particular, financial stability while simultaneously pursuing greater credit penetration and financial inclusion.
- To respond swiftly with all possible measures as appropriate to the evolving global and domestic situation impinging on inflation expectations and the growth momentum.

**First Quarter Review (July 2007)**

- To reinforce the emphasis on price stability and well-anchored inflation expectations while ensuring a monetary and interest rate environment that supports export and investment demand in the economy so as to enable continuation of the growth momentum.
- To re-emphasise credit quality and orderly conditions in financial markets for securing macroeconomic and, in particular, financial stability while simultaneously pursuing greater credit penetration and financial inclusion.
- To respond swiftly with all possible measures as appropriate to the evolving global and domestic situation impinging on inflation expectations, financial stability and the growth momentum.

**Mid-term Review (October 2007)**

- To reinforce the emphasis on price stability and well-anchored inflation expectations while ensuring a monetary and interest rate environment that supports export and investment demand in the economy so as to enable continuation of the growth momentum.
- To re-emphasise credit quality and orderly conditions in financial markets for securing macroeconomic and, in particular, financial stability while simultaneously pursuing greater credit penetration and financial inclusion.
- To respond swiftly with all possible measures as appropriate to the evolving global and domestic situation impinging on inflation expectations, financial stability and the growth momentum.
- To be in readiness to take recourse to all possible options for maintaining stability and the growth momentum in the economy in view of the unusual

heightened global uncertainties, and the unconventional policy responses to the developments in financial markets.

**Third Quarter Review (January 2008)**

- To reinforce the emphasis on price stability and well-anchored inflation expectations while ensuring a monetary and interest rate environment conducive to continuation of the growth momentum and orderly conditions in financial markets.
- To emphasise credit quality as well as credit delivery, in particular, for employment-intensive sectors, while pursuing financial inclusion.
- To monitor the evolving heightened global uncertainties and domestic situation impinging on inflation expectations, financial stability and growth momentum in order to respond swiftly with both conventional and unconventional measures, as appropriate.

**2008-09**

**Annual Policy Statement 2008-09 (April 2008)**

- To ensure a monetary and interest rate environment that accords high priority to price stability, well-anchored inflation expectations and orderly conditions in financial markets while being conducive to continuation of the growth momentum.
- To respond swiftly on a continuing basis to the evolving constellation of adverse international developments and to the domestic situation impinging on inflation expectations, financial stability and growth momentum, with both conventional and unconventional measures, as appropriate.
- To emphasise credit quality as well as credit delivery, in particular, for employment-intensive sectors, while pursuing financial inclusion.

**First Quarter Review (July 2008)**

- To ensure a monetary and interest rate environment that accords high priority to price stability, well-anchored inflation expectations and orderly conditions in financial markets while being conducive to continuation of the growth momentum.
- To respond swiftly on a continuing basis to the evolving constellation of adverse international developments and to the domestic situation impinging on inflation expectations, financial stability and growth momentum, with both conventional and unconventional measures, as appropriate.
- To emphasise credit quality as well as credit delivery, in particular, for employment-intensive sectors, while pursuing financial inclusion.

became a medium-term objective consistent with India's broader integration into the global economy and with the goal of maintaining self-accelerating growth over the medium-term.

III.25 The Statement also noted that money supply remained above indicative projections persistently through 2005-07 on the back of sizeable accretions to the Reserve Bank's foreign exchange assets and a cyclical acceleration in credit and deposit growth, particularly the latter, during 2007-08. In view of the resulting monetary overhang, the Statement mentioned that there was a need to moderate monetary expansion in the range of 16.5-17.0 per cent in 2008-09 in consonance with the outlook on growth and inflation so as to ensure macroeconomic and financial stability. Consistent with the projections of money supply, the growth in aggregate deposits for 2008-09 was placed at around 17.0 per cent or around Rs.5,50,000 crore. Based on the overall assessment of the sources of funding and the overall credit requirements of various productive sectors of the economy, the growth of non-food credit, including investments in bonds/debentures/shares of public sector undertakings and private corporate sector and commercial paper (CP), was placed at around 20.0 per cent for 2008-09 consistent with the monetary projections.

III.26 Given the unprecedented complexities involved and the heightened uncertainties, the following factors influenced the setting of the stance of monetary policy for 2008-09. First, there was the immediate challenge of escalated and volatile food and energy prices, which possibly contained some structural components apart from cyclical components. Second, while demand pressures persisted, there was some improvement in the domestic supply response. Third, the recent initiatives in regard to supply-management by the Government of India and monetary measures by the Reserve Bank were in the process of impacting the economy. Fourth, policy responses emphasised managing expectations in an environment of the evolving global and domestic uncertainties. Fifth, monetary policy had demonstrated a determination to act decisively on a continuing basis to curb any signs of adverse developments with regard to inflation expectations.

III.27 The Annual Policy Statement mentioned that the stance of monetary policy for 2008-09 was conditioned keeping in view the assessment of the Indian economy, including the outlook for growth and inflation as well as the developments in the global economy. In view of the above unprecedented uncertainties and dilemmas, as discussed, it recognised the importance of making informed judgements with regard to the timing and magnitude of policy actions. The stance of monetary policy emphasised the maintenance of a monetary and interest rate environment that accorded high priority to price stability, well-anchored inflation expectations and orderly conditions in financial markets while being conducive to continuation of the growth momentum. The policy stance further emphasised the importance of credit quality as well as credit delivery, in particular, for employment-intensive sectors, while pursuing financial inclusion. It further indicated that monetary policy would respond swiftly on a continuing basis to the evolving constellation of adverse international developments and to the domestic situation impinging on inflation expectations, financial stability and growth momentum, with both conventional and unconventional measures, as felt appropriate. The Reserve Bank, continuing with its pre-emptive and calibrated approach to contain inflation expectations, raised CRR by 25 basis points to 8.25 per cent with effect from the fortnight beginning May 24, 2008. This followed the hike in CRR by 50 basis points, 25 basis points each effective from the fortnights beginning April 26 and May 10, 2008 as announced on April 17, 2008.

III.28 The Annual Policy Statement for the year 2008-09 had referred to the unprecedented uncertainties and dilemmas that existed and added that "while monetary policy has to respond proactively to immediate concerns, it cannot afford to ignore considerations over a relatively longer term perspective of, say, one to two years, with respect to overall macroeconomic prospects. At the same time, it is critical at this juncture to demonstrate on a continuing basis a determination to act decisively, effectively and swiftly to curb any signs of adverse developments in regard to inflation expectations". The year-on-year WPI inflation which was 4.36 per cent on January 12, 2008 (at the time of

announcement of the Third Quarter Review for 2007-08) increased to 7.33 per cent on April 12, 2008 (at the time of announcement of the Annual Policy Statement for 2008-09) and further to a high of 8.24 per cent on May 24, 2008. Further, various measures of CPI inflation, which ranged from 4.8 to 5.9 per cent in January 2008 also increased to a range of 7.8 to 8.9 per cent in April 2008. In light of these developments, and on a review of the then macroeconomic and overall monetary conditions and with a view to containing inflation expectations, the Reserve Bank announced on June 11, 2008 an increase in the repo rate under the Liquidity Adjustment Facility (LAF) by 25 basis points to 8.00 per cent from 7.75 per cent with immediate effect.

III.29 Inflation, based on variations in the wholesale price index (WPI) on a year-on-year basis, increased to 11.05 per cent as on June 7, 2008 from 7.75 per cent at end-March 2008 and 4.28 per cent a year ago. Excluding the fuel sub-group, inflation rose to 9.61 per cent from 5.92 per cent a year earlier. Excluding fuel and food, inflation was 10.33 per cent as against 6.33 per cent in the corresponding period of the preceding year. The rise in inflation for non-fuel commodities partly reflected the second round impacts of the increase in prices of fuel items in earlier period. The Reserve Bank recognised that besides oil prices, there were some underlying inflationary pressures impacting inflation in India. Therefore, monetary policy recognised the importance of an adjustment of overall aggregate demand on an economy-wide basis. It was realised that high and volatile energy prices were not a temporary phenomenon any longer and there was a need for monetary policy to smoothen and enable this adjustment so that inflation expectations were contained. It was also noted that even when all policies were aimed to meet the challenges emanating from inflation, the underlying demand pressure was reflected in the monetary aggregates. On a year-on-year basis, money supply ( $M_3$ ) increased by 21.4 per cent as on June 6, 2008 over and above the growth of 21.0 per cent a year earlier and well above the indicative projection of 16.5-17.0 per cent set for 2008-09 (APS, April 2008). Aggregate deposits rose by 23.2 per cent on a year-on-year

basis on June 6, 2008 which was above the indicative projection of 17.0 per cent for 2008-09. Non-food credit growth at 26.2 per cent was also above the indicative projection of 20.0 per cent. At that juncture, the overriding priority for monetary policy was to eschew any further intensification of inflationary pressures and to firmly anchor inflation expectations and to urgently address aggregate demand pressures which appeared to be strongly in evidence. Accordingly, consistent with the stance of monetary policy as set out in the Annual Policy Statement for 2008-09, on the basis of incoming information on domestic and global macroeconomic and financial developments, the Reserve Bank increased the repo rate under LAF from 8.00 per cent to 8.50 per cent effective from June 25, 2008. The CRR was also raised by 50 basis points to 8.75 per cent in two stages, 25 basis points each, effective from the fortnights beginning July 5 and July 19, 2008, respectively.

#### *First Quarter Review*

III.30 The First Quarter Review of the Annual Statement on Monetary Policy for 2008-09 noted that after the announcement of the Annual Policy Statement in April 2008, global as well as domestic developments on both supply and demand sides, pointed to accentuation of inflationary pressures, especially in terms of inflation expectations and perceptions during the first quarter of 2008-09. In an environment of surging global inflation, and with domestic inflation also rising to a 13-year high, the Reserve Bank noted with concern that inflation had emerged as the biggest risk to the global outlook, having risen to very high levels across the world, not generally seen for a couple of decades. The prevailing inflation was identified to be driven mainly by escalating commodity prices, particularly of energy, food and metals. Growing concerns prevailed across economies that rising food and energy prices were triggering a more generalised inflation spiral through second-round effects. Even if the inflation was expected to rise as per the earlier assessment, the size and pace of the subsequent change was clearly unanticipated. While high inflation was now a worldwide phenomenon, country responses have differed widely depending on

perceptions of the nature of the shock, their expected persistence, the stage of the inflation cycle and the onset of the second-order impact. Further, the policy responses by central banks in some countries have been constrained by the concerns about the speed and depth of the slowdown in growth as also the possible implications of the same for financial stability.

III.31 It also noted that the upsurge in inflation in India during the current financial year reflects a combination of pass-through of international crude prices and rising inflation in a broad range of manufacturing sector including food, metal and chemical products. The steep rise in input costs through increased import prices and sharp rise in prices of oilseeds, raw cotton and milk and movement in prices of commodities such as coal, edible oil, rice and steel in line with international prices have contributed to the overall inflation. It pointed out that the impact of the escalation in international food, crude and other commodity prices was reflected in a sizeable expansion in the merchandise trade deficit putting persisting downward pressures in the foreign exchange market further aggravated by volatility of capital flows with portfolio outflows and tightening of international bank lending.

III.32 The First Quarter Review stated that bringing down inflation from the current high levels and stabilising inflation expectations assumed the highest priority in the stance of monetary policy. It noted that, looking forward, the global and more importantly, the domestic factors pose severe challenges to monetary management and warrant reinforced policy actions on several fronts. It also stated that against this background, it was expected that inflation would moderate from the current high levels in the months to come and a noticeable decline in inflation could be expected towards the last quarter of 2008-09. Accordingly, it noted that while the policy actions would aim to bring down the prevailing intolerable level of inflation to a tolerable level of below 5.0 per cent as soon as possible and around 3.0 per cent over the medium-term, at this juncture a realistic policy endeavour would be to bring down inflation from the prevailing level of about 11.0-12.0 per cent to a level close to 7.0 per cent by March 31, 2009. It stated that taking into account aggregate demand

management and supply prospects described above, the projection of real GDP growth of the Indian economy in 2008-09 in the range of 8.0 to 8.5 per cent as set out in the Annual Policy Statement of April 2008 may prove to be optimistic and hence for policy purposes, a projection of around 8.0 per cent appear to be a more realistic central scenario, barring domestic or external shocks.

III.33 The First Quarter Review emphasised the necessity of moderating monetary expansion and revised the projection of money supply growth in the range of around 17.0 per cent in 2008-09 in consonance with the outlook on growth and inflation so as to ensure macroeconomic and financial stability in the period ahead. Consistent with the projection of money supply, the growth in aggregate deposits in 2008-09 was placed at around 17.5 per cent or around Rs.6,00,000 crore. Based on an overall assessment of the sources of funding and the overall credit requirements of the various productive sectors of the economy, the growth of non-food credit including investments in bonds/debentures/ shares of public sector undertakings and private corporate sector and CPs was placed at around 20.0 per cent in 2008-09, as indicated in the Annual Policy Statement, consistent with the monetary projections.

III.34 The First Quarter Review noted that in view of the criticality of anchoring inflation expectations, a continuous heightened vigil over ensuing monetary and macroeconomic developments is to be maintained to enable swift responses with appropriate measures as necessary, consistent with the monetary policy stance. Furthermore, in view of the prevailing macroeconomic and overall monetary conditions, the First Quarter Review announced an increase in fixed repo rate under the LAF by 50 basis points from 8.5 per cent to 9.0 per cent with effect from July 30, 2008 and an increase of CRR by 25 basis points to 9.0 per cent with effect from August 30, 2008.

#### *Cash Reserve Ratio*

III.35 During 2007-08, the CRR was raised by 150 basis points in four stages to 7.5 per cent from 6.0 per cent of the banks' net demand and time liabilities (NDTL) and, during 2008-09 (up to August 2008), the CRR has been raised further by another 150

basis points in six stages of 25 basis points each to 9.0 per cent of the banks' NDTL (Chart III.1). Between December 2006 and July 2008, there has been a cumulative increase of 375 basis points in CRR and the estimated amount of liquidity impounded in the first round due to hike in CRR was Rs.1,22,500 crore. Subsequently, in its First Quarter Review in July 2008, the Reserve Bank increased repo rate by 50 basis points to 9.0 per cent effective from July 30, 2008 and hiked the CRR by 25 basis points to 9.0 per cent effective from the fortnight beginning August 30, 2008.

*Statutory Liquidity Ratio*

III.36 The statutory liquidity ratio (SLR) was kept unchanged at 25 per cent of banks' net demand and time liabilities (NDTL) during 2007-08 and 2008-09 so far. The ratio was last revised in November 1997. Commercial banks' holdings of SLR securities as at end-March 2008 remained at 27.8 per cent of their NDTL – almost the same as at end-March 2007.

**Interest Rate Policy**

III.37 Interest rates that were once regulated according to their relevance to the monetary authority and the financial sector at different points of time, were gradually deregulated barring some rates. Although some interest rates like interest rate on saving bank deposits, NRE deposits and FCNR(B)

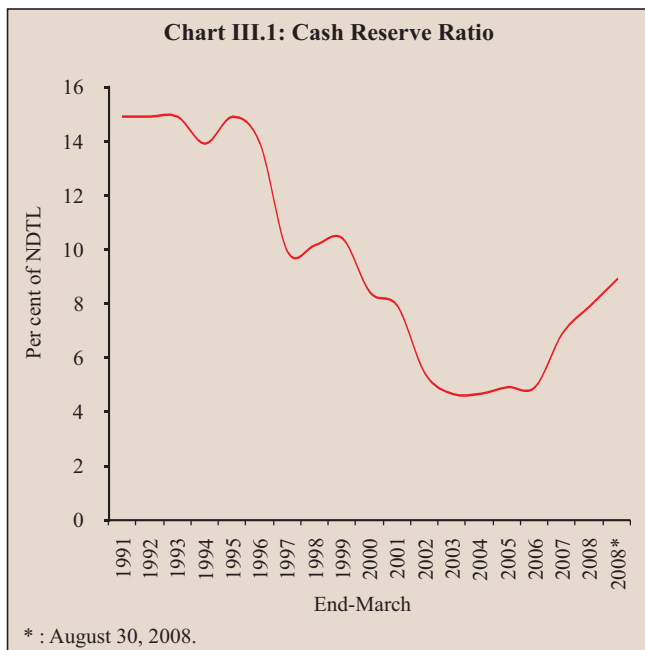
deposits and those on export credit and small loans up to Rs.2 lakh are still regulated by the Reserve Bank, it has been the endeavour of the Reserve Bank to modify them in line with the changing scenario. The interest rate on savings bank deposits is currently prescribed at 3.5 per cent per annum; this rate was last revised on March 1, 2003. The Reserve Bank's Annual Policy Statement for the year 2007-08 reduced the ceiling interest rate on both FCNR(B) deposits and NRE deposits rates by 50 basis points. With effect from the close of business of April 24, 2007, the ceiling interest rate on FCNR(B) deposits was stipulated at LIBOR/SWAP rates minus 75 basis points and for NRE deposits rates, the ceiling rate was at LIBOR/SWAP rates for the corresponding maturities (Table 3.2).

III.38 The validity of the reduction in the interest rate ceiling to 250 basis points below BPLR on pre-shipment rupee export credit up to 180 days and post-shipment rupee export credit up to 90 days announced on September 24, 2001 was extended up to October 31, 2008 (Appendix Table 57). On the basis of recommendations of the Working Group to review export credit, the ceiling interest rate on export credit in foreign currency was increased by 25 basis points to LIBOR *plus* 100 basis points with effect from April 18, 2006.

**LIQUIDITY MANAGEMENT**

III.39 Management of liquidity remained a priority in the policy hierarchy of the Reserve Bank throughout 2007-08. The Reserve Bank continued to ensure that appropriate liquidity was maintained in the system so that all legitimate requirements of credit were met, particularly for productive purposes, consistent with the objective of price and financial stability. Towards this end, the Reserve Bank continued with its policy of active management of liquidity through appropriate use of CRR stipulations and open market operations (OMO), including MSS and LAF and using all the policy instruments at its disposal flexibly as and when the situation warranted (Table 3.3 and Table 3.4). A noteworthy feature in 2007-08 was the anticipatory arrangements made by the Reserve Bank to manage more smoothly the usual year-end demand for liquidity.

III.40 The management of liquidity during 2007-08 turned out to be more complex as the Reserve Bank



**Table 3.2: Interest Rate Structure for Non-Resident Deposits**

(Basis points)

Effective since	FCNR(B) Deposits (Ceiling Rate)	Effective since	NRE (Rupee) Deposits (Ceiling Rate for 1-3 year maturity)
1	2	3	4
April 19, 2001	LIBOR	July 17, 2003	LIBOR + 250
April 29, 2002	LIBOR – 25	September 15, 2003	LIBOR + 100
March 28, 2006	LIBOR	October 18, 2003	LIBOR + 25
January 31, 2007	LIBOR – 25	April 17, 2004	LIBOR
April 24, 2007	LIBOR - 75	November 1, 2004	LIBOR + 50
		November 17, 2005	LIBOR + 75
		April 18, 2006	LIBOR + 100
		January 31, 2007	LIBOR + 50
		April 24, 2007	LIBOR

**Note:** LIBOR/swap rates for the respective currency/maturities in case of FCNR(B) deposits and LIBOR/ swap rates for US dollar of corresponding maturity in case of NRE deposits.

had to contain unusual swings in liquidity emanating from the high volatility in foreign exchange flows as well as in cash balances of the Central Government. The liquidity conditions for most part of 2007-08

**Table 3.3: Liquidity Management**

(Rupees crore)

Outstanding as on Last Friday	LAF	MSS	Centre's Surplus with the RBI @	Total (2 to 4)
1	2	3	4	5
<b>2007</b>				
January	-11,445	39,375	42,494	70,424
February	6,940	42,807	53,115	1,02,862
March *	-29,185	62,974	49,992	83,781
April	-9,996	75,924	-980	64,948
May	-4,690	87,319	-7,753	74,876
June	-8,895	81,137	-15,159	57,083
July	2,992	88,010	-20,199	70,803
August	16,855	1,06,434	20,807	1,44,096
September	-6,070	1,31,473	30,771	1,56,174
October	18,135	1,74,277	23,735	2,16,147
November	-1,320	1,71,468	36,668	2,06,816
December	-33,865	1,59,717	80,591	2,06,443
<b>2008</b>				
January	985	1,66,739	70,657	2,38,381
February	8,085	1,75,089	68,538	2,51,712
March*	-50,350	1,68,392	76,586	1,94,628
April	32,765	1,72,444	36,549	2,41,758
May	-9,600	1,75,362	17,102	1,82,864
June	-32,090	1,74,433	36,513	1,78,856
July	-43,260	1,71,327	15,043	1,43,110

@ : Excludes minimum cash balances with the Reserve Bank in case of surplus.

\* : Data pertain to March 31.

**Note:** 1. Negative sign in column 2 indicates injection of liquidity through LAF repo.  
2. Between March 5 and August 5, 2007, daily reverse repo absorptions were restricted to a maximum of Rs. 3,000 crore comprising Rs.2,000 crore in the First LAF and Rs. 1,000 crore in the Second LAF.  
3. Negative sign in column 4 indicates injection of liquidity through WMA/overdraft.

remained easy though interspersed with transient periods of tightness. This was mainly on account of variation in Central Government cash balances reflecting quarterly advance tax outflows and volatile capital flows. Given the large amount of capital flows to India and some other emerging market economies in recent years, the central banks had to dovetail their liquidity management framework appropriately to manage surplus liquidity emanating from such cross-border inflows (Box III.2).

III.41 The Reserve Bank during 2007-08 continued to smoothen liquidity through several measures, in tandem with the evolving conditions. Before the commencement of 2007-08, the liquidity adjustment facility was modified on March 2, 2007 and an enhanced MSS programme was put in place so as to restore LAF as a facility for equilibrating very short-term liquidity mismatches. Accordingly, effective March 5, 2007, daily reverse repo absorptions were limited to a maximum of Rs.3,000 crore each day comprising Rs.2,000 crore in the First LAF and Rs.1,000 crore in the Second LAF. As the year 2007-08 commenced, the Reserve Bank allowed State Development Loans (SDLs) as eligible securities under the LAF repo operations effective April 3, 2007. In view of the prevailing liquidity conditions, the Reserve Bank withdrew the ceiling of Rs.3,000 crore on daily reverse repo under the LAF effective August 6, 2007, while retaining the discretion to re-impose a ceiling as appropriate. The second LAF, which was

**MONETARY POLICY OPERATIONS**

**Table 3.4: Monthly Primary Liquidity Flows and Open Market Operations**

(Rupees crore)

Month	RBI's Net Foreign Currency Assets #			Net Repos under the LAF			RBI's Initial Subscription @	Net Open Market Operations			Market Stabilisation Scheme		
	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09		2005-06	2006-07	2007-08	2008-09	2006-07	2007-08
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Apr	20,832	11,935	15,059	-40,555	-19,189	-83,115	0	-112	-313	-111	4,786	-12,951	-4052
May	4,781	8,138	9,447	-9,440	-5,306	3,155	0	-1,303	-680	-54	-3,541	-11,395	-2918
Jun	2,494	27,655	-8,971	26,935	-7,687	34,610	0	-121	-252	8,860	-5,307	4,702	929
Jul	2,556	25,219	-33,674	-15,760	-3	29,325	0	-968	-664	9,488	-4,603	-2,410	2,993
Aug	2,993	38,817		16,080	-13,855		0	5	-498		-2,205	-21,407	
Sep	5,399	54,039		28,075	22,925		0	-214	-398		-2,133	-25,039	
Oct	4,031	52,372		-10,355	-24,205		0	-233	-531		1,973	-42,804	
Nov	17,066	29,994		-3,725	9,425		0	-131	-146		2,174	-1,104	
Dec	10,536	18,521		36,275	31,080		0	-24	4597		-832	12,716	
Jan	9,478	45,251		-8,470	-34,305		0	-555	680		-1,742	1,607	
Feb	47,268	38,428		-6,650	3,850		0	-60	2321		74	-14,031	
Mar	37,167	20,181		24,025	58,435		10,000	-1,409	1809		-22,557	6,697	
<b>Total</b>	<b>1,64,601</b>	<b>3,70,550</b>	<b>-18,139</b>	<b>36,435</b>	<b>21,165</b>	<b>-16,025</b>	<b>10,000</b>	<b>-5,125</b>	<b>5,923</b>	<b>18,183</b>	<b>-33,913</b>	<b>-1,05,419</b>	<b>-3,048</b>

# : Adjusted for revaluation.

+ : Indicates injection of liquidity into the banking system.

- : Indicates absorption of liquidity from the banking system.

@ : From April 2006 onwards, the Reserve Bank has stopped participating in the primary market for Government securities in line with the stipulations of the Fiscal Responsibility and Budget Management (FRBM) Act, 2003.

**Note** : Data based on March 31 for March and last reporting Friday for all other months.

introduced from November 28, 2005 and was conducted between 3:00 pm and 3:45 pm on a daily basis, was also withdrawn with effect from August 6, 2007. In view of the large and continuous capital inflows, the Government of India, in consultation with the Reserve Bank, revised the ceiling for the MSS for the year 2007-08 by successively raising it to Rs. 2,50,000 crore from the initial limit of Rs. 80,000 crore. This was in consonance with the modified arrangement of the Reserve Bank's liquidity management to enhance the MSS programme and use it more flexibly keeping in view the capital flows in the recent periods, and to restore LAF as a facility for equilibrating very short-term mismatches.

III.42 During the first quarter of 2007-08, liquidity pressures eased gradually from April 4, 2007 onwards partly on account of reduction in the Centre's cash balances from Rs.50,092 crore at end-March 2007 to Rs.32,023 crore by mid-April 2007. Consequently, the amount injected through LAF declined. Liquidity was, in fact, absorbed under the LAF during April 9-15, 2007. The absorption under reverse repo, however, remained limited within the ceiling of Rs.3,000 crore as per the modified arrangements. From mid-April 2007 onwards, liquidity conditions tightened, partly due to the two stage hikes of 25 basis points each in the CRR effective from

the fortnights beginning April 14, 2007 and April 28, 2007, leading to daily net injection of liquidity averaging Rs.9,629 crore during April 16-May 27, 2007 (Chart III. 2). Liquidity pressures started easing from May 28, 2007 and conditions remained comfortable during the remaining part of the quarter, reflecting increase in Government expenditure and the Reserve Bank's purchase of foreign exchange from authorised dealers (Table 3.5). The cash balances of the Central Government again turned into deficit on June 29, 2007, reflecting the transfer of the Reserve Bank's stake in the State Bank of India (SBI) to the Central Government. Outstanding balances under the MSS rose from Rs. 62,974 crore at end-March 2007 to Rs 81,137 crore on June 29, 2007, reflecting the enhanced MSS programme as announced on March 2, 2007.

III.43 During the second quarter of 2007-08, the Reserve Bank continued to absorb liquidity under the LAF. Absorption under the LAF window which began on May 28, 2007 continued up to July 2007 except for the transient period between June 28-July 2, 2007. Sustained capital inflows and the decline in Central Government balances towards the end of the first quarter of 2007-08 were reflected in the large absorption of liquidity of Rs. 52,070 crore on August 6, 2007 through reverse repo after the withdrawal of

### Box III.2 Challenges to Liquidity Management

Central banks have a framework and a set of instruments to manage liquidity, consistent with the ultimate goals of monetary policy (Bindseil, 2000). The importance of liquidity management lies in the central bank's ability to exercise considerable influence and control over interest rates through its market operations. In this regard, the central bank may directly set at least one of the short-term interest rates that acts as its policy rate. By controlling the short-term interest rate while letting markets determine the rest of the yield curve, the central bank attempts to transmit monetary policy impulses across the yield curve. The sovereign yield curve, in turn, influences the lending and deposit rates in the economy. Once bank lending gets affected, interest rates have an impact on real variables such as consumption and investment, which, in turn, has a bearing on output and inflation. So while active liquidity management has a localised objective of keeping short-term interest rates range bound, it also has a long-term objective of implementing the ultimate goals of monetary policy (Mohan, 2006).

While market operations in most advanced economies are conducted in a setting where the economy is perennially in a liquidity shortage mode, liquidity management in emerging markets is more varied, with alternating surplus and shortage conditions and with greater fluctuations in their external accounts. In recent years, capital flows have been a major factor affecting liquidity management in a large number of emerging market economies facing considerable volatility in flows. In a situation where flows exceed the current account deficit, it results in accumulation of foreign exchange reserves. However, unsterilised capital inflows can result in inflation, currency appreciation, loss of competitiveness and attenuation of monetary control. Even when these flows are sterilised through open market operations, the costs could be large as sterilisation operations raise domestic interest rates thereby inducing even greater inflows. Moreover, the fiscal cost of sterilisation could also be high.

Typically, countries contending with the pressures of large and volatile capital flows face the challenge of the impossible trinity. There are several instances of countries getting into problems in trying to solve the trilemma when faced with opportunities for benefiting from global asset portfolio allocations (Obstfeld *et al.*, 2004). Generally, countries seek to retain their monetary policy independence and keep their exchange rates stable. With greater financial openness, many countries have to move towards greater exchange rate flexibility or accept the primacy of global capital market integration over their own monetary policy goals, which, however, entail some cost.

Cross-country experiences in managing capital flows are varied and diverse. Croatia faced surplus liquidity largely on account of FDI inflows, which resulted in higher growth of monetary aggregates. As a result, the Croatian National Bank (CNB) was forced to rely on reserve requirements in order to absorb excess liquidity. In Mexico, the challenge of moderating the impact of capital flows was met by keeping marginal liquidity short through open market operations. While it did help in avoiding some of the ill-effects associated with the surplus, the operating framework provided confusing signals and the transmission channels became blurred. In Pakistan, managing surplus liquidity arising from large direct investment flows met with limited success. On the

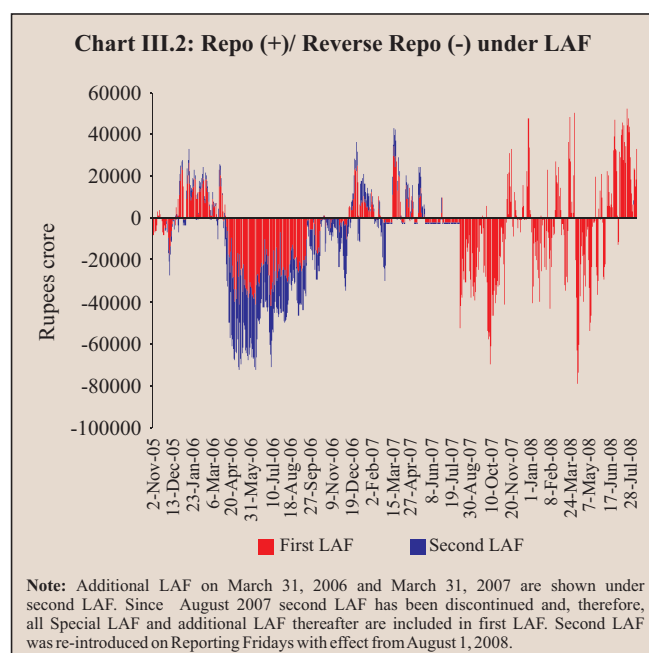
other hand, the Russian experience has been a mixed one. As the magnitude of foreign flows has been extraordinarily large in emerging market economies (EMEs), market operations are not adequate in addressing the fundamental problem (Saggar, 2006). In Asia, China and Korea have resorted to increasing reserve requirements while issuing central bank bonds to absorb liquidity from the banking system. Measures directly aimed at managing capital flows were initiated in Thailand through the imposition of unremunerated reserve requirements (URR) on most capital inflows, requiring them to be deposited with the central bank for one year. However, the URR stands withdrawn at present. In the same vein, Colombia introduced a URR on external borrowing to be held for six months in the central bank. Additionally, a new ceiling on the foreign exchange position of banks, including gross positions in derivative markets, was stipulated to limit the circumvention of the URR and banks' exposure to counterparty risk (RBI, 2008). Finally, Chile and Brazil's central banks bought large amounts of inflows from the spot market to add to their reserves and also conducted sizeable operations in the forward markets.

In the wake of unprecedented capital inflows in the recent period, the Indian experience with liquidity management has been unique in several ways. First, unlike in several countries, the RBI Act does not permit the monetary authority to float its own securities. Second, a combination of several instruments, *viz.*, the LAF window, outright open market operations, market stabilisation scheme (MSS) and CRR is used for liquidity management. In this regard, the MSS has helped the monetary authorities in managing alternating liquidity cycles of surpluses and deficits. The Reserve Bank has now assigned the task of day-to-day liquidity management to LAF, while using MSS for addressing semi-durable liquidity mismatches. Third, liquidity management is presently done on a burden sharing basis where the cost of sterilisation operations are shared by all stakeholders, *i.e.*, the Government in case of MSS, the Reserve Bank in case of LAF reverse repo and the banking system in case of CRR. Fourth, monetary measures are supplemented by regulatory and prudential measures whereby calibrated deceleration in credit to sensitive sectors were brought about through changes in risk weight and provisioning norms. Fifth, by adopting a more gradual and a phased approach towards capital account liberalisation, it has been possible to sustain capital inflows on a more stable basis even with the imposition of temporary capital controls.

#### References

1. Bindseil, U. (2000), "Central Bank Liquidity Management: Theory and Practice", April, European Central Bank.
2. Mohan, R (2006): "Coping With Liquidity Management in India: A Practitioner's View" *Reserve Bank of India Bulletin*, April.
3. Obstfeld, M, Shambaugh, J.C. and A.M. Taylor (2004): "The Trilemma in History: Tradeoffs Among Exchange Rates, Monetary Policies and Capital Mobility", *NBER Working Paper* No.10396.
4. Reserve Bank of India (2008): Annual Policy Statement for the Year 2008-9, April 29.
5. Saggar, M (2006): "Monetary Policy and Operations in Countries with Surplus Liquidity", *Economic and Political Weekly*, March 18.

## MONETARY POLICY OPERATIONS



the ceiling on reverse repo. The large absorption under reverse repo declined gradually with the increase in cash balances of the Central Government from of the second week of August and the impact of

increase in CRR by 50 basis points to 7.0 per cent effective from the fortnight beginning August 4, 2007. The outstanding amount of MSS reached Rs.1,06,434 crore on August 31, 2007 from Rs.92,954 crore on August 3, 2007. Subsequently the liquidity started building up during August 28-September 13, 2007, on account of decline in Central Government cash balances with the Reserve Bank. Advance tax outflows from the banking system to the Government in mid-September resulted in decline in absorptions under the LAF. The Reserve Bank, in fact, injected liquidity through LAF operations on September 21, 2007 (Rs.1,200 crore) for the first time in this quarter, and subsequently once more on September 28, 2007.

III.44 The third quarter of 2007-08 began with somewhat easy liquidity conditions, reflecting some decline in Central Government surplus and net purchase of foreign exchange by the Reserve Bank. The average daily net absorption by the Reserve Bank through LAF operations was Rs.36,665 crore during October 2007. The continued upsurge in

**Table 3.5: Reserve Bank's Liquidity Management Operations**

(Rupees crore)

	2004-05	2005-06	2006-07	2007-08	2007-08			
					Q1	Q2	Q3	Q4
1	2	3	4	5	6	7	8	9
<b>A. Drivers of Liquidity (1+2+3+4+5)</b>	<b>59,268</b>	<b>-31,696</b>	<b>62,278</b>	<b>2,04,026</b>	<b>51,146</b>	<b>1,11,169</b>	<b>-1,984</b>	<b>43,695</b>
1. RBI's net purchases from								
Authorised Dealers	91,105	32,884	118,994	3,12,054	39,791	1,00,896	88,545	82,822
2. Currency with the Public	-40,892	-57,256	-69,786	-84,571	-12,946	9,465	-47,422	-33,667
3. Surplus cash balances of the								
Centre with the Reserve Bank	467	-22,726	-1,164	-26,594	49,992	-30,771	-49,820	4,005
4. WMA and OD	0	0	0	0	15,159	-15,159	0	0
5. Others (residual)	8,589	15,403	14,234	3,137	-40,850	46,739	6,712	-9,465
<b>B. Management of Liquidity (6+7+8+9)</b>	<b>-57,896</b>	<b>57,969</b>	<b>-24,257</b>	<b>-1,17,743</b>	<b>-53,943</b>	<b>-68,621</b>	<b>-11,189</b>	<b>16,010</b>
6. Liquidity impact of LAF								
Repos	15,315	12,080	36,435	21,165	-20,290	-2,825	27,795	16,485
7. Liquidity impact of OMO (Net) *	0	10,740	720	13,510	10	40	5,260	8,200
8. Liquidity impact of MSS	-64,211	35,149	-33,912	-1,05,419	-18,163	-50,336	-28,244	-8,675
9. First round liquidity impact due to CRR change	-9,000	0	-27,500	-47,000	-15,500	-15,500	-16,000	0
<b>C. Bank Reserves (A+B) #</b>	<b>1,372</b>	<b>26,273</b>	<b>38,021</b>	<b>86,283</b>	<b>-2,797</b>	<b>42,548</b>	<b>-13,173</b>	<b>59,705</b>

WMA : Ways and means advances. OD: Overdraft.

(+) : Indicates injection of liquidity into the banking system.

(-) : Indicates absorption of liquidity from the banking system.

# : Includes vault cash with banks and adjusted for first round liquidity impact due to CRR change.

\* : Adjusted for Consolidated Sinking Funds (CSF) and including private placement.

**Note :** Data pertain to March 31 and last Friday for all other months.

capital inflows necessitated upward revisions in the ceiling for the MSS to Rs. 2,00,000 crore on October 4, 2007 and further to Rs. 2,50,000 crore on November 7, 2007. Liquidity conditions came under stress towards the end of October and early part of November 2007 on account of festival season currency demand and increase in surplus of the Central Government with the Reserve Bank. Liquidity conditions tightened reflecting the hike in CRR by 50 basis points in November 2007 and increase in surplus cash balances of the Central Government. The Reserve Bank, therefore, had to inject liquidity; the average daily net liquidity injection under LAF was at Rs. 10,341 crore during November 12-30, 2007. The investment of Central Government surplus cash balances in dated securities (up to Rs. 20,000 crore), which was temporarily suspended between October 4, 2007 and November 19, 2007, was restored with tightening of liquidity conditions. The tightness in liquidity conditions continued in December 2007 largely on account of quarterly advance tax outflows. Average daily net injection under the LAF amounted to Rs. 10,804 crore in December 2007.

III.45 Some easing of the liquidity conditions was observed in the beginning of the last quarter of 2007-08 on account of reduction in the surplus cash balances of the Central Government and foreign exchange operations by the Reserve Bank in the wake of large capital flows over the period. Keeping in view the evolving liquidity conditions, auction of dated securities under the MSS was resumed in January 2008, after a gap of two-and-half months. However, in the second-half of January 2008, surplus liquidity declined with the increase in Centre's cash balances with the Reserve Bank. The average daily net liquidity absorption through LAF was Rs. 15,692 crore during January 2008. During February 2008, the LAF window shifted from absorption to injection mode on account of further increase in surplus cash balances of the Central Government with the Reserve Bank. The average daily net liquidity injection was Rs. 1,294 crore in February 2008. In view of the

prevailing liquidity conditions, no auction under the MSS was conducted from the middle of the month. The liquidity conditions eased in the beginning of March 2008 due to reduction in the surplus cash balances of the Centre and purchase of securities under the OMO<sup>1</sup> by the Reserve Bank. The absorption under the LAF was Rs. 30,335 crore as on March 13, 2008.

III.46 Liquidity conditions tightened from March 17, 2008 in view of advance tax outflows and the concomitant increase in the Centre's surplus from Rs. 66,241 crore on March 14, 2008 to Rs. 1,03,645 crore on March 28, 2008. The Reserve Bank, in anticipation of the usual schedule of advance tax outflows and demand for funds at the end-of-the financial year, made additional arrangements for smoothening the liquidity and conducted (i) three-day repo/reverse repo auctions under additional LAF on March 14, 2008; (ii) seven-day repo auction under additional LAF on March 17, 2008; and (iii) two-day repo/reverse repo auctions under additional LAF on March 31, 2008. The Reserve Bank injected Rs. 50,350 crore on March 31, 2008 through its LAF operation (Table 3.6). The average daily net outstanding liquidity injection was Rs. 8,271 crore during March 2008.

III.47 During 2007-08, the Reserve Bank injected liquidity through repo operations on 86 days (64 days in 2006-07), while it absorbed liquidity through reverse repo on 225 days (244 days in 2006-07) (Table 3.7). There was net injection of liquidity on 75 days and net absorption on 171 days during 2007-08 (48 days and 197 days, respectively, during 2006-07). No bid was received on November 26, 2007 under repo/reverse repo window of the LAF.

III.48 Liquidity conditions eased from the beginning of April 2008, mainly due to substantial reduction in the cash balances of the Central Government. On a review of the liquidity situation, the Reserve Bank on April 17, 2008 announced a two-stage hike of CRR by 25 basis points each to 8.0 per cent, effective from the fortnights beginning from April 26, 2008 and

<sup>1</sup> During 2007-08, the total amount of Central Government securities purchased under OMO was Rs. 13,510 crore. The OMO operations are liquidity neutral up to the amount of redemption of Government securities in the portfolio of the Reserve Bank.

**MONETARY POLICY OPERATIONS**

**Table 3.6: Reserve Bank's Holdings of Central Government Dated Securities**

(Rupees crore)

Year	Devolvement on Reserve Bank	Private Placement taken by Reserve Bank	OMO Purchases by Reserve Bank	Conversion of Special Securities into Dated Securities	Total Addition to Stock of Reserve Bank's Investments (2+3+4+5)	Open Market Sales by Reserve Bank	Net Addition to Stock (6-7)	Outstanding Holding by Reserve Bank (end period) *	Memo: Net Repo (+)/ Reverse Repos (-) Out-standing #
1	2	3	4	5	6	7	8	9	10
1996-97	3,698	-	623	-	4,321	11,206	-6,885	6,666	-2,300
1997-98	7,028	6,000	467	20,000	33,495	8,081	25,414	31,977	-4,202
1998-99	8,205	30,000	-	-	38,205	26,348	11,857	42,212	-400
1999-00	-	27,000	1,244	-	28,244	36,614	-8,370	35,190	-
2000-01	13,151	18,000	4,471	-	35,622	23,795	11,827	41,732	-1,355
2001-02	679	28,213	5,084	-	33,976	35,419	-1,443	40,927	-4,355
2002-03	5,175	31,000	-	40,000	76,175	53,780	22,395	55,438	-2,415
2003-04	-	21,500	-	61,818	83,318	41,849	41,469	77,397	-34,645
2004-05	847	350	-	-	1,197	2,899	-1,702	80,770	-19,330
2005-06	-	10,000	740	-	10,740	4,653	6,087	83,205	-7,250
2006-07	-	-	720	-	720	5,845	-5,125	75,537	29,185
2007-08	-	-	13,510	-	13,510	7,587	5,293	68,965	50,350

\*: Inclusive of securities sold under the LAF. # : Data pertain to end-March.

May 10, 2008, respectively. Auctions under MSS were resumed and the balances under MSS stood at Rs.1,72,444 crore as on April 25, 2008. The daily average net outstanding liquidity absorption under LAF was Rs.26,359 crore during April 2008. The Annual Policy Statement issued on April 29, 2008 announced further increase in CRR by 25 basis points to 8.25 per cent with effect from the fortnight beginning May 24, 2008. Reflecting the impact of the CRR hikes, average daily net absorption under LAF declined to Rs.11,841 crore during May 2008. No auctions of dated securities under MSS was conducted during May 2008. Liquidity conditions eased in the early part of June and the average daily net absorption under the LAF was placed at Rs.15,469 crore during June 1-9, 2008.

III.49 On a review of the prevailing macroeconomic and overall monetary conditions and with a view to containing inflationary expectations, the Reserve Bank increased the repo rate under the LAF by 25 basis points to 8 per cent with effect from June 12, 2008. Subsequently, with the build-up in Central Government balances in the face of advance tax collections, liquidity conditions turned into a deficit mode and the average daily net injection under LAF during June 10-27, 2008 was Rs.17,288 crore. With a view to containing demand pressures, as reflected in the increase in inflation and inflationary

expectations, engendered by unrelenting pressures from international commodity prices, particularly crude and metals, the Reserve Bank increased the repo rate under LAF by 50 basis points to 8.5 per cent with effect from June 25, 2008 and also increased the CRR by 50 basis points to 8.75 per cent in two stages (25 basis points each) with effect from the fortnights beginning July 5 and July 19, 2008, respectively. No MSS auction was conducted during June 2008. The average daily net injection through the LAF during June was Rs. 8,622 crore.

III.50 Liquidity conditions eased during the first week of July mainly on account of a decline in the cash balances of the Central Government but tightened significantly thereafter reflecting the two stage hike in CRR announced in the previous month. The average daily net liquidity injection during July 2008 was at Rs.27,961 crore. Auctions under the MSS were resumed in July 2008 and the outstanding balance under the MSS was placed at Rs.1,71,327 crore as on July 25, 2008. In response to suggestions from the market participants for fine-tuning the management of bank reserves on the last day of the maintenance period, Reserve Bank introduced a second LAF (SLAF) on reporting Fridays effective from August 1, 2008. Liquidity conditions remained tight during August 2008 so far. The average daily net injection under LAF was Rs. 22,928 crore during August 1-14, 2008.

Table 3.7 : Reverse Repo/Repo Bids under LAF

Year/ Month	Reverse Repo					Repo				
	No. of days bids were received	No. of days all bids were rejected	No. of days of full acceptance of bids	No. of days with less than full acceptance of bids	No. of days of partial acceptance of bids	No. of days bids were received	No. of days all bids were rejected	No. of days of full acceptance of bids	No. of days with less than full acceptance of bids	No. of days of partial acceptance of bids
1	2	3	4	5	6	7	8	9	10	11
<b>2004-05</b>	<b>242</b>	<b>0</b>	<b>242</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>0</b>
<b>2005-06</b>	<b>244</b>	<b>0</b>	<b>244</b>	<b>0</b>	<b>0</b>	<b>78</b>	<b>0</b>	<b>76@</b>	<b>2</b>	<b>0</b>
<b>2006-07</b>	<b>244</b>	<b>0</b>	<b>234</b>	<b>0</b>	<b>10</b>	<b>64</b>	<b>0</b>	<b>63@</b>	<b>1</b>	<b>0</b>
<b>2007-08</b>	<b>225</b>	<b>0</b>	<b>165</b>	<b>0</b>	<b>60</b>	<b>86</b>	<b>0</b>	<b>86</b>	<b>0</b>	<b>0</b>
April	19	0	11	0	8	15	0	15	0	0
May	21	0	12	0	9	14	0	14	0	0
June	21	0	2	0	19	2	0	2	0	0
July	21	0	0	0	21	0	0	0	0	0
August	21	0	18	0	3	0	0	0	0	0
September	19	0	19	0	0	2	0	2	0	0
October	22	0	22	0	0	0	0	0	0	0
November	11	0	11	0	0	12	0	12	0	0
December	13	0	13	0	0	13	0	13	0	0
January	23	0	23	0	0	7	0	7	0	0
February	20	0	20	0	0	11	0	11	0	0
March	14	0	14	0	0	10	0	10	0	0
<b>2008-09</b>	<b>48</b>	<b>0</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>0</b>
April	18	0	18	0	0	1	0	1	0	0
May	19	0	19	0	0	7	0	7	0	0
June	6	0	6	0	0	16	0	16	0	0
July	5	0	5	0	0	21	0	21	0	0

@ : Number of days of full acceptance of bid was less than the number of days bids were received on account of non-acceptance of one bid each on technical grounds on January 24, 2006, March 23, 2006 and April 4, 2006.

**Note:** 1. With effect from October 29, 2004, the nomenclature of repo and reverse repo was changed in keeping with international usage. Now, reverse repo indicates absorption of liquidity and repo signifies injection of liquidity. Prior to October 29, 2004, repo indicated absorption of liquidity while reverse repo meant injection.

2. With effect from November 28, 2005, the data are inclusive of the Second LAF. The Second LAF was discontinued from August 6, 2007. Second LAF was re-introduced on Reporting Fridays with effect from August 1, 2008.

3. Between March 5 and August 5, 2007, daily reverse repo absorptions were restricted to a maximum of Rs. 3,000 crore comprising Rs.2,000 crore in the First LAF and Rs. 1,000 crore in the Second LAF.

III.51 Keeping in view the systemic implications of the liquidity and other related issues faced by Public Sector Oil Companies arising from the unprecedented escalation in international crude oil prices, the Reserve Bank announced Special Market Operation (SMO) on May 30, 2008, for the smooth functioning of financial markets and for overall financial stability. These operations commenced from June 5, 2008. Under SMO, the Reserve Bank conducted open market operation (outright or repo at its discretion) in the secondary market through designated banks in oil bonds held by public sector oil marketing companies in their own accounts subject to an overall ceiling of Rs.1,500 crore (revised

upwards from Rs.1,000 crore on June 11, 2008) on any single day, and provided equivalent foreign exchange through designated banks at market exchange rate to the oil companies. The settlement of the foreign exchange and the Government securities legs of the operations were synchronised so that there was no liquidity impact. These operations were *ad hoc*, temporary and exceptional in nature and were subject to review on a continuous basis. The total amount of oil bonds purchased by the Reserve Bank under SMO aggregated Rs.19,325 crore. The SMO was an exceptional measure taken in the interest of financial stability. It was terminated effective August 8, 2008.