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

III MONETARY POLICY OPERATIONS

Fundamental institutional changes impacted monetary policy in India following the amendment to the Reserve Bank of India (RBI) Act, 1934, effected on June 27, 2016. The policy rate was reduced by 50 bps during 2016-17 and the policy stance shifted from accommodative to neutral in February 2017. Even as inflation undershot the target of 5 per cent set for Q4 of 2016-17, monetary policy operations had to contend with massive surplus liquidity conditions, necessitating a mix of conventional and unconventional instruments of liquidity management. In spite of faster transmission of policy rate changes to marginal cost of funds based lending rates (MCLRs), pass-through to actual lending rates remained incomplete.

III.1 The conduct of monetary policy in India underwent a fundamental institutional reform during the year 2016-17 in an environment fraught with several challenges. Bouts of turbulence ricocheting through global financial markets, volatility in global crude oil prices, risk-laden political climate globally, a distinctive break in inflation formation in the domestic economy, demonetisation and its side-effects, and new data releases that overtook perceptions of the state of the economy – all of these developments impacted the setting of monetary policy with different degrees of intensity and duration. In this unsettled milieu, the agenda set for the year was accomplished. The inflation target of 5 per cent for Q4 of 2016-17 was achieved with a sizable undershoot as in the preceding two years underscoring how extraordinary and intense 'tail' events, especially the food price dynamics, have overwhelmed the trajectory of inflation in India. The agenda for 2017-18 will be guided by the mandate as enshrined in the RBI Act, 1934 "to maintain price stability, while keeping in mind the objective of growth". The materialisation of the path of monetary policy's goal variable, *viz.*, headline consumer price inflation at 4.0 per cent with a ± 2 per cent tolerance band, and how it relates to the conditional policy forecasts in numerical terms is the recurring theme of the narrative of this chapter. Even as inflation outcomes were falling off cliffs during the year, the monetary policy framework was undergoing a regime shift.

III.2 Parliament amended the RBI Act to accord primacy to inflation as the goal of monetary policy in India, while keeping in mind the objective of growth. Subsequent notification in the Gazette of India defined the goal. A Monetary Policy Committee (MPC) was constituted and enjoined to make the monetary policy decision under explicitly laid out process of transparency and accountability. The amended Act also required the Reserve Bank to set out in the public domain the operating procedure of monetary policy and changes therein from time to time that would secure the goals of monetary policy.

III.3 In accordance, a revised liquidity management framework was implemented in

April 2016 and published in the Monetary Policy Report (MPR), which became a statutory bi-annual requirement under the amended Act. The operating framework of monetary policy was further fine-tuned to enhance its effectiveness to achieve the medium-term target of 4 per cent – the centre of the target band – on a continuous basis. Operations under this framework are examined in the sub-section on *The Operating Framework: Liquidity Management* especially in the context of the exceptional swings in liquidity that have characterised the year gone by. Issues in the transmission of monetary policy impulses to actual lending rates in the economy, particularly those lost to structural impediments (Box III.1) are addressed in sub-section on *Monetary Policy Transmission*. Finally, the chapter sets out an agenda that will guide the formulation and implementation of monetary policy in 2017-18 in pursuit of the mandate of price stability, keeping in mind the objective of growth.

Agenda for 2016-17: Implementation Status

Monetary Policy

III.4 The first bi-monthly monetary policy statement for 2016-17 issued in April was formulated to subserve an accommodative policy stance. The key policy repo rate was cut by 25 bps to 6.5 per cent, its lowest since March 2011. Given the weak state of domestic demand relative to potential, the policy rate reduction was expected to help in reviving investment activity. By the time of the second bi-monthly monetary policy statement in June 2016, inflation readings showed a sharper-than-anticipated upsurge, driven primarily by food prices, interrupting the phase of policy rate reductions signalled in April. Accordingly, the policy rate was left unchanged while persevering with an accommodative stance, as further clarity from incoming data was awaited on the evolving inflation trajectory.

III.5 Amendments to the RBI Act, which came into force on June 27, 2016, provided the legislative mandate to the Reserve Bank to operate the monetary policy framework of the country with the primary objective explicitly defined to "*maintain price stability while keeping in mind the objective of growth*". While the monetary policy objective of price stability has been explicitly specified in terms of the commitment to meet the inflation target based on the headline Consumer Price Index (CPI), the factors that constitute a failure to achieve the inflation target, *i.e.*, if the average inflation is more (less) than the upper (lower) tolerance level for three consecutive quarters, have also been defined and notified in the official Gazette. To operationalise this mandate, the Government, on August 5, 2016, notified the inflation target as four per cent year-on-year growth in CPI-Combined inflation, with upper and lower tolerance levels of six per cent and two per cent, respectively.

III.6 The amended RBI Act also provided for the constitution of a six member MPC. As per the amended RBI Act, the MPC would be entrusted with the task of fixing the benchmark policy rate (repo rate) required to contain inflation within the specified target level. Out of the six members of the MPC, three members would be from the Reserve Bank and the other three members would be appointed by the central government. The three external members would hold office for a period of four years. The MPC is stipulated to hold meetings at least four times a year. To ensure transparency of the MPC proceedings, the amended RBI Act prescribes for attributing the vote of each member of the MPC. It also requires each member of the MPC to write a statement specifying the reasons for voting in favour of, or against the proposed resolution. At the end of each meeting, the MPC would publish the resolution adopted by the

Committee. On the fourteenth day after every meeting of the MPC, the minutes of the meeting containing the resolution adopted at the meeting of the MPC, the vote of each member of the MPC ascribed to such member, and the statement of each member of the MPC are required to be put out in the public domain. In the case of failure to meet the target, wherein the average inflation remains more (less) than the upper (lower) tolerance level of the inflation target for any three consecutive quarters, the Reserve Bank would have to explain in a report to the central government setting out the reasons for failure to achieve the inflation target; the remedial actions proposed to be taken by the Reserve Bank; and an estimate of the time period within which the inflation target would be achieved.

III.7 The amended RBI Act also requires the publication of MPR, once in every six months, explaining the sources of inflation; and the forecasts of inflation for the period between six to eighteen months from the date of publication of the document. The Reserve Bank has been publishing the MPR since September 2014.

III.8 The third bi-monthly monetary policy statement of August 2016 kept the policy repo rate unchanged, assessing that risks to the inflation target of 5 per cent for March 2017 still remained on the upside, given the implications of the 7th Central Pay Commission's (CPC's) award on inflation trajectory and inflation expectations. Further, uncertainty on trajectory of inflation excluding food and fuel arose from the possibility of higher input price pressures and whether the then benign movement in crude prices would turn out to be transient, feeding to output prices as output gap continued to close. An upturn in inflation excluding food and fuel on account of these factors, possibly even counterbalancing the benefit of the expected easing of food inflation, was also highlighted by the policy statement. However, the monetary policy stance continued to be accommodative with emphasis on pro-active liquidity management to enable faster pass-through of the past policy rate cuts to the banks' MCLRs.

III.9 Under the new framework, the six-member MPC constituted on September 29, 2016 met for the first time on October 3 and 4, 2016 in the context of the fourth bi-monthly monetary policy statement. Observing that space had opened up by the moderating trajectory of inflation, underpinned by the supply side measures taken by the Government, the MPC unanimously voted for a reduction in the key policy rate by 25 bps. The steady improvement in liquidity conditions from deficit at the beginning of the year to surplus by July 2016, under the modified liquidity management framework, helped transmit the policy rate reduction to various segments of the market. The MPC assessed that inflation would remain within 5 per cent by Q4 of 2016-17, though potential cost-push pressures, including the impending 7th CPC's award on house rent allowances, and the increase in minimum wages with potential spillovers to minimum support prices, were flagged as upside risks to inflation.

III.10 The MPC's meeting of December 6 and 7, 2016 for the fifth bi-monthly monetary policy statement was overcast by heightened uncertainty around the outlook for growth and inflation in the aftermath of demonetisation. In the MPC's view, short-run disruptions in economic activity in cash-intensive sectors were likely to be transitory, given the war-time drive launched by the Reserve Bank to restore the pre-demonetisation stock of currency in circulation by ramping up the circulation of new currency notes, alongside the greater usage of non-cash based payment

instruments in the economy. The large surplus liquidity following the demonetisation in November 2016, was also considered transitory in view of liquidity management operations targeted at restoring system-level liquidity to a position closer to neutrality. Accordingly, the MPC unanimously decided to keep policy repo rate unchanged, while continuing with an accommodative policy stance.

III.11 In the sixth bi-monthly monetary policy statement of February 8, 2017, the MPC judged that growth would recover sharply in 2017-18 on account of the following factors: (i) a resurgence of discretionary consumer demand, held back by demonetisation; (ii) quick revival of economic activity in cash-intensive sectors; (iii) pick-up in both consumption and investment demand as the demonetisation-induced ease in bank funding conditions leads to a sharp improvement in transmission of past policy rate reductions into MCLRs, and in turn, to lending rates for healthy borrowers; and (iv) the positive impact on growth of measures announced in the Union Budget for 2017-18 to step up capital expenditure, boost the rural economy and affordable housing. The MPC reiterated its commitment to bring headline inflation closer to 4.0 per cent on a durable basis and in a calibrated manner, noting that this required further significant decline in inflation expectations. While observing that the persistence of inflation excluding food and fuel could set a floor on further downward movements in headline inflation and trigger second-order effects, the MPC indicated that it needed more time to assess the manner in which the transitory effects of demonetisation on inflation and the output gap could play out. The committee decided to change the policy stance from accommodative to neutral while keeping the policy rate on hold.

III.12 The headline inflation target of 5.0 per cent for Q4 of 2016-17 undershot by around 140 bps largely driven by deflation in pulses and vegetables. The sustained decline in food prices since August 2016 has been unprecedented by historical patterns. The initial drop in food prices was driven by correction in prices of pulses and vegetables in response to supply management measures. Since November, collapse in vegetable prices across the board was driven by demand compression and fire sales of vegetables post demonetisation in a scenario of high seasonal supply. While the sharp decline in vegetable prices was expected to be transitory as effects of demonetisation fade, there was considerable uncertainty on the timing and the strength of the expected reversal, especially during the summer months. Pulses were expected to remain soft on the back of a sharp rise in production and imports.

III.13 In the first bi-monthly monetary policy statement for 2017-18 of April 6, 2017, the MPC held the policy repo rate unchanged at 6.25 per cent while persevering with a neutral policy stance. The statement observed that although CPI headline inflation fell to the then historic low in January 2017 due to sharp moderation in food inflation, inflation excluding food and fuel had remained relatively sticky since September 2016 and was significantly above the headline inflation. Though inflation was projected to be moderate in the first half of the year, significant upside risks remained in the form of uncertainty of monsoon, implementation of allowances under the 7th CPC even as moderation in crude prices and softening of food prices could help contain inflation impulses. Growth was projected to strengthen to 7.4 per cent in 2017-18 from 6.7 per cent in 2016-17. As the output gap could gradually close, aggregate demand pressures would build up, with implications for the inflation trajectory, which was projected to move up in the second half of the

year. In this context, the MPC noted that the future course of monetary policy would largely depend on incoming data and evolving macroeconomic conditions and underlined the need to closely and continuously monitor inflation developments.

III.14 The second bi-monthly monetary policy statement for 2017-18 of June 7, 2017 was overshadowed by inflation falling below 4.0 per cent in May 2017. While reiterating its commitment to keep headline inflation close to 4.0 per cent on a durable basis, the MPC took cognizance of the unusual softening of headline inflation on account of the sharp moderation in food inflation. Inflation projections were revised downwards to a range of 2.0-3.5 per cent in the first half of the year and 3.5-4.5 per cent in the second half of 2017-18. The Committee noted that the risk of fiscal slippages, which, by and large, could entail inflationary spillovers, had risen with the announcements of large farm loan waivers. This along with the global, political and financial risks materialising into imported inflation and the disbursement of allowances under the 7th CPC's award would be the upside risks. Given, however, the uncertainty surrounding the evolving inflation trajectory, especially for the near months, the MPC was of the view that premature monetary policy responses risk disruptive policy reversals later and the loss of credibility. The MPC's resolution underlined the need to revive private investment, restore banking sector health and remove infrastructural bottlenecks for monetary policy to play an effective role. Accordingly, the MPC decided to keep the policy repo rate unchanged at 6.25 per cent with a neutral stance while remaining watchful of the incoming data.

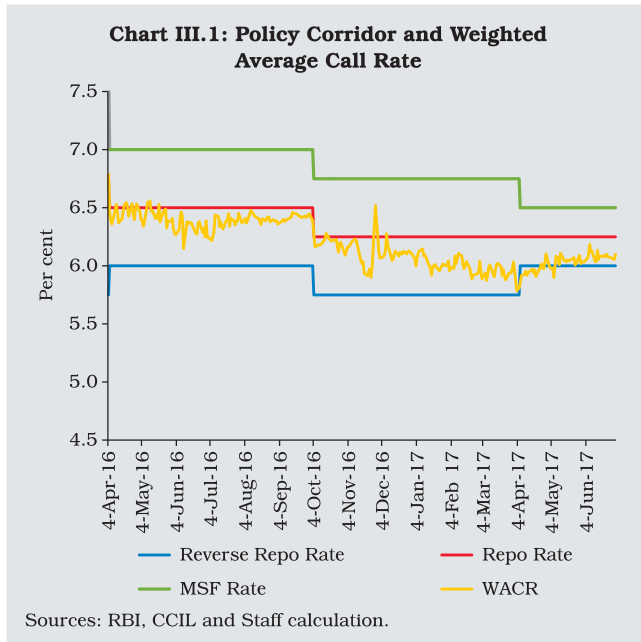
The Operating Framework: Liquidity Management

III.15 The operating framework of monetary policy aims at aligning the operating target – the weighted average call rate (WACR) – with the policy repo rate through proactive liquidity management consistent with the stance of monetary policy. Liquidity management during 2016-17 can be heuristically categorised into two distinct phases. First, active operations were launched to progressively move the *ex-ante* liquidity position in the system from deficit to closer to neutrality. Second, managing the post-demonetisation surge in surplus liquidity became an overriding priority, warranting unorthodox instruments to augment the arsenal of regular operations so as to prevent excessive softening of money market rates under the weight of the deluge of liquidity.

III.16 The liquidity management framework was modified in April 2016 in the first phase. The Reserve Bank proactively injected durable liquidity of ₹2.1 trillion during the year up to November 8, 2016 (*i.e.*, the pre-demonetisation period) in the form of open market purchase operations, net forex market operations, and buyback of government securities. As a result, the system level *ex-ante* liquidity position transited from a deficit of about ₹813 billion, on a daily average basis, in Q1 to a surplus of ₹292 billion in Q2 and ₹64 billion in Q3 (up to November 8, 2016).

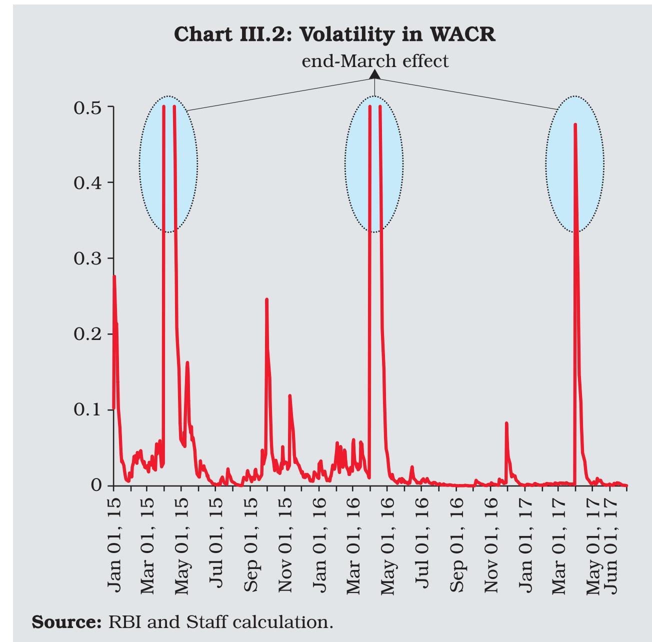
III.17 Two other changes under the modified liquidity management framework worked in combination to tightly anchor money market rates with the policy rate. First, the cash reserve ratio (CRR) maintenance requirement was reduced to a daily minimum of 90 per cent from 95 per cent earlier, which moderated banks' holdings of excess reserves. Second, the policy rate corridor was narrowed to +/-50 bps on April 5, 2016, on the back of assurance of both durable and frictional liquidity. This narrowed the spread of WACR *vis-à-vis* the repo rate and reduced its volatility (Charts III.1 and III.2). The Reserve Bank also ensured

Chart III.1: Policy Corridor and Weighted Average Call Rate



Sources: RBI, CCIL and Staff calculation.

Chart III.2: Volatility in WACR



Source: RBI and Staff calculation.

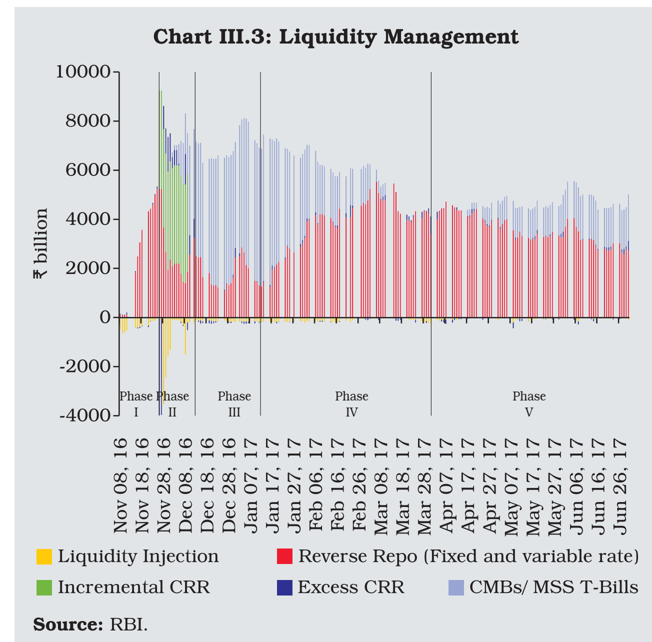
front-loading of adequate liquidity proactively in anticipation of potential pressure and market concerns arising out of scheduled redemptions of foreign currency non-resident (bank) [FCNR (B)] deposits. As a result, liquidity turned into surplus even prior to the announcement of demonetisation on November 8, 2016.

III.18 With regard to the unprecedented surge of surplus liquidity created by demonetisation, a mix of instruments was employed by the Reserve Bank at different points in time (Chart III.3). Each instrument has distinct advantages and disadvantages (Table III.1).

III.19 After demonetisation, currency in circulation declined by about ₹8,997 billion (up to January 6, 2017), which resulted in a large increase in surplus liquidity with the banking system, equivalent to a cut in the CRR by about 9 per cent. This, in turn, posed a formidable challenge to the Reserve Bank's liquidity management operations. Initially, conventional instruments, especially reverse repo auctions under the liquidity adjustment facility (LAF) window, were deployed to absorb surplus liquidity. Recognising, however, that these operations could potentially be constrained by the finite stock of domestic securities available with the Reserve Bank, a pre-emptive strategy was put in place involving two unconventional measures.

III.20 First, an incremental cash reserve ratio (ICRR) of 100 per cent on the increase in net

Chart III.3: Liquidity Management



Source: RBI.

Table III.1: Advantages and Disadvantages of Instruments for Absorbing Surplus Liquidity

Instruments	Advantages	Disadvantages
Incremental cash reserve ratio	Most effective in absorbing any amount of surplus liquidity without being constrained by collateral.	Unremunerated and therefore a cost to the banking system; not a market based instrument.
Securities issued under the MSS	This is a market based instrument and suitable for absorbing liquidity for a longer period relative to reverse repos under the LAF. Market participants prefer this instrument *vis-à-vis* reverse repo because of liquidity of the underlying instrument.	Requires timely consent of the Government of India. Can bid up yields due to repetitive auctions.
Open market (outright) operations – sales	Key market based indirect instrument for absorbing durable surplus liquidity; most effective indirect instrument.	Requires adequate stock of domestic securities in the portfolio of the Reserve Bank; large scale operations can potentially influence yields that may not be consistent with the stance of monetary policy.
Term reverse repo auctions	Provide flexibility in terms of responding to fast changing liquidity conditions on a daily basis; rollover option; simultaneous auctions of multiple tenor; can aid the development of the term money market.	Inadequate market appetite for longer-term auctions; may not prevent significant easing of WACR under persistently high surplus liquidity conditions; domestic securities available with the Reserve Bank can limit the use of term reverse repo.
Fine tuning overnight reverse repo auctions	Robust market appetite because of the ease of rollover; ideal instrument for managing frictional surplus liquidity.	Not suitable for dealing with large durable surplus; most effective not in isolation but when used in conjunction with other instruments.
Fixed rate reverse repo window (the floor of the LAF corridor)	Provides certainty to market participants about the surplus liquidity to be parked overnight at a rate that is known in advance. As there is no limit on the amount that could be parked, it prevents WACR falling below the lower bound of the corridor.	Extensive use can lead to excessive easing of the WACR relative to the repo rate within the LAF corridor; domestic securities available with the Reserve Bank can limit the amount of absorption; can lead to 'lazy' liquidity management by banks and thus effectively shift the money market on to the Reserve Bank's balance sheet.

demand and time liabilities (NDTL) of banks between September 16 and November 11, 2016 was applied. Second, the Government was requested to enhance the limit of securities issuable under the market stabilisation scheme (MSS) to ₹6,000 billion from ₹300 billion. Open market sales of cash management bills (CMBs) issued under the MSS were undertaken (from December 2, 2016 to January 13, 2017), which marked a departure from the original intent of the MSS of dealing with liquidity arising from surges in capital flows. The ICRR was withdrawn after the Reserve Bank's capacity to auction securities expanded under the enhanced MSS limit.

III.21 With fast paced remonetisation, surplus liquidity in the system declined by mid-January 2017. As a result, the Reserve Bank reverted to its conventional instruments – reverse repo auctions – and discontinued further issuances of MSS securities from January 14, 2017. All outstanding MSS securities matured by end-March 2017.

III.22 The post-demonetisation period has had five different phases of liquidity management (Chart III.3).

III.23 In the first phase (November 10 to November 25, 2016), the Reserve Bank extensively used variable rate reverse repos of tenors ranging from overnight up to 91 days. The outstanding amount of surplus liquidity absorbed through reverse repos (both variable rate and fixed rate auctions) reached a peak of ₹5,242 billion on November 25.

III.24 In the second phase (November 26 to December 9, 2016), 100 per cent ICRR was applied, which helped drain excess liquidity in the system to the extent of about ₹4,000 billion.

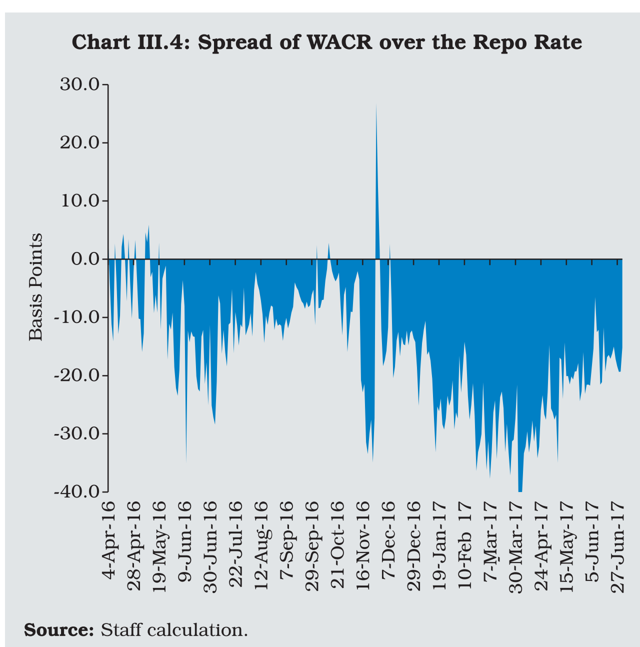
III.25 In the third phase (December 10, 2016 to January 13, 2017), the surplus liquidity was managed through a mix of reverse repos and issuances of CMBs under the MSS, with a gradually increased reliance on the latter. The peak net outstanding liquidity absorbed was ₹7,956 billion on January 4, 2017 (₹2,568 billion absorbed through reverse repos and ₹5,466 billion through CMBs).

III.26 In the fourth phase (January 14 to end-March 2017), the Reserve Bank returned to the conventional reverse repo operations as the key instrument to absorb surplus liquidity, particularly the liquidity released through the maturing CMBs under the MSS.

III.27 The usual year-end liquidity pressure stemming from banks' balance sheet adjustments and tax payments to the government did not lead to a very sharp spike in money market rates this time around due to the large post-demonetisation liquidity overhang. The absorption of liquidity surplus using reverse repos (at both fixed and variable rates) peaked at ₹5,522 billion on March 6, 2017. The surplus liquidity conditions continued in March, but net absorption of liquidity under the LAF declined to ₹3,141 billion by end-March, reflecting the build-up of cash balances by the Government and higher excess CRR maintained by banks.

III.28 In the fifth phase that began in April 2017 with the first auction of Treasury Bills (T-Bills) under the MSS, surplus liquidity was managed with a mix of issuance of T-Bills under the MSS and reverse repo auctions. Anticipating that the surplus liquidity conditions may persist through 2017-18, in April 2017 the Reserve Bank provided guidance on liquidity, which contained the following elements: (i) use of T- Bills and dated securities under the MSS up to ₹1 trillion; (ii) issuances of CMBs of appropriate tenors in accordance with the memorandum of understanding (MoU) with the Government of India to manage enduring surpluses due to government operations up to ₹1 trillion; (iii) open market operations with a view to moving system level liquidity to neutrality; and (iv) fine tuning reverse repo/repo operations to modulate day to day liquidity. The Reserve Bank auctioned T-Bills (tenors ranging from 312 days to 329 days) aggregating ₹1 trillion in April and May 2017.

III.29 The WACR – the operating target of monetary policy – traded at only about 15 basis points (bps) below the repo rate between November 9, 2016 and January 13, 2017 and about 27 bps below the repo rate on daily average basis between January 14 and March 31, 2017. While the WACR remained within the LAF corridor, the large deviation of the WACR from the policy repo rate during Q4 was mainly on account of exclusive reliance on reverse repos to absorb surplus liquidity arising out of maturing CMBs (Chart III.4). After narrowing of the LAF corridor to +/- 25 bps on April 6, 2017, the average spread of WACR below the repo rate declined to 17 bps in



June as compared with 31 bps and 21 bps in April and May, respectively.

Monetary Policy Transmission

III.30 The Reserve Bank reduced the policy repo rate by a cumulative 175 bps during January 2015 to June 2017. In response, banks reduced their weighted average domestic term deposit rate (WADTDR) by 126 bps during January 2015 to October 2016. The weighted average lending rate (WALR) on fresh rupee loans and outstanding rupee loans declined by 97 bps and 75 bps, respectively, during the same period. The reduction in the WADTDR was significantly higher than that in the lending rates (Table III.2).

III.31 Monetary transmission, however, improved significantly post-demonetisation. Buoyed by the surplus liquidity, the share of current account and saving account (CASA) deposits in aggregate deposits increased to 40.6 per cent as at end-

Table III.2: Deposit and Lending Rates of SCBs (Excluding RRBs)

(Per cent)

End-Month	Repo Rate	Term Deposit Rates		Lending Rates			
		Median Term Deposit Rate	WADTDR	Median Base Rate	WALR - Outstanding Rupee Loans	WALR - Fresh Rupee Loans	MCLR 1- Yr Median
1	2	3	4	5	6	7	8
Dec-2014	8.00	7.53	8.64	10.25	11.84	11.45	-
Mar-2015	7.50	7.49	8.57	10.20	11.76	11.07	-
Mar-2016	6.75	6.81	7.73	9.65	11.20	10.47	-
Apr-2016	6.50	6.65	7.64	9.65	11.23	10.59	9.45
June-2016	6.50	6.63	7.59	9.65	11.19	10.43	9.45
Sep-2016	6.50	6.52	7.41	9.65	11.13	10.35	9.35
Oct-2016	6.25	6.54	7.38	9.64	11.09	10.48	9.30
Dec-2016	6.25	6.22	7.19	9.64	11.07	10.12	9.15
Mar-2017	6.25	6.15	6.97	9.55	10.80	9.74	8.60
May-2017	6.25	6.08	6.86	9.50	10.66	9.84	8.55
June-2017	6.25	5.98	6.81	9.50	10.67	9.50	8.53
Variation (Percentage Points)							
Oct-16 over Dec-14	-1.75	-0.99	-1.26	-0.61	-0.75	-0.97	-
Oct-16 over Mar-16*	-0.50	-0.27	-0.35	-0.01	-0.11	0.01	-0.15
Jun-2017 over Oct-16	0.00	-0.56	-0.57	-0.14	-0.42	-0.98	-0.77

WADTDR: Weighted Average Domestic Term Deposit Rate. WALR: Weighted Average Lending Rate.
MCLR was introduced on April 1, 2016.
*: For MCLR, the period pertains to October 2016 over April 2016.
Source: Special Monthly Return VIAB, RBI and banks' websites.

Table III.3: Share of CASA Deposits in Aggregate Deposits

(Amount in ₹ billion)

Fortnight ended	Demand Deposits@	Time Deposits@	Saving Deposits	Aggregate Deposits	Share of CASA Deposits (in per cent)
1	2	3	4	5	6
18-Mar-16	6,874	59,530	23,930	90,333	34.1
28-Oct-16	7,175	62,295	26,673	96,143	35.2
31-Mar-17	10,135	61,774	32,022	1,03,931	40.6
23-Jun-17	8,356	62,586	31,034	1,01,976	38.6

@: Net of liabilities from saving account.
Source: Section 42 Banking Data, RBI.

March 2017 from 35.2 per cent at end-October 2016, before declining to 38.6 per cent on June 23, 2017 (Table III.3). As the cost of CASA deposits (3.2 per cent) is significantly lower than the WADTDR, the overall cost of borrowings declined, enabling banks to cut their lending rates. Banks also lowered their median term deposit rate by 56 bps during November 2016 to June 2017. As a result, the WALR on fresh rupee loans declined by 98 bps, while the WALR on outstanding rupee loans declined by 42 bps (up to June 2017).

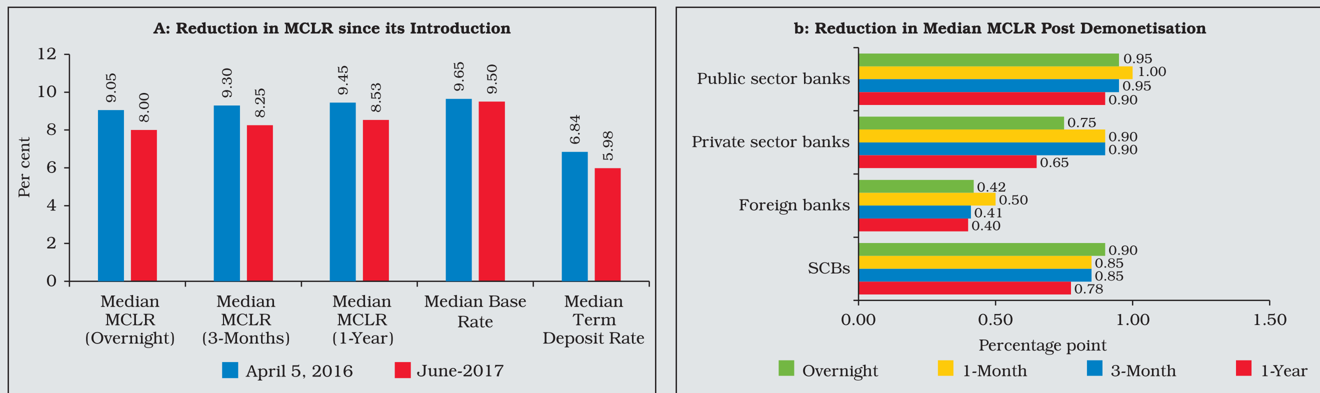
III.32 It is significant that the one-year median MCLR declined by a cumulative 77 bps from November 2016 to June 2017 even when the policy rate was unchanged. This is in sharp contrast to the decline in the median one-year MCLR by just 15 bps during the preceding seven months when the policy rate was cut by 50 bps. The largest reduction in MCLR post-demonetisation was effected by public sector banks, followed by private sector banks and foreign banks (Chart III.5).

Sectoral Lending Rates

III.33 Transmission was asymmetric across sectors, reflecting varied credit conditions and risk appetite. Since January 2015, lending rates across sectors, barring credit card segment, declined in the range of 15-238 bps, with the largest transmission taking place in the case of Rupee export credit (Table III.4).

III.34 Interest rates on fresh rupee loans declined significantly in respect of housing in personal loan

Chart III.5: Transmission to MCLR



Source: Special Monthly Return VIAB, RBI and respective banks' websites.

Table III.4: Sector-wise WALR of SCBs (Excluding RRBs) - Outstanding Rupee Loans
(at which 60 per cent or more business is contracted)

(Per cent)

End-Month	Rupee Export Credit	Trade	Industry (Large)	Profes-sional Services	Infra-struc-ture	Personal-Other@	Personal Education	MSMEs	Personal Housing	Personal Vehicle	Agricul-ture	Per-sonal Credit Card
1	2	3	4	5	6	7	8	9	10	11	12	13
Dec-14	12.16	13.09	12.95	12.39	13.05	14.24	12.90	13.05	10.76	11.83	10.93	37.86
Mar-15	12.04	13.07	12.80	12.46	12.89	13.94	12.87	12.91	10.99	11.62	10.96	37.88
Mar-16	11.46	12.50	12.36	11.81	12.06	13.90	12.48	12.25	10.56	11.65	10.74	38.00
Jun-16	11.17	11.99	12.17	11.64	12.20	13.96	12.32	12.08	10.50	11.39	10.77	38.26
Sep-16	10.54	11.91	11.68	11.65	12.07	12.89	12.09	12.18	10.01	11.46	10.91	39.07
Oct-16	10.78	11.86	11.64	11.56	11.89	12.98	12.40	12.23	10.00	11.45	10.88	39.01
Dec-16	10.61	11.78	11.63	11.49	11.78	13.11	11.95	12.03	9.95	11.24	10.86	38.84
Mar-17	10.98	11.59	11.57	11.21	11.80	12.85	11.70	11.88	9.78	11.05	10.95	39.02
May-17	10.61	11.36	11.44	10.97	11.94	12.97	11.79	11.73	9.75	11.00	10.81	38.93
Jun-17	9.78	11.41	11.28	10.91	11.59	12.85	11.53	11.75	9.59	10.87	10.78	38.88
Variation (Percentage Points)												
Jun-17 over Dec-14	-2.38	-1.68	-1.67	-1.48	-1.46	-1.39	-1.37	-1.30	-1.17	-0.96	-0.15	1.02
Jun-17 over Oct-16	-1.00	-0.45	-0.36	-0.65	-0.39	-0.13	-0.87	-0.48	-0.41	-0.58	-0.10	-0.13

@: Other than housing, vehicle, education and credit card loans.
Source: Special Monthly Return VIAB, RBI.

segment and vehicle loans in the commercial segment during January 2015 to June 2017 (Table III.5).

Table III.5: WALR of Select Sectors of SCBs (Excluding RRBs) - Fresh Rupee Loans Sanctioned

(Per cent)

End-Month	Personal		Commercial	
	Housing	Vehicle	Housing	Vehicle
1	2	3	4	5
Dec-14	10.53	12.28	11.73	12.53
Mar-15	10.47	12.42	12.04	12.30
Mar-16	9.78	11.98	11.14	11.21
Jun-16	9.64	11.79	10.53	11.49
Sep-16	9.58	11.79	10.94	11.73
Oct-16	9.55	11.50	10.70	11.79
Dec-16	9.50	11.13	10.59	11.17
Mar-17	8.94	10.77	10.03	10.24
May-17	8.93	10.97	10.05	11.21
Jun-17	8.99	10.81	10.42	10.83
Variation (Percentage Points)				
Jun-17 over Dec-14	-1.54	-1.47	-1.31	-1.70
Jun-17 over Oct-16	-0.56	-0.69	-0.28	-0.96

Source: Special Monthly Return VIAB, RBI.

III.35 The pace of transmission to lending rates was significantly slower than to deposit rates and the MCLR on account of several factors. First, banks treated the increase in CASA deposits as transitory. The share of CASA deposits, which had peaked in December 2016, declined with progressive remonetisation; consequently, banks were reluctant to adjust their lending rates fully. Second, a sizeable share of past loans continues to be priced with reference to the base rate. As against a cumulative decline of 85 bps in the 1-year median MCLR during 2016-17, the median base rate declined by only 10 bps over the same period, resulting in a slower pace of transmission to WALR on outstanding rupee loans. Third, among the various components of the MCLR, only the term deposit rates responded to the change in the policy rate. Fourth, the higher lending spread maintained by banks in the wake of stressed asset quality of banks impeded transmission

(Box III.1). Fifth, administered interest rates on small savings have not moved adequately in line with underlying changes in yields on government securities to which they are to be linked for quarterly resetting. Going forward, greater liquidity across various segments and maturity spectrum

Box III.1
MCLR, Lending Rates and Health of the Banking Sector

The MCLR system, introduced in April 2016, was expected to improve monetary policy transmission to banks' lending rates. Preliminary evidence suggests that while transmission of the policy rate to MCLR has improved, the transmission to lending rates has remained muted. This is because banks often adjust the spread they charge over MCLR – both in respect of the outstanding rupee loans and fresh rupee loans sanctioned by banks (Chart 1). An inter-sectoral comparison reveals that the spread between WALR and 1-year median MCLR increased across most sectors during 2016-17 (Table 1). While some change in the spread is inevitable due to sector-specific factors and the underlying risk, banks appeared to have also changed spreads to improve their net interest margins (NIMs), *i.e.,* the difference between interest income and interest expenditure, to compensate for increased credit risk.

Regression analysis based on the data for the period Q1:2010-11 to Q3:2016-17 suggests that an increase in

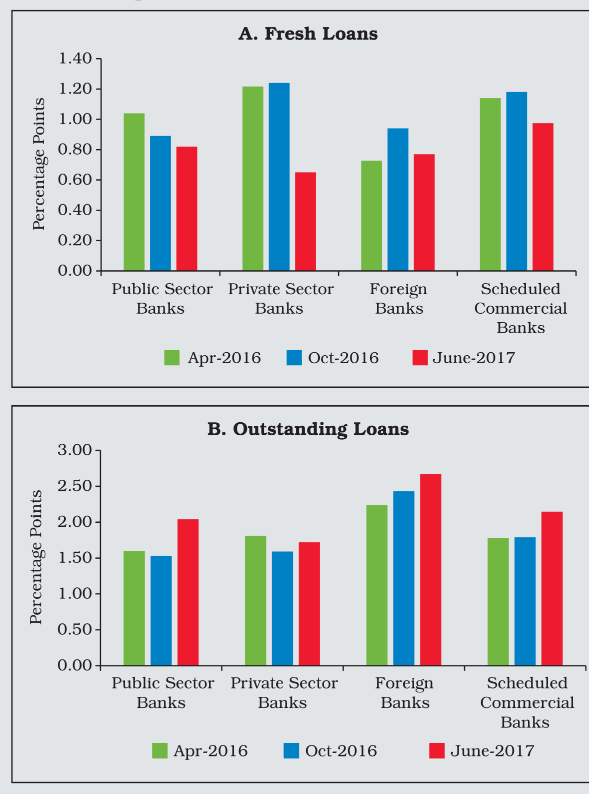
Table 1: Spread between WALR and 1-Year Median MCLR

(Basis Points)

Sector	Apr-16	Mar-17	Jun-17
Agriculture	128	235	225
Industry (Large)	287	297	275
MSMEs	284	328	322
Infrastructure	281	320	306
Trade	307	299	288
Professional Services	230	261	238
Personal Housing	110	118	106
Personal Vehicle	220	245	234
Education	297	310	300
Credit Card	2891	3042	3035
Rupee Export Credit	180	238	125

Source: Special Monthly Return VIAB, RBI.

Chart 1: Spread between WALR and 1 Year Median MCLR



stressed assets[1] is associated with higher NIMs (Raj, *et al,* 2017)[2]. The foreign banks that experienced increase in stressed assets from relatively lower levels were also able to increase their NIMs. The coefficient of stressed assets in respect of public and private sector banks is positive but statistically insignificant (Table 2).

(Contd....)

[1] Stressed assets = gross NPAs + restructured assets (in relation to total assets).

[2] $NIM_{b,t} = c + £_b + y_t + d_1 \cdot NIM_{b,(t-1)} + \psi * X + Ɛ_{b,t,}$ where $£_b$ represents the bank fixed effects, and y_t represents the time fixed effects and X represents the vector of explanatory variables. In this regard, dynamic panel data regression technique has been applied following linear generalised method of moments (GMM). Asset quality apart, there are several other bank-specific, institutional, regulatory and macroeconomic factors that determine NIM. These include credit growth, bank size, capital adequacy, return on assets, operating expenses, non interest income, investment in SLR securities, GVA growth and inflation.

Table 2: Determinants of Net Interest Margin

Variables	Public Sector Banks	Private Sector Banks	Foreign Banks	SCBs
1	2	3	4	5
NIM(-1)	0.785*	0.650*	0.521*	0.568*
Stressed Assets	0.002	0.005	0.023*	0.008*
CRAR	-0.005	0.003	0.002**	0.003*
Credit Growth	0.000	-0.001	0.0003**	0.0002**
Operating Expense	0.213*	0.296*	0.128**	0.162*

*: Significant at 1 per cent level; **: Significant at 5 per cent level.

Notes:

Model Specification: Arellano-Bover/Blundell-Bond dynamic panel-data regression-System GMM with bank fixed effects.

NIM = (Interest income minus interest expense) to total assets (in per cent).

Stressed assets = (Restructured assets plus gross NPAs) to total assets (in per cent).

The regressions are controlled for seasonality, credit growth, bank size, capital adequacy, return on assets, operating expense, non-interest income, investment in SLR securities, GVA growth and inflation.

Hansen test for over identification restrictions and Arellano-Bond test for residual auto correlations are found to be satisfactory.

Source: Supervisory Returns, RBI.

Reference:

Raj, Janak, D.P. Rath, A. K. Mitra and J. John (2017), "Banks' Health and Monetary Transmission", Reserve Bank of India, *mimeo.*

of financial markets, particularly, term money and corporate bond markets, could facilitate emergence of an external benchmark for pricing of credit, contributing to speedier monetary policy transmission.

Agenda for 2017-18

III.36 The agenda for 2017-18 will be guided by the mandate as enshrined in the RBI Act, 1934 "to maintain price stability, while keeping in mind the objective of growth". The key agenda for 2017-18, therefore, will focus on studying those aspects, which may have a significant bearing on inflation projections going forward. This will include: (i) examining the impact of implementation of the 7th CPC's award on inflation; (ii) assessing the impact of GST on inflation; (iii) analysing the impact of farm loan waivers on the fiscal situation and inflation; and (iv) assessing the output gap position incorporating financial conditions and infrastructure constraints. The agenda will also include studies on inflation such as: (i) a reassessment of the Phillips curve relationship in India; (ii) an analysis of food inflation in the recent period – particularly in terms of behaviour of perishables; and (iii) an assessment of exchange rate pass-through.

III.37 Data suggest that investment has remained depressed despite significant monetary easing and pass-through of such easing to bank lending rates. Capacity utilisation has also remained below the long-term trend. In this backdrop, a study will be conducted to analyse factors that have impacted investment activity and capacity utilisation.

III.38 The GST in India has been implemented from July 01, 2017. This is expected to remove distortions and improve productivity. A study will be conducted to assess the impact of GST on growth, including the second order effects.

III.39 The MCLR introduced in April 2016 has not performed as expected. Although the introduction of MCLR resulted in better transparency on fixing

of lending rates by banks *vis-à-vis* the base rate system, banks have frequently adjusted the spreads, thereby impeding transmission to the actual lending rates. A detailed inter-departmental study will be conducted to examine various aspects of MCLR with a view to bringing necessary refinements and exploring market rates as alternative benchmarks.

III.40 An effective monetary transmission is the key to successful implementation of monetary policy. In this context, the following studies will be conducted. First, post-demonetisation, there have been large swings in liquidity. A study will be conducted to assess the impact of liquidity swings on the transmission of monetary policy impulses. Second, the poor health of the banking sector has been a matter of concern. This appears to have impacted monetary transmission as banks have either not responded adequately to cuts in the policy rate or did not cut their lending rates. A detailed study will be conducted to assess whether banks' poor health has impeded monetary transmission. Third, the Basel III liquidity coverage ratio (LCR) was introduced in a phased manner beginning January 2015. In order to ensure the smooth implementation, the Reserve Bank has allowed a carve out of 11.0 per cent of statutory liquidity ratio (SLR). The Reserve Bank has also reduced SLR to provide flexibility to banks to meet the LCR norms by January 2019 when banks have to reach the minimum LCR of 100 per cent. The initial experience suggests that the introduction of LCR has altered banks' activity in the call money market in the post-LCR regime. A study will be undertaken to assess as to whether the introduction of the LCR has impacted monetary transmission.

III.41 As surplus liquidity is expected to pose a challenge, especially in the first half of 2017-18, the Reserve Bank will endeavour to manage liquidity using multiple instruments available at its disposal. However, the use of any particular instrument will be situation-specific with the sole objective of ensuring closer alignment of the operating target to the policy repo rate.