ANNUAL REPORT

ANNUAL REPORT
2017-18

RESERVE BANK OF INDIA

Report of the Central Board of Directors on the working of the Reserve Bank of India for the year ended June 30, 2018 submitted to the Central Government in terms of Section 53(2) of the Reserve Bank of India Act, 1934

RESERVE BANK OF INDIA ANNUAL REPORT 2017-18

भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA
www.rbi.org.in

गवर्नर
Governor

LETTER OF TRANSMITTAL

Ref. No. SYD.307/ 02.16.001 /2018-19

August 24, 2018
Bhadrapada 2, 1940 (Saka)

The Finance Secretary
Government of India
Ministry of Finance
New Delhi – 110 001

Dear Sir,

In pursuance of Section 53(2) of the Reserve Bank of India Act, 1934, I have the pleasure in transmitting the following documents:

(i) A copy of the Annual Accounts for the year ended June 30, 2018 certified by the Bank's Auditors and signed by the Chief General Manager-in-Charge, the Deputy Governors and I; and

(ii) Two copies of the Annual Report of the Central Board on the working of the Bank during the year ended June 30, 2018.

Sincerely,

Urjit Patel

Urjit R. Patel

केन्द्रीय कार्यालय भवन, 18वी मंज़ील, शहीद भगतसिंह मार्ग, मुम्बई - 400 001. भारत
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हिंदी आसान है, इसका प्रयोग बढ़ाइए

CENTRAL BOARD / LOCAL BOARDS

GOVERNOR

Urjit R. Patel

DEPUTY GOVERNORS

N.S. Vishwanathan

Viral V. Acharya

B. P. Kanungo

Mahesh Kumar Jain

DIRECTORS NOMINATED UNDER SECTION 8 (1) (b) OF THE RBI ACT, 1934

Nachiket M. Mor

Prasanna Kumar Mohanty

Dilip S. Shanghvi

DIRECTORS NOMINATED UNDER SECTION 8 (1) (c) OF THE RBI ACT, 1934

Natarajan Chandrasekaran

Bharat Narotam Doshi

Sudhir Mankad

Ashok Gulati

Manish Sabharwal

Satish Kashinath Marathe

Swaminathan Gurumurthy

DIRECTORS NOMINATED UNDER SECTION 8 (1) (d) OF THE RBI ACT, 1934

Subhash Chandra Garg

Rajiv Kumar

MEMBERS OF LOCAL BOARDS

WESTERN AREA

Dilip S. Shanghvi

Vallabh Roopchand Bhanshali

EASTERN AREA

Nachiket M. Mor

Sunil Mitra

NORTHERN AREA

SOUTHERN AREA

Prasanna Kumar Mohanty

(Position as on August 10, 2018)

PRINCIPAL OFFICERS

(As on August 16, 2018)

EXECUTIVE DIRECTORS	Deepak Kumar Mohanty
	Michael D. Patra
	Deepak Singhal
	Sudarshan Sen
	M. Rajeshwar Rao
	Surekha Marandi
	Malvika Sinha
	S. Ganesh Kumar
	Uma Shankar
	R. Sebastian
	Parvathy V. Sundaram
	Sudha Balakrishnan, Chief Financial Officer

CENTRAL OFFICE

Central Vigilance Cell	Lily Vadera, Chief General Manager & Chief Vigilance Officer
Consumer Education and Protection Department	Ashok Narain, Chief General Manager
Corporate Strategy and Budget Department	Sadhana Verma, Chief General Manager
Department of Banking Regulation	Saurav Sinha, Chief General Manager-in-Charge
Department of Banking Supervision	-
Department of Communication	A.I. Killawala, Principal Adviser-Communications
Department of Co-operative Bank Regulation	Neeraj Nigam, Chief General Manager
Department of Co-operative Bank Supervision	R. L. Sharma, Chief General Manager
Department of Corporate Services	Paresh G. Chauhan, General Manager
Department of Currency Management	Ajay Michyari, Chief General Manager-in-Charge
Department of Economic and Policy Research	Rajiv Ranjan, Adviser & Officer-in-Charge
Department of External Investments and Operations	Usha Janakiraman, Chief General Manager
Department of Government and Bank Accounts	Nirmal Chand, Chief General Manager-in-Charge
Department of Information Technology	Deepak Kumar, Chief General Manager-in-Charge
Department of Non-Banking Regulation	Manoranjan Mishra, Chief General Manager
Department of Non-Banking Supervision	P. Vijayakumar, Chief General Manager
Department of Payment and Settlement Systems	Nanda S. Dave, Chief General Manager-in-Charge
Department of Statistics and Information Management	Goutam Chatterjee, Principal Adviser
Enforcement Department	Anil K. Sharma, Chief General Manager
Financial Inclusion and Development Department	G. P. Borah, Chief General Manager-in-Charge
Financial Markets Operation Department	R. S. Ratho, Chief General Manager
Financial Markets Regulation Department	T. Rabi Sankar, Chief General Manager
Foreign Exchange Department	Ajay K. Misra, Chief General Manager-in-Charge
Financial Stability Unit	R. Gurumurthy, Chief General Manager
Human Resource Management Department	A. K. Sarangi, Chief General Manager-in-Charge
Inspection Department	-
Internal Debt Management Department	Archana Mangalagiri, Chief General Manager
International Department	M. K. Saggar, Adviser-in-Charge
Legal Department	Mona Anand, Principal Legal Adviser
Monetary Policy Department	Janak Raj, Principal Adviser
Premises Department	Arvind K. Sharma, Chief General Manager-in-Charge
Rajbhasha Department	Lily Vadera, Chief General Manager
Risk Monitoring Department	Rabi N. Mishra, Principal Chief General Manager
Secretary's Department	Susobhan Sinha, Chief General Manager & Secretary

COLLEGES	**PRINCIPALS**
College of Agricultural Banking, Pune	M. Sarkar Deb
Reserve Bank Staff College, Chennai	R. Kesavan

OFFICES	**REGIONAL DIRECTORS**
Chennai	Arundhati Mech
Kolkata	S. C. Murmu
Mumbai	S. Rajagopal
New Delhi	E. E. Karthak
BRANCHES	
Ahmedabad	J. K. Dash
Bengaluru	P. J. Thomas
Bhopal	Pradipta K. Jena
Bhubaneswar	M. K. Mall
Chandigarh	Rachna Dikshit
Dehradun	Subrata Das
Guwahati	B. K. Mishra
Hyderabad	R. Subramanian
Jaipur	G. Sreekumar
Jammu	Thomas Mathew
Kanpur	Vivek Deep
Lucknow	Ajay Kumar
Nagpur	Indrani Banerjee
Patna	N. P. Topno
Raipur	Saraswathi Shyamprasad
Shimla	Amar Nath
Thiruvananthapuram	S. M. Narasimha Swamy

	OFFICERS-IN-CHARGE
Agartala	Tamal Biswas, General Manager (O-i-C)
Aizawl	Mary Lianlunkim Deng, General Manager (O-i-C)
Belapur	H. N. Panda, General Manager (O-i-C)
Gangtok	R. V. Sangvai, General Manager (O-i-C)
Imphal	Tangpua M.L.N.C. Gwite, General Manager (O-i-C)
Kochi	K. P. Patnaik, General Manager (O-i-C)
Panaji	S. T. Kannan, General Manager (O-i-C)
Ranchi	Sanjiv Dayal, General Manager (O-i-C)
Shillong	Anurag Asthana, General Manager (O-i-C)
Srinagar	R. L. Korotania, Manager

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SELECT ABBREVIATIONS

ABCI	-	Association of Business Communicators of India
ACBs	-	Audit Committee of Boards
AD	-	Authorised Dealer
ADEPT	-	Automated Data Extraction Project
AEs	-	Advanced Economies
AFCs	-	Asset Finance Companies
AHIDF	-	Animal Husbandry and Infrastructure Development Fund
AIFIs	-	All India Financial Institutions
AML	-	Anti-Money Laundering
AMRMS	-	Audit Management and Risk Monitoring System
ANBC	-	Adjusted Net Bank Credit
ANOVA	-	Analysis of Variance
APMCs	-	Agricultural Produce Market Committees
ARCs	-	Asset Reconstruction Companies
ARMS	-	Audit and Risk Management Sub-Committee
ATBs	-	Auction Treasury Bills
AUM	-	Assets Under Management
BAs	-	Business Areas
BBF	-	BRICS Bond Fund
BBPOU	-	Bharat Bill Payment Operating Unit
BBPS	-	Bharat Bill Payment System
BC	-	Business Correspondent
BCBS	-	Basel Committee on Banking Supervision
BCM	-	Business Continuity Management
BCP	-	Basel Core Principles
BCPs	-	Business Continuity Plans
BFS	-	Board for Financial Supervision
BHIM	-	Bharat Interface for Money
BIS	-	Bank for International Settlements
BNPMIPL	-	Bank Note Paper Mill India Private Limited
BOS	-	Banking Ombudsman Scheme
BPSS	-	Board for Regulation and Supervision of Payment and Settlement Systems
BRBNMPL	-	Bharatiya Reserve Bank Note Mudran Private Limited
BRRD	-	Bank Recovery and Resolution Directive
BSBDAs	-	Basic Savings Bank Deposit Accounts
BSR	-	Basic Statistical Return
CACP	-	Commission for Agricultural Costs and Prices
CBLO	-	Collateralised Borrowing and Lending Obligation
CBOE	-	Chicago Board Options Exchange
CBRs	-	Correspondent Banking Relationships
CCB	-	Capital Conservation Buffer
CCB	-	Committee of the Central Board
CCCs	-	Certified Credit Counsellors
CCP	-	Central Counterparty
CCS	-	Consumer Confidence Survey
CDES	-	Currency Distribution and Exchange Scheme
CDR	-	Corporate Debt Restructuring
CDS	-	Credit Default Swap
CEOBE	-	Credit Equivalent of Off-Balance Sheet Exposure
CEOs	-	Chief Executive Officers

SELECT ABBREVIATIONS

CEPD	-	Consumer Education and Protection Department
CFL	-	Centres for Financial Literacy
CFR	-	Central Fraud Registry
CFT	-	Combating the Financing of Terrorism
CFTC	-	Commodity Futures Trading Commission
CGFS	-	Committee on the Global Financial System
CIMS	-	Centralised Information Management System
CIR	-	Credit Information Report
CIs	-	Credit Institutions
CISBI	-	Central Information System for Banking Infrastructure
CLs	-	Contingent Liabilities
CLSS	-	Credit Linked Subsidy Scheme
CMS	-	Complaint Management System
CP	-	Commercial Paper
CPC	-	Central Pay Commission
CPMI-IOSCO	-	Committee on Payments and Market Infrastructures-International Organization of Securities Commissions
CRA	-	Contingent Reserve Arrangement
CRAR	-	Capital to Risk-Weighted Assets Ratio
CRILC	-	Central Repository of Information on Large Credits
CRR	-	Cash Reserve Ratio
CSAA	-	Control Self-Assessment Audit
CSBD	-	Corporate Strategy and Budget Department
CSF	-	Consolidated Sinking Fund
CSITE	-	Cyber Security and Information Technology Examination
CTS	-	Cheque Truncation System
CU	-	Capacity Utilisation
CVPS	-	Currency Verification and Processing System
CWBN	-	Cylinder Watermarked Bank Note
DBT	-	Direct Benefit Transfer
DDoS	-	Distributed Denial of Service
DGFT	-	Directorate General of Foreign Trade
DGS	-	Data Governance Sub-Group
DIAs	-	Deposit Insurance Agencies
DIF	-	Deposit Insurance Fund
DLT	-	Distributed Ledger Technology
DSGE	-	Dynamic Stochastic General Equilibrium
EBITDA	-	Earnings Before Interest, Taxes, Depreciation and Amortisation
EDC	-	Executive Directors' Committee
EDF	-	Export Declaration Form
EDMS	-	Electronic Documents Management System
EDPMS	-	Export Data Processing and Monitoring System
EFD	-	Enforcement Department
EKP	-	Enterprise Knowledge Portal
EMEs	-	Emerging Market Economies
ERM	-	Enterprise-Wide Risk Management
ETCD	-	Exchange Traded Currency Derivatives
FAIDF	-	Fisheries and Aquaculture Infrastructure Development Fund

SELECT ABBREVIATIONS

FATF	-	Financial Action Task Force
FBIL	-	Financial Benchmarks India Private Limited
FC	-	Finance Commission
FCA	-	Foreign Currency Assets
FCCB	-	Foreign Currency Convertible Bonds
FCNR(B)	-	Foreign Currency Non-resident (Bank) Account Deposits
FEMA	-	Foreign Exchange Management Act
FER	-	Foreign Exchange Reserves
FIAC	-	Financial Inclusion Advisory Committee
FICN	-	Fake Indian Currency Notes
FIPs	-	Financial Inclusion Plans
FLCs	-	Financial Literacy Centres
FMCBG	-	Finance Ministers and Central Bank Governors
FMIs	-	Financial Market Infrastructures
FPI	-	Foreign Portfolio Investment/Investor
FPOs	-	Farmer Producers Organisations
FRBs	-	Floating Rate Bonds
FSAP	-	Financial Sector Assessment Programme
FSB	-	Financial Stability Board
FSDC	-	Financial Stability and Development Council
FSR	-	Financial Stability Report
FSSA	-	Financial System Stability Assessment
FWG	-	Framework Working Group
GARCH	-	Generalized Autoregressive Conditional Heteroskedasticity
GCC	-	General Credit Card
GFCE	-	Government Final Consumption Expenditure
GFXC	-	Global Foreign Exchange Committee
GMM	-	Generalised Method of Moments
GNDI	-	Gross National Disposable Income
GRF	-	Guarantee Redemption Fund
GRQ	-	General Review of Quotas
G-secs	-	Government Securities
GSTN	-	Goods and Services Tax Network
GVA	-	Gross Value Added
HAP	-	Hamburg Action Plan
HFCs	-	Housing Finance Companies
HLCCSM	-	High Level Committee on Currency Storage and Movement
HQLA	-	High Quality Liquid Assets
HRIDAY	-	National Heritage City Development and Augmentation Yojana
HRM-SC	-	Human Resource Management Sub-Committee
HTF	-	High Level Task Force
HTM	-	Held to Maturity
IADI	-	International Association of Deposit Insurers
IBBI	-	Insolvency and Bankruptcy Board of India
IBC	-	Insolvency and Bankruptcy Code
ICCOMS	-	Integrated Computerised Currency Operations Management System
IDRBT	-	Institute for Development and Research in Banking Technology
IEPF	-	Investor Education and Protection Fund
IESH	-	Inflation Expectations Survey of Households

SELECT ABBREVIATIONS

IFA	-	International Financial Architecture
IFRS	-	International Financial Reporting Standards
IFTAS	-	Indian Financial Technology and Allied Services
IIBs	-	Inflation Indexed Bonds
IMD	-	India Meteorological Department
IMFC	-	International Monetary and Financial Committee
InvIT	-	Infrastructure Investment Trusts
IOS	-	Industrial Outlook Survey
IPCCTV	-	Internet Protocol based Closed-Circuit Television
IPOs	-	Initial Public Offers
IRAC	-	Income Recognition and Asset Classification
IRF	-	Interest Rate Futures
IROs	-	Interest Rate Options
IRTG	-	Inter-Regulatory Technical Group
IS	-	Information Systems
ISINs	-	International Securities Identification Numbers
ISO	-	International Organization for Standardization
iSOC	-	Information Security Operation Centre
ISS	-	Integrated Security System
IT	-	Inflation Targeting
IT	-	Information Technology
IT-SC	-	Information Technology Sub-Committee
IU	-	Information Utility
IVRS	-	Interactive Voice Response System
IWG	-	Infrastructure Working Group
JLFs	-	Joint Lenders' Forums
JTCC	-	Joint Technical Coordination Committee
LAF	-	Liquidity Adjustment Facility
LBS	-	Lead Bank Scheme
LCR	-	Liquidity Coverage Ratio
LEI	-	Legal Entity Identifier
LFXC	-	Local Foreign Exchange Committee
LIBOR	-	London Inter-bank Offered Rate
LICs	-	Low-Income Countries
LPA	-	Long Period Average
LSE	-	London School of Economics
LTCG	-	Long Term Capital Gains
LTV	-	Long Term Visa
MDR	-	Merchant Discount Rate
MEP	-	Minimum Export Price
MGNREGS	-	Mahatma Gandhi National Rural Employment Guarantee Scheme
MIFOR	-	Mumbai Inter-bank Forward Offer Rate
MIOIS	-	Mumbai Inter-bank Overnight Indexed Swaps
MLIs	-	Member Lending Institutions
MoU	-	Memorandum of Understanding
MPC	-	Monetary Policy Committee
MROR	-	Market Repo Overnight Rate
MSF	-	Marginal Standing Facility
MSMEs	-	Micro, Small and Medium Enterprises
MSS	-	Market Stabilisation Scheme
MTDS	-	Medium-Term Debt Strategy

SELECT ABBREVIATIONS

MUNFI	-	Monitoring Universe of Non-Bank Financial Intermediation
NACH	-	National Automated Clearing House
NBFC-AA	-	NBFC-Account Aggregator
NBFC-D	-	Deposit taking NBFC
NBFC-ND	-	Non-Deposit taking NBFC
NBFC-ND-SI	-	Systemically Important Non-Deposit taking NBFC
NBFC-P2P	-	NBFC- Peer to Peer Lending Platform
NCFE	-	National Centre for Financial Education
NIC	-	National Industrial Classification
NOF	-	Net Owned Fund
NPCI	-	National Payments Corporation of India
NSSF	-	National Small Savings Fund
OBICUS	-	Order Books, Inventories and Capacity Utilisation Survey
OCIs	-	Overseas Citizens of India
OMO	-	Open Market Operations
OTC	-	Over the Counter
OVD	-	Officially Valid Documents
PADO	-	Public Administration, Defence and Other Services
PCA	-	Prompt Corrective Action
PCR	-	Public Credit Registry
PFMI	-	Principles for Financial Market Infrastructures
PLF	-	Plant Load Factor
PLIs	-	Primary Lending Institutions
PML	-	Prevention of Money Laundering
POP	-	Point of Presence
POS	-	Point of Sale
PPAC	-	Petroleum Planning and Analysis Cell
PPAs	-	Power Purchase Agreements
PPIs	-	Prepaid Payment Instruments
PQBN	-	Pre-Qualification Bid Notice
PSLCs	-	Priority Sector Lending Certificates
PSOs	-	Payment System Operators
QIP	-	Qualified Institutional Placement
RAM-OR	-	Risk Assessment Methodology-Operational Risk
RBIA	-	Risk Based Internal Audit
RBSC	-	Reserve Bank Staff College
RCA	-	Revealed Comparative Advantage
REER	-	Real Effective Exchange Rate
RGG	-	Return Governance Group
RHF	-	Rural Housing Fund
RMP	-	Records Management Policy
RRs	-	Risk Registers
RTF	-	Risk Tolerance Framework
S4A	-	Scheme for Sustainable Structuring of Stressed Assets
SANKALP	-	Skills Acquisition and Knowledge Awareness for Livelihood Promotion
SARFAESI	-	Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest
SARTTAC	-	South Asia Regional Training and Technical Assistance Center
SAUBHAGYA	-	Pradhan Mantri Sahaj Bijli Har Ghar Yojana
SBLA	-	Securities Borrowing and Lending Arrangement
SBNs	-	Specified Banknotes

SELECT ABBREVIATIONS

SCs	-	Scheduled Castes
SDF	-	Special Drawing Facility
SDF	-	Standing Deposit Facility
SDR	-	Strategic Debt Restructuring Scheme
SDRF	-	State Disaster Response Funds
SEBI	-	Securities and Exchange Board of India
SEC	-	Securities and Exchange Commission
SFs	-	Standing Facilities
SGB	-	Sovereign Gold Bond
SHGs	-	Self-Help Groups
SIFIs	-	Systemically Important Financial Institutions
SLBCs	-	State Level Bankers' Committees
SLCCs	-	State Level Coordination Committees
SMEs	-	Small and Medium Enterprises
SPARC	-	Supervisory Programme for Assessment of Risk and Capital
SPMCIL	-	Security Printing and Minting Corporation of India Limited
SRMR	-	Single Resolution Mechanism Regulation
SSCI	-	Service Sector Composite Index
SSDP	-	Staggered Surplus Distribution Policy
STRIPS	-	Separate Trading of Registered Interest and Principal of Securities
STRIVE	-	Skill Strengthening for Industrial Value Enhancement
SUT	-	Supply Use Tables
TACS	-	Technical Advisory Committee on Surveys
TAFCUB	-	Task Force for Co-operative Urban Banks
TAG	-	Technical Advisory Group
TR	-	Trade Repository
TReDS	-	Trade Receivables Discounting System
URCs	-	Unbanked Rural Centres
VA-PT	-	Vulnerability Assessment and Penetration Testing
VCs	-	Virtual Currencies
WACR	-	Weighted Average Call Rate
WADR	-	Weighted Average Discount Rate
WAEIR	-	Weighted Average Effective Interest Rate
WLA	-	White Label ATM
WLAOs	-	White Label ATM Operators
XBRL	-	eXtensible Business Reporting Language

This Report can be accessed on Internet
URL : www.rbi.org.in

*For the Year July 1, 2017 to June 30, 2018**

PART ONE: THE ECONOMY - REVIEW AND PROSPECTS

I ASSESSMENT AND PROSPECTS

I.1 In a milieu of a strengthening global economy, a cyclical rebound in world trade and generally buoyant financial markets, the Indian economy in 2017-18 turned in a resilient performance that was also entrenched in macroeconomic stability. Although real GDP growth was somewhat slower than in the preceding year, the turnaround in capital formation and construction activity, together with record agricultural production, considerably brightens the near-term outlook. The combination of (i) a steady easing of inflation for the fifth year in succession to undershoot the target in 2017-18, (ii) a modest current account deficit of 1.9 per cent of GDP, and (iii) public finances having sturdily weathered the implementation of a major structural reform – the Goods and Services Tax (GST), reinforces the prospects for 2018-19. On the downside, the firming profile of international commodity prices – especially of crude oil, spillovers from tightening global financial conditions, geo-political tensions, trade wars stirring up across borders, financial turbulence, and the overhang of impairment in domestic banking and corporate balance sheets, emerge as the key downside risks.

I.2 The year 2018-19 has commenced on an eventful note, with several of these risks materialising. Bouts of financial market turmoil associated with persisting foreign portfolio outflows have unsettled emerging market economies as an asset class, and India has not been immune to these global developments. Yet, there are country-specific factors that could distinguish the Indian experience going forward. In the real sector, a normal monsoon for the third consecutive year should lift agricultural output. Manufacturing activity is gathering momentum on the back of new business, both domestic and export orders, rising capacity utilisation and drawdown of inventories. In the services sector, the impulses of growth are broadening and expansion in employment conditions is generating anticipations of improvement in demand conditions. Early indicators suggest that consumption demand remains robust. Aggregate domestic demand is also being supported by steadily strengthening investment – with a renewal of the capex cycle underway – and a strong pick-up in exports in Q1. India remains a preferred destination for foreign direct investment (FDI).

I.3 The stage is set for the intensification of structural reforms that will unlock new growth energies and place the Indian economy on a sustainable trajectory of higher growth. Resolute progress in repairing and resolving the acute stress in the banking system and in shoring

* While the Reserve Bank of India's accounting year is July-June, data on a number of variables are available on a financial year basis, *i.e.*, April-March, and hence, the data are analysed on the basis of the financial year. Where available, the data have been updated beyond March 2018. For the purpose of analysis and for providing proper perspective on policies, reference to past years as also prospective periods, wherever necessary, has been made in this Report.

up corporate debt will re-intermediate financial flows for productive purposes, which are essential for sustaining an acceleration in growth with macroeconomic and financial stability.

I.4 Against this backdrop, the rest of the chapter drills down into noteworthy developments that characterised the year gone by. Drawing insights therefrom, a realisable outlook is etched out for 2018-19 and the near term.

ASSESSMENT: 2017-18

I.5 The year 2017-18 turned out to be a year of inflexions in the growth path of the Indian economy, despite the lingering after-effects of demonetisation and the GST implementation. Green shoots of recovery sprung up from Q2, finding expression in a sequential rise in real GDP growth from a 13-quarter low of 5.6 per cent in Q1 to 7.7 per cent in Q4. A significant accelerator was gross fixed capital formation (GFCF) which snapped out of a four-quarter soft patch and posted expansion right through Q2 and until Q4. Private final consumption expenditure (PFCE) was supported by rural demand on the back of a bumper harvest and the government's thrust on rural housing and infrastructure. In contrast, support from government final consumption expenditure ebbed in relation to the preceding year and there was a leakage of domestic demand through net exports, in contrast to a slender contribution a year ago. Given these diverse pull factors, the fact that the loss of speed in real GDP growth was contained at only 0.4 percentage points on a year-on-year basis reflects innate resilience, and possibly, the onset of a new phase, in the life of the economy.

I.6 On the supply side, agriculture posted an all-time high production of foodgrains and horticulture. On top of this supply response, imports resulted in excess supply conditions in key crops such as rice, wheat, pulses and oil seeds, leading to prolonged deflation in the prices of pulses and oilseeds, and record buffer stock levels of rice and wheat – the highest in five years. The sizable erosion in the terms of trade of the farm sector under the weight of this supply glut emerged as an area of concern, however. In the second half of the year, manufacturing started recovering from its sluggishness, driven by capital goods, infrastructure/construction goods and intermediate goods. Breaking the sequence of two years of deceleration, the pace of services sector activity registered a broad-based recovery. In this context, the turnaround in the construction sector after a prolonged period of stagnation is heartening in view of positive externalities in the form of employment generation and downstream linkages.

I.7 Infrastructure activity, which could be the force multiplier for India in the take-off to the middle income group of countries, gained pace in terms of projects under implementation, but new project announcements remained subdued across public and private sectors. There were several noteworthy achievements, though. In the road sector, the sustained growth in construction of national highways and the length of roads awarded was a silver lining. The foundation for the Mumbai-Ahmedabad bullet train project was laid and work on eastern and western dedicated freight corridors progressed. In the area of air transport, flight routes to various underserved and unserved airports were awarded along with viability gap funding. Smart cities started implementing various projects like smart command and control centre, smart metering, smart buildings, intelligent transport systems and smart parks. Furthermore, the *Pradhan Mantri*

Sahaj Bijli Har Ghar Yojana (SAUBHAGYA) was launched with universal household electrification by March 2019 as its mission.

I.8 As regards the price situation, inflation eased to its lowest level in the new consumer price index (CPI) series in June 2017, with food prices going into deflation. Thereafter, a confluence of domestic and global developments pushed inflation up – an unseasonal spike in the prices of vegetables during October-November 2017, disbursement of house rent allowance (HRA) for central government employees under the 7th Central Pay Commission's award and firming up of global commodity prices. The delayed softening of food prices in Q4 brought relief as it got prolonged and in the event, the year ended with the lowest annual average inflation of 3.6 per cent since 2012-13.

I.9 Turning to the setting of monetary policy, the significant fall in inflation excluding food and fuel during Q1:2017-18 and the dynamics of the output gap opened up space for the Monetary Policy Committee (MPC) to reduce the policy repo rate by 25 basis points (bps) in August 2017. In the ensuing months, however, the rising inflation trajectory accentuated growth-inflation trade-offs. In response, the MPC kept the policy rate on hold for the rest of the year, while continuing with a neutral stance.

I.10 Consistent with the monetary policy stance, liquidity management operations sought to modulate systemic liquidity from persisting surplus conditions to a position closer to neutrality. Multiple instruments were deployed, including repo/reverse repo operations of various tenors under the liquidity adjustment facility, and outright open market operations. Eventually, the liquidity situation turned into a deficit during February-March 2018 on account of moderation of government spending and large tax collections, resulting in the Reserve Bank briefly switching to an injection mode.

I.11 Monetary transmission from the policy rate to banks' deposit and lending rates improved during 2017-18, facilitated by the demonetisation-induced slosh of liquidity, but it remained uneven across sectors and bank groups. In particular, the pace of reduction in lending rates for fresh rupee loans was impeded by asset quality concerns and risk-averse behaviour in lending activity.

I.12 As regards fiscal policy, the combined fiscal position of the centre and states deteriorated somewhat in relation to budgeted levels due to subdued growth in revenues and elevated revenue expenditure. For the centre, revenues were affected by lower collections from indirect taxes due to late implementation of GST; shortfall in non-tax revenue due to deferment of spectrum auctions; and, lower dividend receipts. In the event, cutbacks in capital expenditure were necessitated, with implication for the quality of fiscal adjustment. While state finances were budgeted to improve in 2017-18, revised estimates have been impacted by a shortfall in revenue receipts – mainly lower own tax revenue – and higher revenue expenditure due to implementation of farm loan waivers and the pay commission recommendations on salaries and pensions. These developments, together with global bond sell-offs, fuelled a persistent hardening of 10-year bond yield in the government securities market from 7.40 per cent on January 30, 2018 to a high of 7.78 per cent on March 5, 2018 with spillover to the corporate bond market.

I.13 India's external sector remained resilient in 2017-18 despite a challenging global environment. Higher non-oil import volume along with erosion in terms of trade, especially on account of the sharp increase in crude oil prices, widened the trade deficit to a five-year high. Services exports and remittances, however, offset this increase and kept the current account deficit (CAD) within sustainable limits. Net capital inflows – predominantly in the form of FDI and portfolio investment – exceeded the CAD and led to an increase in foreign exchange reserves during the year. Reflecting these movements in underlying fundamentals, the exchange rate of the Indian rupee (INR) appreciated by 3.1 per cent during the year on a nominal effective basis. In real terms, the INR appreciated by 4.5 per cent.

I.14 In contrast to developments in money, foreign exchange and fixed income markets, the bull run in the Indian equity market that commenced in the preceding year propelled the benchmark equity indices up by more than 10 per cent during 2017-18. After touching a peak in January 2018, the market underwent significant correction during February-March 2018 on release of strong US jobs and inflation data, the consequent surge in US bond yields, and worries about trade war.

I.15 In the financial sector, dynamic changes in the Reserve Bank's balance sheet took place shaping monetary and financial conditions during the year. Underlying them, reserve money growth was driven primarily by the expansion of currency in circulation (CiC) as the pace of remonetisation quickened and eventually, the pre-demonetisation level of CiC was exceeded in March 2018. Consequently, the velocity of CiC declined gradually, converging to its long-term trend. Driven largely by private sector banks, credit growth revived from a historic low in 2016-17 and crossed double digits from December 2017, re-emerging as a significant source of financing for the commercial sector. The off-take of credit was noteworthy; even credit to industry picked up, and personal loans and credit to services surged above the overall growth of bank credit. Credit flows from public sector banks (PSBs) were subdued, constrained by the capital requirements as also the elevated levels of loan delinquency.

I.16 Stressed assets [gross non-performing assets (GNPAs) *plus* restructured standard advances] in the banking system remained elevated at 12.1 per cent of gross advances at end-March 2018. The combined impact of the increase in provisioning against NPAs and mark-to-market (MTM) treasury losses on account of the hardening of yields eroded the profitability of banks, resulting in net losses. In a pre-emptive response, the Reserve Bank allowed banks to spread their MTM losses over four quarters – starting from Q3. Going forward, the stress tests carried out by the Reserve Bank suggest that under the baseline assumption of the current economic situation prevailing, the GNPA ratio of scheduled commercial banks may increase further in 2018-19.

I.17 With the deterioration in asset quality and the progressive implementation of Basel III warranting higher buffers, troubled PSBs received capital infusions *via* the issuance of recapitalisation bonds and budgetary support. The Reserve Bank's revised prompt corrective action (PCA) framework became effective in April 2017. Eleven PSBs placed under this framework so far have been restricted in their operations and subjected to remedial action plan so as

to prevent further capital erosion. The Reserve Bank also put in place revised/harmonised guidelines for resolution of stressed assets during the year, replacing earlier schemes like Sustainable Structuring of Stressed Assets (S4A scheme), Strategic Debt Restructuring scheme (SDR), Corporate Debt Restructuring (CDR) scheme and Joint Lenders' Forum (JLF). Final guidelines relating to the net stable funding ratio (NSFR) were also issued in May 2018 to prepare the ground for banks to build durable buffers against potential liquidity disruptions. Banks were also advised to encourage large borrowers to obtain Legal Entity Identifiers (LEI) including for their parent entity as well as all subsidiaries and associates. This is expected to improve the quality and accuracy of financial data for better risk management. With financial stability concerns at the fore, regulated entities were prohibited, starting from April 06, 2018, from dealing in virtual currencies and from providing services for the dealing with or settling in virtual currencies to any person or entity.

I.18 Looking beyond the banking sector, non-banking financial companies (NBFCs) continued to post double-digit growth in 2017-18, with improvement in profitability indicators, asset quality and even capital positions *vis-a-vis* the regulatory prescription of 15 per cent and minimum Tier 1 capital of 10 per cent from April 1, 2017 onwards that NBFCs-ND-SI (Non-Deposit taking systematically important NBFCs) and all deposit-taking NBFCs are required to maintain. The Reserve Bank also decided to withdraw the exemption from regulatory and statutory provisions granted to government-owned NBFCs, bringing them on par with other NBFCs. This should contribute to establishing a level-playing field in the sector.

PROSPECTS: 2018-19

I.19 The global economy expanded at a strong pace in the first half of 2018. In advanced economies (AEs), activity was accompanied by tightening labour markets, firm commodity prices and resilient trade dynamics. Emerging market economies (EMEs) front-ran the AEs in Q1 but fell back somewhat in Q2 as capital flows exited on risk aversion generated by a cocktail of trade wars, rising interest rates in the US, geo-political tensions and the unrelenting hardening of crude oil prices. As per the International Monetary Fund's (IMF's) estimate, global growth is expected to pick up by 0.2 percentage points to 3.9 per cent in 2018 and is projected to sustain at the same level in 2019. The domestic and international repercussions of expansionary fiscal policy in the US and terms of trade gains for commodity exporters are expected to be impulses of propulsion. Headwinds could nonetheless rise from further tightening of financial conditions, escalation of trade tensions and intensification of geo-political risks. Increasingly, financial markets are emerging as the main conduit for transmission of global spillovers to financial, and eventually, macroeconomic conditions in EMEs, including India.

I.20 In this unsettled international environment, incoming data configure favourable conditions for an acceleration of activity in the Indian economy. The initial lull in the progress of the southwest monsoon got reversed, including in the spatial dispersion, and in response, cropping gaps are closing. Overall, agricultural production is likely to remain strong for the third consecutive year. Meanwhile, growth impulses in industry are strengthening, propelled by a sustained pick-up in manufacturing and mining activity, especially

coal. Corporates are reporting robust sales growth and improvement in profitability as pricing power returns. Services sector activity is also set to gather pace, as high frequency indicators suggest. Revenue-earning freight traffic of railways has picked up, driven by stepped-up movement in coal, fertiliser and cement. The uptrend in construction is expected to continue going forward, given the government's push for infrastructure – affordable housing, roads, and ports – and the robust expansion in the production of cement. Underlying this reinvigoration is the steady expansion in aggregate demand, fuelled by consumption (both urban and rural), investment and exports. Over the rest of 2018-19, the acceleration of growth that commenced in 2017-18:H2 is expected to be consolidated and built upon. Keeping in view the evolving economic conditions, real GDP growth for 2018-19 is expected to increase to 7.4 per cent from 6.7 per cent in the previous year, with risks evenly balanced.

I.21 Going forward, the up-tick in credit growth is likely to be supported by the progress being made under the aegis of the Insolvency and Bankruptcy Code, 2016 (IBC) in addressing stress on balance sheets of both corporates and banks, recapitalisation of PSBs, and a positive outlook on the economy. The prevailing negative credit-to-GDP gap indicates that there is sufficient scope for credit absorption and expansion in bank lending on a sustained basis.

I.22 Headline inflation which averaged 4.8 per cent during Q1:2018-19, is likely to face upside risks over the rest of the year from a number of sources, warranting continuous vigil and a readiness to head off those pressures from getting generalised. Rising global commodity prices, especially of crude oil, and recent global financial market developments are firming up input cost pressures. The staggered impact of HRA revisions by various state governments could also pose an upside risk through second-round effects. Much will depend on how food prices play out and how effective are the supply management strategies.

I.23 A further rise in households' inflation expectations in the June 2018 round of the Reserve Bank's survey warrants caution, especially to prevent wage-cost spirals from developing. On the whole, headline inflation is projected at 4.6 per cent in Q2:2018-19; 4.8 per cent in H2 and 5.0 per cent in Q1:2019-20, including the HRA impact for central government employees, with risks evenly balanced. Excluding the impact of HRA revisions, headline inflation is projected at 4.4 per cent in Q2:2018-19; 4.7-4.8 per cent in H2 and 5.0 per cent in Q1:2019-20. The MPC raised the policy repo rate by 25 bps in June 2018 and again in August, keeping in view the hardening of inflation and inflation expectations, while continuing with the neutral stance. The conduct of monetary policy will continue to be guided by the objective of achieving the medium-term target for CPI inflation of 4 per cent within a tolerance band of +/- 2 per cent, while supporting growth.

I.24 The Union Budget for 2018-19 is confronted with an Occam's razor. The surge in the number of tax assessees, especially new ones, augurs well for raising the tax-GDP ratio to at least the levels of peers. While the GST may gradually expand revenues as it stabilises and gains traction, terms of trade losses associated with the hardening of international crude prices could restrict fiscal space. Meanwhile, sizable outlays on agriculture and infrastructure could impose a financing constraint. In this milieu, aggressively pursuing disinvestment targets contingent upon

market conditions and investor appetite holds scope for fiscal metrics in line with the Fiscal Responsibility and Budget Management (FRBM) targets.

I.25 With regard to the fiscal position of states, budget estimates for 2018-19 have envisaged a revenue surplus and a lower fiscal deficit. During the year, however, fiscal risks may emanate from many states going for elections, the additional burden of farm loan waivers announced outside budgeted outlays, and the implementation of pay/pension/allowances revisions. Revenue mobilisation remains the key to attaining the budgeted targets. The cushion provided by compensation cess by the centre for any interim shortfall in GST revenue could help smooth state finances on the revenue front. Against this backdrop, the combined gross fiscal deficit of the centre and states is budgeted to be brought down to 5.9 per cent of GDP in 2018-19 from 6.6 per cent in the revised estimates for 2017-18.

I.26 Global headwinds are likely to confront India's external sector in 2018-19. Even though exports have gathered momentum in Q1 of 2018-19, the worsening global trade environment as a result of protectionist policies may impinge upon external demand. Elevated crude oil prices and the strengthening of domestic demand may push up the import bill. With India being a net energy importer, the changing demand-supply dynamics in the international crude oil market may impact heavily on India's trade deficit. With domestic information technology (IT) companies gradually adapting to the global business environment, software exports are expected to remain strong. The increase in limits for foreign portfolio investment in both government and corporate bonds augurs well for the prospects for external financial flows adjusted for downside risks. The current account deficit is expected to be largely financed by FDI flows.

I.27 Several initiatives set in motion to secure the soundness of the banking system are expected to reach critical mass during 2018-19. First, keeping in view the IBC process and the need to put in place a harmonised and simplified generic framework for resolution of stressed assets, the Reserve Bank has introduced a new framework for resolution of stressed assets, which is more outcome-oriented and provides considerable flexibility for banks to determine the minutiae of the restructuring process. The recent amendments to the IBC are expected to improve the efficiencies in decision making under it. The voting threshold for the committee of creditors has been brought down to 66 per cent from 75 per cent for all major decisions, including approval of resolution plans and recommendation for extension of the period of the corporate insolvency resolution process (CIRP). Furthermore, a special dispensation has been provided to micro, small and medium enterprises (MSMEs), recognising their importance in employment generation and exports.

I.28 Second, institutional reforms in India's financial system and credit information availability are poised for a transformation. Drawing on the recommendations of the task force (Chairman : Shri Yeshwant M. Deosthalee), the Reserve Bank has decided to set up a pubic credit registry (PCR) with an Implementation Task Force (ITF) assigned to design the logistics.

I.29 Third, the Reserve Bank has put in place a graded enforcement action framework for any lapses observed in conducting a bank's statutory audit to address large divergences in asset classification and provisioning in the credit portfolio of banks as well as rein in the rising

incidence of frauds in the Indian banking system. As pointed out in the Detailed Assessment Report of the Financial Sector Assessment Program (FSAP) of the IMF-World Bank, legal reforms facilitating ownership-neutral regulation and supervision of the banking system would empower the Reserve Bank further in supervisory enforcement.

I.30 The impact of international financial reporting standards on quantitative and qualitative reporting by banks would be reviewed, aligned and integrated with the supervisory framework, in view of its impending implementation. An Audit Management Application portal to handle various supervisory functions of the cyber security and information technology examination cell in the Reserve Bank and to fully automate monitoring of returns has been envisaged in order to facilitate consistency and efficiency of the offsite monitoring mechanism.

I.31 Efficiency and security of the payment and settlement architecture is paramount for the Reserve Bank in the context of its mandate of oversight over the system. With the increased focus on adoption of digital payments, the availability and accessibility of quality infrastructure at a pan-India level continues to be the critical factor for sustained usage. In this regard, the Reserve Bank will intensify its focus on robustness, safety and security of the payments infrastructure in 2018-19. An important objective will be to manage safe and secure innovations in payment systems that provide wider payment options to users. Robust customer grievance redressal mechanisms will continue to be developed further to increase trust and confidence in payment systems.

I.32 The Reserve Bank has been playing a catalytic role in permeation of FinTech into the economy, propelled by its Payment and Settlement System Vision – 2018. The report of the Reserve Bank's Working Group on FinTech and Digital Banking covers granular aspects and envisages a reorientation of the regulatory framework so that it can respond to the dynamics of a rapidly evolving scenario. These issues will engage policy attention in 2018-19.

I.33 This year will also see the gaining of traction of initiatives for consumer protection in the area of financial transactions, especially by leveraging on technology. Among them, the ombudsman scheme for redressal of complaints related to NBFCs aims to provide a cost-free and expeditious complaint redressal mechanism. The ombudsman scheme for NBFCs will be reviewed during the year, and its scope will be widened to encompass other eligible NBFCs. Furthermore, efforts will be made to raise customer awareness on safe banking habits and access to grievance redressal. Considering the increasing number of complaints relating to transactions conducted digitally, the Reserve Bank will also formulate an ombudsman scheme for digital transactions.

I.34 Looking ahead, the Indian economy is set to step up its growth trajectory. Two aspects warrant priority if this aspiration is to be realisable and sustainable. First, infrastructure holds the key to unleashing the impulses of faster growth. In particular, the reasonable success achieved in the transportation space is worthy of emulation in other areas. During 2018-19, this aspect of the infrastructure mission is set to accelerate. In the road sector, the key targets are awarding works for around 20,000 km length of national highways; construction of 45 km per day *vis-à-vis* 27 km per day last year; and developing ring roads around

28 major cities under the *Bharatmala* project. In railways, upgradation of Bengaluru and Mumbai suburban systems, Mumbai-Ahmedabad high-speed rail construction, installing modern facilities in railway stations as part of station redevelopment, and opening India's First National Rail and Transportation University in Vadodara will be the priorities. In the port sector, more than 576 projects with an estimated cost of ₹8,700 billion have been identified for implementation under the *Sagarmala* project.

I.35 Second, even as infrastructure development provides the thrust, sustaining the momentum of growth will hinge around its inclusiveness and, in particular, its employment intensity. The Government is designing a comprehensive strategy to bring employment to the core of the development strategy: (i) promoting industrial activity through the Make in India drive; (ii) enhancing employability through Skill India including Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) and Skill Strengthening for Industrial Value Enhancement (STRIVE); and (iii) encouraging innovation and entrepreneurship through Start up India. With regard to reforms in labour laws, codification is in progress and the Code on Wages Bill has been introduced in the *Lok Sabha*.

I.36 Over the medium-term, the pace and quality of growth will be anchored by progress on the unfinished agenda of structural reforms in, *inter alia,* resolution of banking and corporate financial stress; taxation; agriculture; liberalisation of the economy's external interface, especially with FDI; and galvanising the business environment. The hard-earned gains of macroeconomic stability that have defined the recent period as its greatest achievement need to be preserved as an imperative within this endeavour.

II ECONOMIC REVIEW

The Indian economy exhibited resilience during 2017-18, with upturns in investment and construction. Inflation eased on a year-on-year basis in an environment characterised by high variability. In the evolution of monetary aggregates, currency in circulation surpassed its pre-demonetisation level while credit growth revived to double digits from a historic low in the previous year. Domestic financial markets were broadly stable, with rallies in equity markets and intermittent corrections, hardening bond yields, the rupee trading with a generally appreciating bias except towards the close of the year and ample liquidity in money markets. The implementation of GST achieved another important milestone towards an efficient indirect tax structure. On the external front, the current account deficit was comfortably financed with accretions to foreign exchange reserves.

II.1 THE REAL ECONOMY

II.1.1 In an environment in which global growth gained traction and broadened across geographies with international trade outpacing it, the Indian economy rounded a turning point during Q2 of 2017-18 as it emerged out of a five-quarter slowdown. Aggregate demand picked up, with the four quarter phase of consumption-led activity giving way to a much-awaited upturn in investment. Fiscal support in the form of government final consumption expenditure (GFCE) on the demand side, and public administration, defence and other services (PADO), on the supply side, continued to cushion aggregate economic activity, but waned somewhat in 2017-18 in relation to the immediately preceding year.

II.1.2 In the second half of the year, these impulses strengthened as manufacturing started recovering from sluggishness, accompanied by strong corporate sales growth, an uptick in capacity utilisation and drawdown of inventories of finished goods, an incipient starting up of the capital expenditure (capex) cycle and slow return of pricing power. In the services sector, construction exhibited remarkable improvement, accelerating to its fastest pace in recent years. The still unravelling picture of the performance of agriculture and allied activities brightens up the outlook considerably. While growth rates for 2017-18 will inevitably be obscured by a high base, advance estimates point to another record foodgrains output in 2017-18 and buffer stocks well above norms.

II.1.3 These developments carry risks as well. First, firming of salient commodity prices are translating into worsening terms of trade for net importers like India and higher input costs. Consequently, the economy has to contend with the drag on aggregate demand from net exports and cost-push risks to inflation at the same time. In this context, it is worthwhile to note that India is not able to reap the healing effects of strengthening global trade by expanding exports commensurately, mainly due to constraints on domestic supply conditions and productivity. Second, muted as they are at this stage, risks to macroeconomic stability have edged up. The current account deficit is widening as imports increasingly replace domestic production in several items, besides the elevation in international crude prices. In this context,

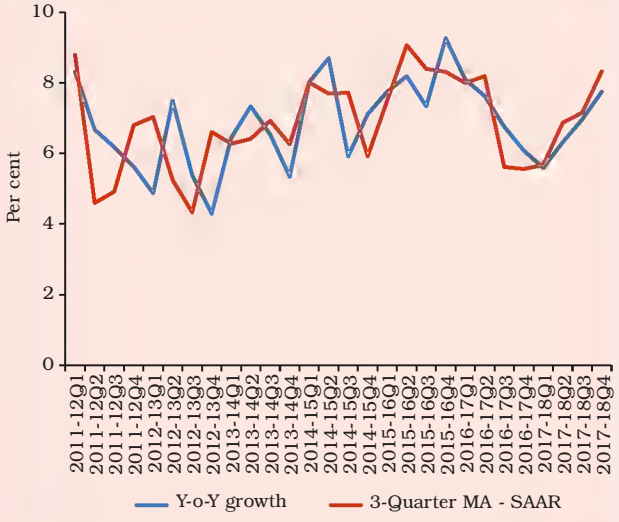
aggregate demand pressures emanating from a deviation from the budgeted fiscal deficit of the general government may spill over into higher external imbalances, contributing to a 'twin deficit' challenge. Equally worrisome is the emergence of hysteretic pressure patterns in recent inflation outcomes under the camouflage of a delayed winter season softening of vegetable prices that has started to reverse from May 2018. Third, financing conditions are tightening just as the nascent shoots of growth are taking root. Liquidity is gradually rebalancing while gilt and corporate bond yields are hardening and banks have begun raising their interest rates. Watchfulness is warranted in the context of the tentative pickup in credit growth that is gradually finding purchase. Fourth, global spillovers from markets repricing monetary policy normalisation by systemic central banks as well as geo-political and idiosyncratic risks remain contingent threats to macroeconomic and financial stability as well as to growth prospects.

II.1.4 Aggregate demand, which is featured in the immediately following sub-section, decelerated due to a slowdown in consumption, both private and government, and a decline in net export as the surge in imports outpaced exports. Support came from growth in gross capital formation which pushed up the investment rate to 34.1 per cent of gross domestic product (GDP) in 2017-18, up from 33.2 per cent in 2016-17. The sub-section on aggregate supply, which follows, profiles its slower pace and the underlying movements of its constituents – robust performance of agriculture and allied activities on top of a high base, reinvigoration of industrial activity, and the resilience of services.

Aggregate Demand

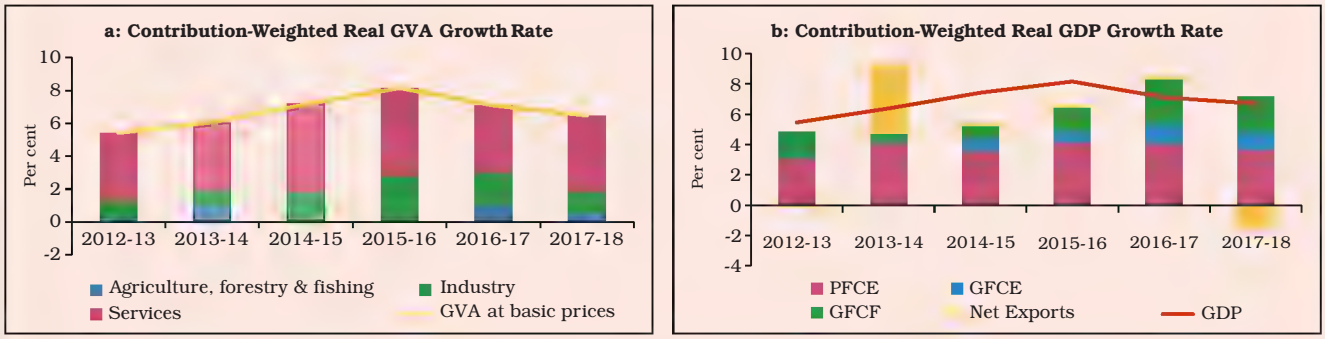
II.1.5 Decomposing the evolution of aggregate demand – measured by year-on-year (y-o-y) growth of GDP – reveals that its slide into a thirteen-quarter low of 5.6 per cent in Q1:2017-18 was set off by a slowdown in fixed investment and decline in net exports. The turnaround in Q2, as GDP growth picked up to 6.3 per cent, was powered by a robust acceleration in momentum which was carried forward into the second half of the year. Enabled by favourable base effects, GDP growth has shown a consistent increase of 0.7 percentage points in each quarter. Three-quarter moving averages of seasonally adjusted annualised growth rates attest to the interplay of momentum and base effects in aggregate demand conditions (Chart II.1.1). For the year as a whole though, Central Statistics Office's (CSO) provisional estimates (PE) indicate that there is room for a sizeable catch-up in aggregate demand – GDP growth at 6.7 per cent trailed 0.4 percentage points below the preceding year's rate.

Chart II.1.1: GDP Growth: Y-o-Y and 3-Quarter MA-SAAR



Source: CSO, and RBI staff estimates.
MA-SAAR: Moving average seasonally adjusted annualised growth rate.

Chart II.1.2: Growth of Real GVA and GDP



PFCE: Private final consumption expenditure; GFCE: Government final consumption expenditure; GFCF: Gross fixed capital formation; GVA: Gross value added; GDP: Gross domestic product.
Note: Component-wise contributions do not add up to GDP growth as change in stocks, valuables and discrepancies are not included.
Source: CSO, and RBI staff estimates.

II.1.6 Underlying the inflexion in aggregate demand conditions in 2017-18 were compositional shifts among constituents. Private final consumption expenditure (PFCE), which accounted for close to 57 per cent of real GDP growth in 2016-17, ceded share and its weighted contribution fell to around 55 per cent in 2017-18 (Chart II.1.2). While support from government final consumption was maintained at the preceding year's level, net exports depleted domestic demand after remaining in broad balance a year ago. Gross fixed capital formation (GFCF) shed 7.6 percentage points in 2017-18 from its weighted contribution of 43.2 per cent to GDP growth in 2016-17. Nonetheless, the steady increase in its share in GDP growth from the low of 8.4 per cent in 2013-14 is noteworthy in view of its historical catalysing role in stepping up the pace of growth and its longer-lasting multiplier effects relative to other constituents, on the overall activity in the economy, employment and welfare.

Investment and Saving

II.1.7 This firming up of GFCF during 2017-18 acquires significance in the context of the recent experience which saw the rate of fixed investment, measured by the GFCF/GDP ratio, worsening steadily from 34.3 per cent in 2011-12 to 30.3 per cent in 2015-16. In 2016-17, however, GFCF shrugged off its secular decline and green shoots of revival became visible, led by private non-financial corporations and general government. Fixed investment of the private non-financial sector increased primarily in the form of machinery and equipment closely followed by intellectual property products. After a transient slowdown in Q1:2017-18 due to the lingering impact of demonetisation and uncertainties ahead of the implementation of the goods and services tax (GST), fixed investment rebounded in Q2 and sustained momentum over the rest of the year. The coincident turnaround in the growth of GDP and GFCF bears out the empirically validated switching role of the latter in turning points in the path of the Indian economy (Box II.1.1).

II.1.8 In terms of its determinants as employed by CSO, movements in GFCF appear to have been underpinned by the behaviour of domestic production of capital goods during the phase of a slowdown as well as the recent upturn from Q2:2017-18. As regards other drivers, *viz*., value added in construction turned up in the

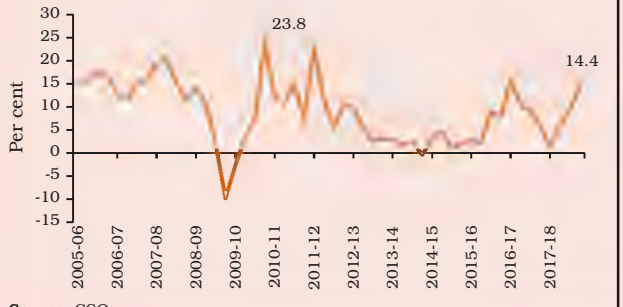
Box II.1.1
Investment Climate for Growth: What are the Key Enabling Factors?

The revival in gross fixed capital formation (GFCF) in the second half of 2017-18, has aroused considerable interest, with questions around its turning points and durability given that several lead/coincident indicators – sales growth, capacity utilisation, inventory drawdown, pricing power are also pointing to a much awaited upturn in the investment cycle.

Growth in GFCF scaled a peak of 23.8 per cent in Q4:2009-10 before slackening significantly over a prolonged period thereafter (Chart 1) from an average rate of 11.7 per cent during 2005-06 to 2009-10 to 7.0 per cent during 2010-11 to 2017-18, with some intervening quarters registering contraction. Since Q2:2017-18, however, the growth of GFCF has picked up and sustained in Q3 and Q4 averaging 11.7 per cent. This development warrants an empirical assessment of the factors influencing the investment climate.

The investment climate represents a combination of factors that includes macroeconomic and political stability, physical infrastructure, availability of financial capital and human resources, and the institutional, policy, and regulatory architecture. A transparent, stable and predictable investment climate is essential for growth and requires "*…proper contract enforcement and respect for property rights, embedded in sound macroeconomic policies and institutions, transparent and stable rules, and free and fair competition*" (IFC, 2016). Consequently, the business regulatory environment, taxation laws, and governance/institutional capacity often influence the ease and cost of starting a business as well as normal day-to-day operations. Quantitative and qualitative determinants of the investment climate have been captured in the form of a single index that helps identify the relative rank of a country, such as the ease of doing business index of the World Bank, competitiveness index (WEF, 2017), policy uncertainty index (Baker, *et al.,* 2016), corruption index (Transparency International, 2018) and the like.

Chart 1: Growth (y-o-y) in Gross Fixed Capital Formation



Source: CSO.

For the empirical assessment, year-on-year (y-o-y) growth in real GFCF and the GFCF to GDP ratio were taken as dependent variables representing the realised investment climate, while y-o-y changes in the economic policy uncertainty index, the business expectations index in the RBI's Industrial Outlook Survey and quarterly changes in the number of stalled projects are used as the measurable high frequency indicators of the investment climate. Drawing from the empirical literature, other determinants of the investment climate considered are the real interest rate representing the cost of finance, the real effective exchange rate as a proxy for competitiveness, and the profitability of current business indicating the return on investment (Table 1). The empirical estimation is based on the ordinary least square method, for the period 2001-02:Q1 to 2017-18:Q4 with heteroskedasticity and autocorrelation consistent (HAC) adjusted standard errors.

A priori, it is posited that (a) greater the business optimism and lower the level of policy uncertainty, higher could be the appetite for new investment; (b) higher real interest rates and appreciation of the real effective exchange rate may dampen investment, unless the expected return on investment is high enough to improve the earnings outlook; (c) higher corporate profitability can drive higher investment; and (d) increase in the incidence of stalled projects can depress new investment activity.

The empirical results point to persistence and gestation in the evolution of investment activity as evident in the statistically significant lagged dependent variable. This suggests that the investment climate is slow-moving and wields an influence on investment decisions. Consistent with expectations, policy uncertainties and bottlenecks (represented by stalled projects) have contributed to dampening of the investment climate. Corporate profitability, which is largely influenced by input costs

Table 1: Factors that Influence the Investment Climate

	Investment (INV)		
	Growth in Real GFCF (y-o-y)		GFCF to GDP Ratio
1	2	3	4
Constant	-3.70 (-1.72)*	0.47 (0.22)	5.07 (4.66)***
INV_{t-1}	0.51 (4.80)***	0.39 (6.71)***	0.77 (18.59)***
NAG_Gr_{t-1}	0.98 (3.06)***		
NAG_Gr_{t}		0.50 (1.82)*	
$Real_int_{t-2}$	-1.55 (-3.03)***		
$Real_int_{t-4}$		-0.65 (-1.99)**	
$Real_walr_{t-2}$			-0.09 (-2.81)***
$DREER_{t-4}$	-0.23 (-2.04)**		
$DBEI_{t-1}$	0.44 (6.30)***	0.33 (8.37)***	
$QBEI_{t-1}$			0.07 (5.14)***
$DUNCRT_{t-4}$	-0.02 (-1.92)**		
$EBITDA_{t-1}$		0.14 (3.88)***	
$PROFIT_{t-1}$			0.18 (3.44)***
$DSTALLED_{t-5}$			-0.01 (-2.24)**
R^2	0.67	0.76	0.94
LB-Q (P-value)	0.10	0.33	0.27

Notes: 1. ***; **; *: indicate the statistical significance at 1 per cent, 5 per cent and 10 per cent, respectively.
2. Figures in parentheses are t-statistics.
3. LB-Q is Ljung-Box Q statistics for the test of null hypothesis of no serial correlation (up to 5 lags).
4. Dependent variable in Col. (2) and (3) is year-on-year growth in real GFCF while that in Col. (4) is GFCF to GDP ratio.

NAG_Gr : Non-agricultural real GDP growth (y-o-y)
Real_int : Change in real policy rate
Real_walr : Real weighted average lending rate
DREER : Change (y-o-y) in Real Effective Exchange rate
DBEI : Change (y-o-y) in Business Expectations Index (From RBI's Industrial Outlook Survey)
QBEI : Deviation of Business Expectations Index from 100 level (From RBI's Industrial Outlook Survey)
DUNCRT : Change (y-o-y) in economic policy uncertainty index (Source: www.PolicyUncertainty.com).
EBITDA : Change (y-o-y) in earnings before interest, taxes, depreciation and amortisation adjusted for inflation.
PROFIT : Net profits (profits after tax) to sales ratio.
DSTALLED : Quarterly change in stalled projects (numbers).

Source: RBI staff estimates.

and demand conditions that determine pricing power, emerges as a forward-looking driver of new investment. As current profits are expected to alter the earnings outlook or the expected return on new investment, higher profitability resulting from lower input costs, higher output prices or improved productivity could brighten the investment climate. Headwinds from factors like slow growth in demand represented by non-agricultural income, subdued business confidence, and higher real interest rates (*i.e.,* the policy rate as well as the real weighted average lending rate) are seen to retard investment. An appreciation of the real exchange rate, which is an indicator of possible loss of external competitiveness, unless offset by higher productivity is found to adversely impact future investment demand (Table 1).

These empirical findings indicate that a combination of factors work to ensure a durable improvement in the investment climate, and, in turn, the rate of investment in the economy.

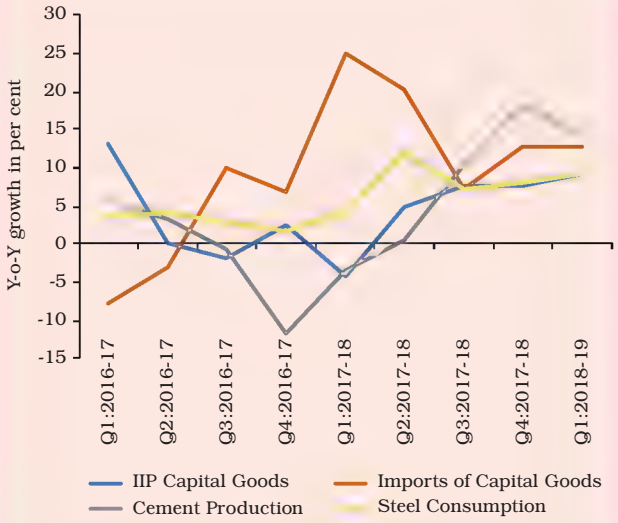
References:

1. Baker, S. R., N. Bloom and S. J. Davis (2016), "Measuring Economic Policy Uncertainty", *The Quarterly Journal of Economics*, Vol. 131, No. 4, pp. 1593–1636.
2. International Finance Corporation (IFC) (2016), "The Investment Climate", Issue Brief Series, July, IFC.
3. Transparency International (2018), "Corruption Perceptions Index 2017", Available at: https://www.transparency.org/news/feature/corruption_perceptions_index_2017.
4. World Economic Forum (2017), "The Global Competitiveness Report 2017–2018", September, Geneva.

preceding quarter, but imports of capital goods lost strength from Q3 after a surge that started a year ago (Chart II.1.3).

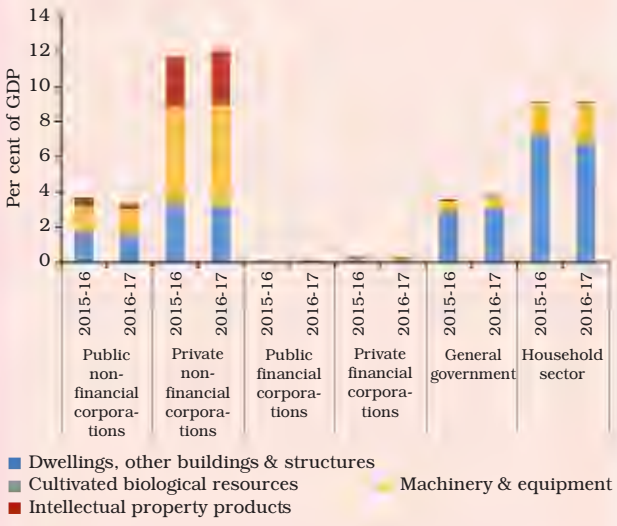
II.1.9 Construction activity remained subdued in 2016-17 with Q4:2016-17 recording a contraction. Recent structural reforms in the sector such as Real Estate (Regulation and Development) Act, 2016, might have produced some initial retardation before beneficial effects set in. However, this sector accelerated in Q3:2017-18 and grew by 11.5 per cent in Q4:2017-18, the highest in the 2011-12 base year series. This was also mirrored in proximate coincident indicators – steel consumption and cement production. Cement production, which contracted in seven successive months starting in December 2016, has started showing double digit growth since November 2017. Around two-thirds of cement demand emanate from the housing and real estate sector.

Chart II.1.3: Indicators of Investment Demand



Source: CSO, DGCI&S, Office of Economic Adviser and Joint Plant Committee.

Chart II.1.4: Sectoral Composition of Gross Fixed Capital Formation



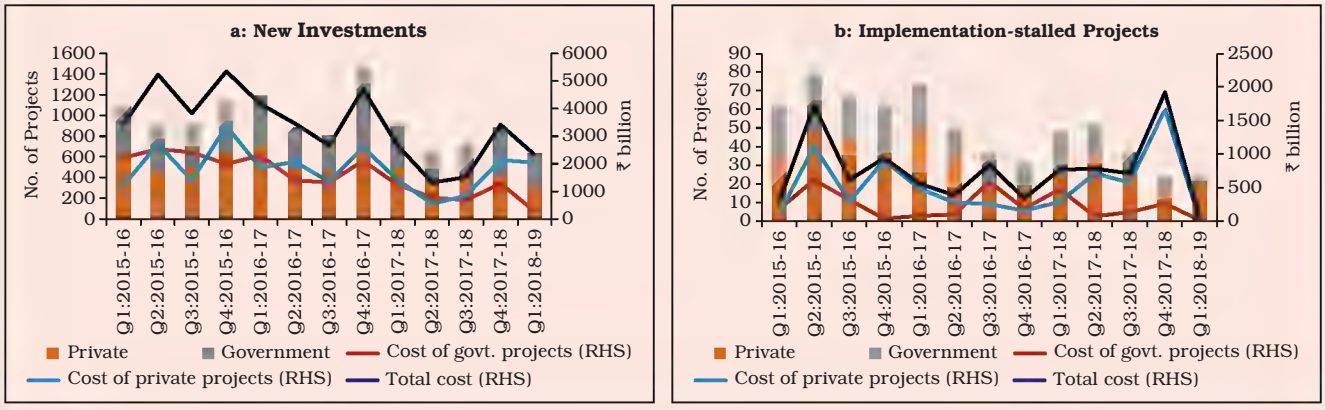
Source: CSO.

II.1.10 The share of fixed investment in dwellings, buildings and other structures dropped from 16.3 per cent of GDP in 2015-16 to 15.7 per cent in 2016-17, primarily in the household sector, followed by public non-financial corporations (Chart II.1.4). This was, however, compensated by fixed investment in machinery and equipment whose share rose from 10.6 per cent of GDP in 2015-16 to 11.9 per cent in 2016-17. Constrained by the rigidities confronting the domestic supply of capital goods cited above, domestic demand has increasingly spilled over into imports, resulting in the phenomenon of reverse substitution of domestic production by imports.

II.1.11 The Reserve Bank's Order Books, Inventories and Capacity Utilisation Survey (OBICUS) points to a pick-up in capacity utilisation in manufacturing alongside a drawdown in finished goods inventories from Q2:2017-18. The Industrial Outlook Survey (IOS) indicates that business optimism picked up relative to preceding quarters, mainly contributed by positive assessments on production, order books, capacity utilisation, employment, imports and exports. There has also been a gradual return of pricing power of manufacturing enterprises since Q3:2017-18. Stalled projects, both in numbers and value, declined in Q1:2018-19; however, new investments remained lukewarm uniformly across the government and the private sectors (Chart II.1.5). The plant load factor (PLF) in thermal power plants remained at the same level as in the previous year at about 60 per cent. Greater competition from renewable energy sources is increasingly evident.

II.1.12 The infrastructure sector, which is a key barometer of the investment climate, reflects the green shoots of strengthening capital formation in the economy after a hiatus. First, the length of highway projects constructed during 2017-18 maintained its growth momentum by increasing to 9,829 km from 8,232 km in the previous year. The length of highway projects awarded during 2017-18 increased to 17,055 km from 15,949 km in the preceding year. Second, a large part of the railway capex in 2017-18 was devoted to

Chart II.1.5: Status of Projects



Source: CMIE.

doubling or trebling of lines, gauge conversion and electrification. A key development was the laying down of the foundation for the Mumbai-Ahmedabad bullet train project. Third, in order to cater to surging domestic air traffic, the government has awarded flight routes to various underserved and unserved airports along with viability gap funding. Fourth, re-rating of the capacities of major ports in India showed an increase in rated capacity from 1,066 to 1,359 million tonnes per annum. Fifth, the government has launched the *Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA)* with the target of universal household electrification by March 2019.

Consumption

II.1.13 As in the past, consumption remained the dominant component of aggregate demand in 2017-18, accounting for 66.6 per cent of GDP. Consumption expenditure has provided valuable support to aggregate demand through the recent slowdown, including by cushioning the shocks imparted by demonetisation and the implementation of GST. In fact, the period 2013-17 is characterised as one of consumption-led growth (RBI *Annual Report, 2016-17*) as it contributed 64.4 per cent of the change in GDP during these years. In particular, GFCE, buoyed by enhanced salaries, pensions and allowances under the 7th central pay commission's award for central government employees and the one rank one pension award for defence personnel, has operated like a fiscal stimulus in a period of sluggish demand in the economy. If GFCE is excluded, the average growth of GDP of 6.9 per cent during 2016-18 would slump to 6.4 per cent. The evolution of GFCE is sketched out within a fuller analysis of public finances in section II.5.

II.1.14 PFCE, the mainstay of aggregate demand in India, slowed down in 2017-18, with the deceleration more pronounced in the first half of the year. The loss of speed in PFCE reflected a combination of factors – the overhang of demonetisation, especially in respect of the unorganised sector; the initial disruptions associated with the implementation of GST; and some deceleration in rural wage growth.

II.1.15 Domestic saving declined to 29.6 per cent of gross national disposable income (GNDI) in 2016-17 from 30.7 per cent in 2015-16 (Appendix Table 3). Household financial saving – the most important source of funds for investment in the economy declined to 6.7 per

Table II.1.1: Financial Saving of the Household Sector

(Per cent of GNDI)

Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 #
1	2	3	4	5	6	7	8
A. Gross financial saving	**10.4**	**10.5**	**10.4**	**9.9**	**10.8**	**9.1**	**11.1**
of which:							
1. Currency	1.2	1.1	0.9	1.0	1.4	-2.0	2.8
2. Deposits	6.0	6.0	5.8	4.8	4.6	6.3	2.9
3. Shares and debentures	0.2	0.2	0.2	0.2	0.3	0.2	0.9
4. Claims on government	-0.2	-0.1	0.2	0.0	0.5	0.4	0.0
5. Insurance funds	2.2	1.8	1.8	2.4	1.9	2.3	1.9
6. Provident and pension funds	1.1	1.5	1.5	1.5	2.1	2.0	2.1
B. Financial liabilities	**3.2**	**3.2**	**3.1**	**3.0**	**2.8**	**2.4**	**4.0**
C. Net financial saving (A-B)	**7.2**	**7.2**	**7.2**	**6.9**	**8.1**	**6.7**	**7.1**

GNDI: Gross National Disposable Income.
#: As per preliminary estimates of the Reserve Bank. The CSO will release the financial saving of the household sector on January 31, 2019 based on the latest information, as part of the 'First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation for 2017-18'.
Note: Figures may not add up to total due to rounding off.
Source: CSO and RBI.

cent of GNDI in 2016-17, down from 8.1 per cent in 2015-16 (Table II.1.1). Saving of private non-financial corporations dropped marginally to 11.1 per cent of GNDI in 2016-17. At the same time, general government's dissaving declined to 0.7 per cent in 2016-17 indicating sustained efforts to bring fiscal consolidation. As per the Bank's preliminary estimates, net financial assets of the household sector increased to 7.1 per cent of GNDI in 2017-18 on account of an increase in households' assets in the form of currency, despite an increase in households' liabilities.

Aggregate Supply

II.1.16 Aggregate supply, measured by gross value added (GVA) at basic prices expanded at a slower y-o-y pace in 2017-18, 0.6 percentage points down from 7.1 per cent in the preceding year and 0.9 percentage points below the decennial trend rate of 7.4 per cent (Appendix Table 2). Disentangling momentum from base effects, it is interesting to observe that while momentum registered an uptick in Q2, providing a much needed thrust to growth, base effects also came into play in H2. For the year 2017-18 though, annual growth rates obscure an important turning point that is picked up in quarterly changes. In terms of y-o-y quarterly growth rates, a loss of speed is discernible from Q1:2016-17 which persisted right up to a thirteen-quarter low in Q1:2017-18. In Q2, however, a turnaround – essentially powered by a surge in industrial activity – took hold, and as the agriculture and services sector joined in, GVA growth continued to accelerate in Q3 and Q4. GVA momentum, measured in terms of q-o-q seasonally adjusted annualised growth rate (SAAR), showed a marked improvement from Q2:2017-18. Services, which comprise over three-fifths of GVA rebounded in 2017-18 with a broad-based growth across sub-sectors (Table II.1.2).

II.1.17 The disconnect between annual and quarterly growth rates in capturing the shifts in GVA in 2017-18 is evident in each constituent. In respect of agriculture and allied activities, GVA grew by 3.4 per cent in 2017-18 on top of record levels of foodgrains and horticulture output that fuelled a growth of 6.3 per cent a year ago. In

Table II.1.2: Real GVA Growth (2011-12 Prices)

(Per cent)

	2016-17				2017-18			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	2	3	4	5	6	7	8	9
I. Agriculture, forestry and fishing	**4.3**	**5.5**	**7.5**	**7.1**	**3.0**	**2.6**	**3.1**	**4.5**
II. Industry	**10.2**	**7.8**	**8.8**	**8.1**	**-0.4**	**7.1**	**7.3**	**8.0**
i. Mining and quarrying	10.5	9.1	12.1	18.8	1.7	6.9	1.4	2.7
ii. Manufacturing	9.9	7.7	8.1	6.1	-1.8	7.1	8.5	9.1
iii. Electricity, gas, water supply and other utility services	12.4	7.1	9.5	8.1	7.1	7.7	6.1	7.7
III. Services	**8.5**	**7.4**	**6.0**	**4.9**	**8.5**	**6.4**	**7.5**	**8.2**
i. Construction	3.0	3.8	2.8	-3.9	1.8	3.1	6.6	11.5
ii. Trade, hotels, transport, communication and services related to broadcasting	8.9	7.2	7.5	5.5	8.4	8.5	8.5	6.8
iii. Financial, real estate and professional services	10.5	8.3	2.8	1.0	8.4	6.1	6.9	5.0
iv. Public administration, defence and other services	7.7	8.0	10.6	16.4	13.5	6.1	7.7	13.3
IV. GVA at basic prices	**8.3**	**7.2**	**6.9**	**6.0**	**5.6**	**6.1**	**6.6**	**7.6**

Source: CSO.

terms of quarterly growth rates, however, a pick-up is evident in H2:2017-18. The reasonably satisfactory *rabi* harvest is reflected in the growth of agriculture GVA at 4.5 per cent in Q4:2017-18. Nonetheless, the contribution of agriculture and allied activities to real GVA growth declined to 7.9 per cent from 13.6 per cent in 2016-17.

II.1.18 To situate this assessment in some perspective, the southwest monsoon arrived two days ahead of schedule in 2017 and ten days earlier than last year, but it lost momentum during mid-July and August and this took a toll on sowing acreage in the season as a whole. Eventually, precipitation for the season as a whole was only 5 per cent below the long period average (LPA), but knock-on effects of the mid-season dry spell led to merely 0.3 per cent growth over the last year in *kharif* foodgrain production. Yet, it is important to note that the output level achieved in 2016-17 was an all-time record. If the 2017-18 *kharif* performance is evaluated against that backdrop, all crops grew by more than 10 percentage points over the average of the last 10 year production. Among cash crops, sugarcane and cotton production exceeded the preceding year's level but jute and mesta output dropped marginally.

II.1.19 Turning to the *rabi* season, the delayed retreat of the southwest monsoon led to late sowing. Moreover, the progress of *rabi* sowing was hindered by the uncertainty surrounding stubble burning and the sudden onset of cold conditions during January 2018. The deep deflation in the prices of pulses, oilseeds and several perishables also dis-incentivised acreage expansion in these crops. Ultimately, the northeast monsoon season ended with a rainfall deficiency of 11 per cent below the LPA, but supported by comfortable levels of water in major reservoirs, sowing managed to survive the vicissitudes of weather and was just 0.8 percentage points lower than last year's level.

II.1.20 Overall, India is set for a record foodgrain output in the crop year ending June 2018 increasing by 1.6 per cent y-o-y to a level of 279.5 million tonnes (Table II.1.3). The output of rice, wheat, pulses and coarse cereals is expected to have achieved record levels in 2017-18, while oilseeds production declined on account of lower production of soyabean.

Table II.1.3: Agricultural Production 2017-18

(Million Tonnes)

Crop	2016-17		2017-18			Variation in 3rd of AE of 2017-18 (Per cent)		
	3rd AE	Final Estimates	Target	2nd AE	3rd AE	Over 2nd AE 2017-18	Over 3rd AE 2016-17	Over Final 2016-17
1	2	3	4	5	6	8	7	9
Food grains	**273.4**	**275.1**	**274.6**	**277.5**	**279.5**	**0.7**	**2.2**	**1.6**
Rice	109.2	109.7	108.5	111.0	111.5	0.5	2.1	1.6
Wheat	97.4	98.5	97.5	97.1	98.6	1.5	1.2	0.1
Coarse Cereals	44.4	43.8	45.7	45.4	44.9	-1.1	1.1	2.5
Pulses	**22.4**	**23.1**	**22.9**	**24.0**	**24.5**	**2.1**	**9.4**	**6.1**
Tur	4.6	4.9	4.3	4.0	4.2	5.0	-8.7	-14.3
Moong	2.1	2.2	2.3	1.7	1.9	11.8	-9.5	-13.6
Urad	2.9	2.8	2.6	3.2	3.3	3.1	13.8	17.9
Oilseeds	**32.5**	**31.3**	**35.5**	**29.9**	**30.6**	**2.3**	**-5.8**	**-2.2**
Cotton #	**32.6**	**32.6**	**35.5**	**33.9**	**34.9**	**2.9**	**7.1**	**7.1**
Jute & Mesta ##	**10.3**	**11.0**	**11.7**	**10.5**	**10.6**	**1.0**	**2.9**	**-3.6**
Sugarcane (Cane)	**306.0**	**306.1**	**355.0**	**353.2**	**355.1**	**0.5**	**16.0**	**16.0**

#: Million bales of 170 kgs each. ##: Million bales of 180 kgs each. AE: Advance Estimates.
Source: Ministry of Agriculture and Farmers' Welfare, GoI.

II.1.21 In the current southwest monsoon season so far (upto August 17, 2018), rainfall was 8 per cent below the LPA and 26 subdivisions covering 78 per cent of the area received excess/ normal rainfall. As a result, water level in 91 major reservoirs in the country replenished and turned out higher than the previous year's level. However, the *kharif* sowing so far is lower by 1.5 per cent compared to the last year's acreage.

Horticulture

II.1.22 Horticulture output has expanded significantly over the last few years. Accounting for 34 per cent of the value of output from crops (average over 2011-16), horticulture has imparted stability to agricultural output. In 2017-18, horticulture production touched a record level of 307.2 million tonnes, up by 2.2 per cent over the level in 2016-17. The production of fruits and vegetables increased y-o-y by 1.6 per cent and 2.2 per cent, respectively. Among the three key vegetables, the production of potato and tomato increased, while the production of onion declined during the year, mainly on account of lower acreage. The rise in horticulture productivity was not sustained in 2017-18, with the per acre production decreasing marginally by 0.06 per cent.

Allied Activities

II.1.23 Allied activities, which include forestry, fishing and livestock contribute around 39 per cent of the gross output in agriculture and allied activities. In order to promote allied activities, the government has set up an Animal Husbandry and Infrastructure Development Fund (AHIDF) for financing infrastructure requirements of the animal husbandry sector. The facility of Kisan Credit Card has been extended to the fisheries and livestock farmers. A National Mission on Bovine Productivity helps to reach the benefits of animal husbandry to farmers directly. The five year average growth (2012-13 till 2016-17) of allied activities has stepped up to 5.6 per cent, well above the quinquennial average growth of

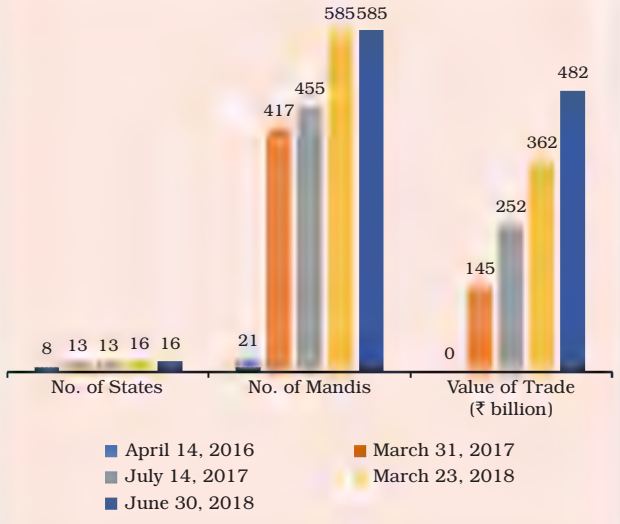
2.7 per cent for the sector of agriculture and allied activities as a whole.

e-NAM

II.1.24 In order to create a unified national market for agricultural commodities, e-NAM, the e-trading platform for the National Agriculture Market was launched in April 2016 and its reach has been expanded considerably over the last two years. The platform now covers 585 markets across 16 states and two Union Territories (UTs) as on June 30, 2018 (Chart II.1.6). The total cumulative value of trade under e-NAM since the time of its launch has reached ₹482.15 billion, and 10.7 million farmers, 63,059 commission agents and over 0.1 million traders have registered on the e-NAM platform so far.

II.1.25 The scheme has immense potential to transform the agricultural marketing structure through smoother inter-state movements, more efficient price discovery and removal of intermediaries. The adoption process, however, has been slow and gradual with a majority of traders/farmers still continuing with the manual auction method for selling their products. Recent initiatives to boost e-NAM include: (a) simplifying registration of farmers on the portal, (b) expanding payment options (addition of Unified Payment Interface) and (c) extending e-NAM trading in six languages. Measures such as third-party assaying, quality certification mechanisms, dispute settlement mechanisms and digital infrastructure will improve the adoption of e-NAM considerably.

Chart II.1.6: e-NAM Coverage: Value, Mandis and States



Note: Includes 2 UTs under e-NAM since March 2018.
Source: Ministry of Agriculture and Farmers' Welfare, GoI.

Union Budget 2018-19 Proposals

II.1.26 The Union Budget 2018-19 has proposed a number of measures to enhance rural income and promote agriculture, *viz.,* (i) setting the minimum support prices (MSPs) for crops at 1.5 times the cost of production; (ii) setting up an Agri-Market Infrastructure Fund with a corpus of ₹20 billion for developing and upgrading agricultural marketing infrastructure in the 22,000 Grameen Agricultural Markets (GrAMs) and 585 Agricultural Produce Market Committees (APMCs); (iii) creation of a Fisheries and Aquaculture Infrastructure Development Fund (FAIDF) and the AHIDF; (iv) launching a re-structured National Bamboo Mission with an outlay of ₹12.9 billion to promote the bamboo sector in a holistic manner; (v) launching an "Operation Greens" along the lines of "Operation Flood" to promote Farmer Producers Organisations (FPOs), agri-logistics, processing facilities and professional management; (vi) further expansion of the ground water irrigation scheme under the *Pradhan Mantri Krishi Sinchayee Yojana - Har Khet ko Pani;* and (vii) providing health protection cover of ₹0.5 million each for 100 million poor and vulnerable families.

II.1.27 Currently MSPs for 23 agricultural commodities of *kharif* and *rabi* seasons

are announced by the government, based on recommendations of the Commission for Agricultural Costs and Prices (CACP). Procurement at MSP is, however, largely restricted to rice (*kharif* season) and wheat (*rabi* season). As a result, the weighted average *mandi* prices trade below the MSP for many of the crops, *e.g., urad, tur*, *chana*, lentil, maize, groundnut, soyabean, *bajra*, rapeseed and mustard, causing loss to farmers. In line with the announcement in the Union Budget, the Government has recently fixed MSP for several *kharif* crops for the sowing season of 2018-19 which ensures a return of at least 50 per cent over the cost of production (as measured by A2 plus FL[1]). A few state governments have also launched their own price support schemes/ financial assistance for farmers.

Farm Loan Waivers

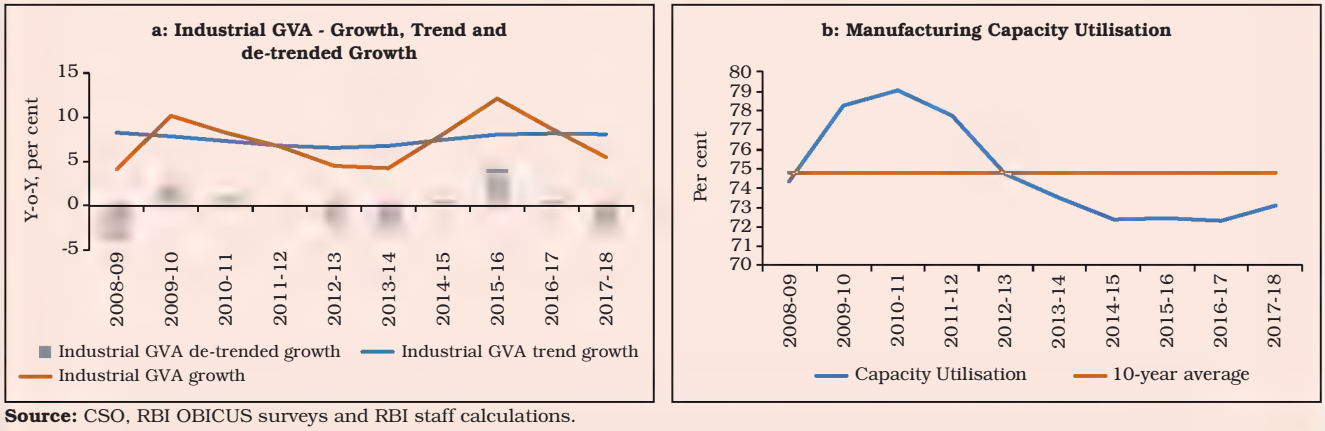
II.1.28 In order to address growing farmers' distress, several state governments, *viz.,* Uttar Pradesh, Punjab, Maharashtra, Rajasthan and Karnataka have announced farm loan waivers. While waivers may cleanse banks' balance sheets in the short-term, they may dis-incentivise banks from lending to agriculture in the long-term (EPW Research Foundation 2008; Rath 2008)[2].

Industrial Sector

II.1.29 GVA growth in industry decelerated on a y-o-y basis to 5.5 per cent in 2017-18 in a sequence that commenced a year ago when it came off a recent peak of 12.1 per cent in 2015-16. Consequently, the weighted contribution of industry to overall GVA growth declined from 33.5 per cent in 2015-16 to 20.0 per cent in 2017-18. Also, the cyclical component of growth (estimated through a univariate approach using the Hodrick-Prescott filter) turned negative in 2017-18 and capacity utilisation in the manufacturing sub-sector remained below the 10-year average (Chart II.1.7 a and b).

II.1.30 On a seasonally adjusted three-quarter moving average annualised basis, industrial GVA growth recovered sharply in Q2 and maintained an upward trajectory thereafter. Similarly, seasonally adjusted industry GVA showed that

Chart II.1.7: Industrial GVA and Manufacturing Capacity Utilisation



Source: CSO, RBI OBICUS surveys and RBI staff calculations.

[1] A2 plus FL includes all paid out costs such as expenses on hired labour, machines, rent paid for leased land, seeds, fertilisers, irrigation charges, depreciation as well as imputed value of family labour.

[2] Rath, N. (2008), "Implications of the Loan Waiver for Rural Credit Institutions", *Economic and Political Weekly*, June 14. EPW Research Foundation (2008), "The Loan Waiver Scheme", *Economic and Political Weekly*, March 15.

the revival in industrial activity in 2017-18:Q2-Q4 was primarily driven by momentum.

II.1.31 As stated earlier, annual changes mask the inflexion points in the evolution of industrial output during the course of the year. Quarterly growth rates reflected a protracted slowdown that started during Q2:2016-17 and slid into a contraction in Q1:2017-18. In Q2, however, there was a rebound driven by manufacturing and electricity generation, which helped the overall value added to shrug off the drag from mining. Over H2:2017-18, the tempo of expansion in industrial GVA was sustained on the shoulders of an acceleration in manufacturing, despite the support from the electricity sub-sector moderating and a slump in mining output.

II.1.32 The deceleration in the growth of GVA in industry in 2017-18 in relation to the preceding year is also reflected in the index of industrial production (IIP), although intra-year movements in industrial output reflected an underlying improvement gathering (Table II.1.4). At a sectoral level, the recovery was witnessed in the manufacturing sector, while mining and electricity sectors decelerated. In 2018-19 so far (April-June), industrial activity improved on the back of manufacturing and mining even though electricity generation expanded at a subdued pace. In terms of use based activity, primary goods, capital goods, consumer durables and infrastructure/construction goods contributed to the acceleration in the IIP growth.

II.1.33 While mining and quarrying output has been considerably volatile in recent years on account of commodity-specific constraints, favourable base effects enabled a pick-up in Q2 from a flatter outcome in the preceding quarter. The upturn was short-lived, however, as coal and natural gas production fell off and crude oil output declined. Coal output decelerated for three successive years (2015-16 to 2017-18). Consequently, the reliance on imported coal for thermal power plants has reduced only marginally. The planned production ramp-up by Coal India Limited (CIL) has been hit by ageing mines, depleting resources and rising output costs with a progressively increasing strip

Table II.1.4: Index of Industrial Production (Base 2011-12)

(Per cent)

Industry Group	Weight in IIP	Growth Rate						
		2013-14	2014-15	2015-16	2016-17	2017-18	Apr-June 2017-18	Apr-June 2018-19
1	2	3	4	5	6	7	8	9
Overall IIP	**100.0**	**3.4**	**4.0**	**3.4**	**4.6**	**4.3**	**1.9**	**5.2**
Mining	14.4	-0.1	-1.4	4.3	5.3	2.3	1.1	5.4
Manufacturing	77.6	3.6	3.9	3.0	4.4	4.5	1.6	5.2
Electricity	8.0	6.1	14.8	5.7	5.8	5.4	5.3	4.9
Use-Based								
Primary goods	34.0	2.3	3.8	5.0	4.9	3.7	2.2	5.9
Capital goods	8.2	-3.6	-0.8	2.1	3.2	4.4	-4.2	9.5
Intermediate goods	17.2	4.5	6.2	1.5	3.3	2.2	1.0	1.6
Infrastructure/ Construction goods	12.3	5.7	5.0	2.8	3.9	5.5	1.7	7.7
Consumer durables	12.8	5.7	4.0	4.2	2.9	0.6	-1.2	7.3
Consumer non-durables	15.3	3.7	4.1	2.7	7.9	10.3	7.8	1.8

Source: CSO.

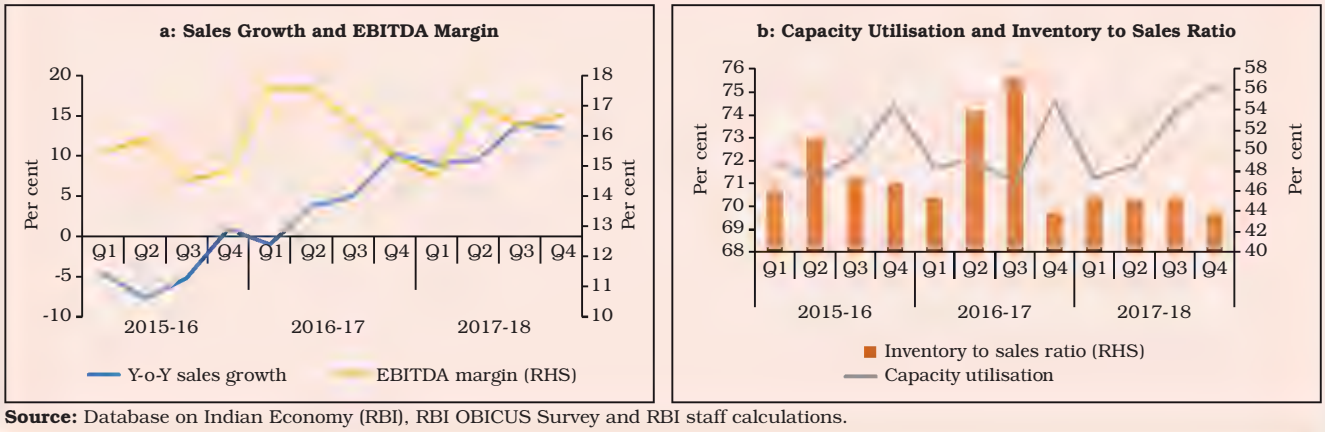
ratio[3]. Recent initiatives to allocate additional coal mines and easing regulations for coal-bed methane extraction could boost CIL's output. The output of fossil fuels, *viz*., crude oil and natural gas, has been constrained by the natural decline in extraction from ageing oil fields and factors like uncertain price policy, power shut downs, water cuts, and labour related frictions. Iron ore has been the clear bright spot in mining commodities in recent years, and its output growth in 2017-18 remained strong despite disruptions in the major mining states of Odisha and Goa. The growth in iron ore mining was helped by the underlying growth of steel demand, both domestic and global; favourable commodity prices and trade policy interventions.

II.1.34 The recovery in manufacturing was broad-based with production in 15 industry groups out of the total of 23 industry groups expanding during H2:2017-18 *vis-à-vis* only 10 industries during H1. By Q3, the combined contribution of items that registered expansion had decisively reversed the five preceding quarters of decline.

II.1.35 Among the major industry groups, coke and refined petroleum, chemical and chemical products, food products, machinery and equipment and other non-metallic mineral products together accounted for 33.8 per cent of the IIP, which witnessed a turnaround in performance. Pharmaceuticals registered the highest growth rates driven by digestive enzymes and antacids (DEAs). Electrical equipment has remained in contraction mode through Q1-Q4:2017-18.

II.1.36 Indicators of financial performance of listed manufacturing firms reveal that the deceleration in sales growth in Q1:2017-18 – possibly due to GST-induced de-stocking by downstream distribution channels – reversed thereafter and sales growth rebounded in Q2-Q4. Moreover, a slow return of pricing power is also taking root amidst rising input cost pressures; consequently, profit margins are improving (Chart II.1.8a). Indicators of operational performance from the RBI's OBICUS survey point to a reduction in inventory levels for manufacturing firms in Q4:2017-18. Also, the capacity utilisation level improved in Q2-Q4:2017-18 after deteriorating marginally in Q1:2017-18 (Chart II.1.8b).

Chart II.1.8: Manufacturing Sector Corporate Performance



Source: Database on Indian Economy (RBI), RBI OBICUS Survey and RBI staff calculations.

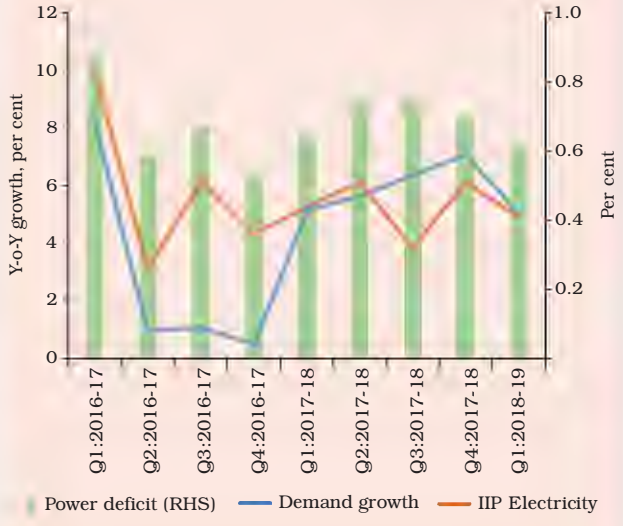
[3] In mining, stripping ratio or strip ratio refers to the ratio of the volume of overburden (or waste material) required to be handled in order to extract some tonnage of ore.

II.1.37 As regards expectations, manufacturing firms polled in the RBI Industrial Outlook Survey turned optimistic in Q3-Q4:2017-18, though the expectations for Q1-Q2:2018-19 dipped due to weaker prospects for production, order books, profit margins and overall financial situation.

II.1.38 Electricity generation began on a strong note with sequential acceleration in H1 of 2017-18 on the back of a revival in demand from Distribution Companies (DISCOMs). Demand accelerated in Q3 as a strong pick-up in manufacturing joined a situation in which supply was unable to keep pace, increasing the power deficit. In Q4 though, supply accelerated, reducing the power deficit (Chart II.1.9). Demand-supply dynamics were reflected in spot prices peaking in Q3:2017-18 on the Indian Energy Exchange, when the power deficit was the highest.

II.1.39 In terms of sources, thermal power, which has the highest share, was beset with challenges impacting both demand and supply. On the demand side, financial vulnerability of DISCOMs has constrained offtake and led to aversion to enter into new long-term power purchase agreements (PPAs). Some DISCOMs have defaulted on such existing agreements, substituting them with lower cost spot-market purchases. Ujwal DISCOM Assurance Yojana (UDAY) has yielded some results in bridging the gap between aggregate cost of supply and aggregate revenue realised through interventions in lowering finance costs, reducing aggregate technical and commercial losses, and increasing prices for the domestic segment. However, the progress has been uneven across states with spillover effects for power generation companies – particularly for thermal power plants with high-cost PPAs. Excess capacity continues to persist in the thermal power sector (especially in the private sector) with plants operating at sub-optimal plant load factor (PLF) that in turn could undermine their financial viability going forward.

Chart II.1.9: Electricity Sector: Demand, Supply and Deficit



Source: Central Electricity Authority and CSO.

II.1.40 Renewable energy has seen higher consistent growth during the year. Over the last 10 years, installed capacity increased almost 6 times – from 11.1 GW in 2007-08 to 65.5 GW in 2017-18 – and its share in power generation increased from 3.0 per cent in 2007-08 to 7.1 per cent in 2017-18. The composition of renewable energy itself is undergoing structural change, with the share of solar rising sharply to around 24 per cent in 2017-18 from a negligible level in 2007-08. The higher growth in renewables is in part driven by emissions targets committed under the Paris Climate Accord. Photo-Voltaic (PV) cell costs have declined sharply with increasing technology maturity and scale of production. The renewable energy target set by the government (175 GW installed capacity by 2022) gives the highest priority to solar energy

(100 GW installed capacity). India has taken the lead in international co-operation for solar energy development, by taking a leadership role in establishing the International Solar Alliance (ISA), a platform for sharing affordable technology and mobilising low-cost finance among member nations. The ISA has set a target of 1 Terawatt (TW) of solar energy by 2030. As the host and secretariat to ISA, India will provide 500 training slots for ISA member countries and start a solar tech mission to lead research and development (R&D).

II.1.41 On a use-based classification, IIP growth in H1:2017-18 was primarily attributable to primary goods and consumer non-durables. By contrast, the acceleration in H2 was driven by capital goods, infrastructure/construction goods and intermediate goods.

II.1.42 Capital goods output – considered an indicator of capital formation/investment – recovered from contraction mode since September 2016 (barring expansion in November 2016 and March 2017) and expanded for seven successive months since August 2017. Transportation and manufacturing sector related investment goods like commercial vehicles and vehicle parts, tyres, ship building, separators and sugar machinery were the drivers. Infrastructure/construction goods expanded in H1, with strong growth in iron and steel related products outweighing the contraction in cement production. The segment regained strength and posted acceleration in H2 due to a sharp pick-up in cement production and continued strong growth in iron and steel on progress in government driven infrastructure projects, including affordable housing.

II.1.43 Consumer non-durables, the strongest driver from the use-based side was heavily influenced by pharmaceuticals, in particular, DEAs. Excluding DEAs, this category would have contracted in H1, although components within the food and beverages industry group like sugar, milk, poultry meat and shrimps revived activity in the category in H2. Consumer durables output resumed growth from November 2017 onwards after contraction in 9 out of previous 11 months. In the case of intermediate goods, output growth closely followed that of manufacturing.

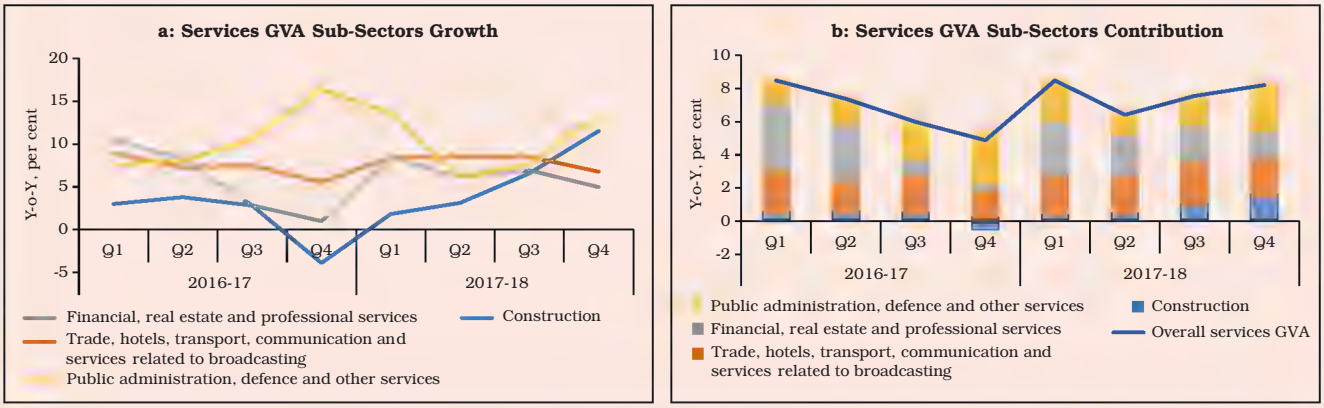
Services Sector

II.1.44 In contrast to the industrial sector, the services sector growth accelerated on a y-o-y basis to 7.6 per cent in 2017-18 breaking the sequence of two years of deceleration. Also, excluding the government driven PADO component, service sector growth rate accelerated from 5.7 per cent in 2016-17 to 7.0 per cent in 2017-18. Nevertheless these growth rates remain significantly lower than the recent high of 9.3 per cent (2014-16).

II.1.45 On a seasonally adjusted three-quarter moving average annualised basis, services GVA growth (excluding PADO) recovered sharply in Q1, influenced by the acceleration in trade and real estate segments due to the push to clear inventories before the GST launch. Seasonally adjusted and decomposed into momentum (q-o-q changes) and base effects, the momentum achieved in Q1 weakened in the subsequent quarters.

II.1.46 The recovery in services GVA was fairly broad-based across constituent sub-sectors (Chart II.1.10a). In terms of weighted contribution to growth, that of PADO declined marginally in 2017-18, while all other sub-sectors witnessed improvement (Chart II.1.10b).

Chart II.1.10: Services GVA Growth – Sub-Sectors



Source: CSO and RBI staff calculations.

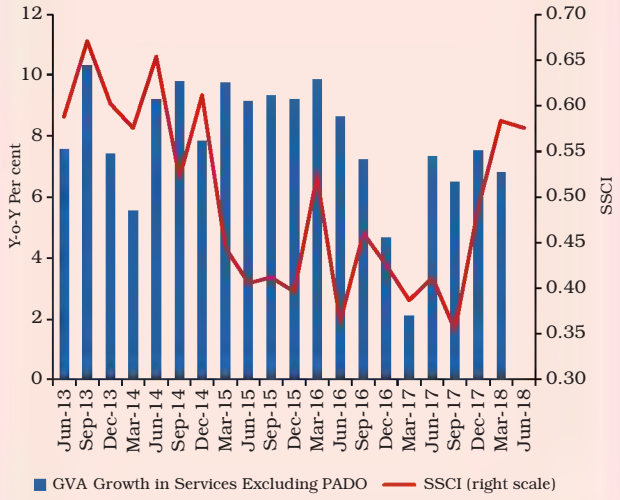
II.1.47 The CSO's initial GVA estimates of the services sector are based on the benchmark-indicator method. Construction GVA accelerated in 2017-18 with steel consumption growing at a sustained pace throughout and cement production accelerating in Q3-Q4. The key drivers were government infrastructure projects.

II.1.48 Trade, hotels, transport, communication and services related to broadcasting posted robust growth which was sustained through the year, visible also in the performance of coincident indicators[4]. Trade and transport are the biggest components, accounting for 59 per cent and 26 per cent, respectively, of this sub-sector. In the transport segment, railways, road and services incidental to transport are the biggest sub-components with shares of 15 per cent, 66 per cent and 16 per cent, respectively. Under rail transport, net tonne kilometres (70 per cent weight) registered significant acceleration in H2 while passenger traffic (30 per cent weight) growth remained subdued throughout the year. In the road transport segment, the stock of commercial vehicles on road accelerated from Q2:2017-18 onwards, with sales of new commercial vehicles showing robust growth. The acceleration observed in transport sector indicators during 2017-18 continued in Q1:2018-19, reflected in both rail freight traffic and commercial vehicle sales.

II.1.49 The major components of financial, real estate and professional services sub-sector are ownership of dwellings (29 per cent), financial services (28 per cent share) and IT services (21 per cent). Under financial services, bank credit accelerated significantly in H2 after a subdued performance in the preceding half. Aggregate deposits, in contrast, decelerated sharply in H2 after registering strong growth in H1:2017-18. In the case of IT services, the resilient EBITDA posted a growth of 5.7 per cent while the growth in staff costs was broadly positive in 2017-18. Exports of software services showed improvement though they faced uncertainties from visa policies in the United States and Australia. PADO continued to provide an upward thrust to the sector.

[4] As regards CSO's benchmark indicator for trade, the indicator has changed with the introduction of the GST - from actual sales tax collections to an estimated value using three approaches: (a) sales tax collection from products outside the purview of GST (like petroleum products); (b) regression of sales tax on value of output of commodity producing sectors; and (c) nominal growth in output of commodity producing sectors that are taxed. Information pertaining to these estimates are not yet available.

Chart II.1.11: Growth in Services Sector (excluding PADO) and Service Sector Composite Indicator (SSCI)



PADO: Public Administration, Defence and Other Services.
Source: CSO and RBI staff estimates.

II.1.50 The Reserve Bank's service sector composite index (SSCI), which extracts and combines information collated from high frequency indicators and statistically leads GVA growth in the services sector turned up in Q3:2017-18 (Chart II.1.11). A downward tendency in SSCI for Q1:2018-19, may be indicative of subdued services sector activity.

Employment

II.1.51 Formal sector employment, compiled from payroll data (Employees' Provident Fund Organisation, Employees' State Insurance Corporation and National Pension System) points towards an improvement in jobs created in 2017-18 *vis-à-vis* 2016-17. Total new subscribers (combined for the aforementioned three schemes) added per month improved from 1.6 million in 2016-17 to 1.8 million in 2017-18. Further, the Labour Bureau Quarterly Employment Survey, which measures addition to employment in the organised sector across eight sectors, indicates an incremental employment of 0.2 million in 2017-18 (up to September) which was higher than Q1-Q2:2016-17 by 0.9 lakhs.

II.1.52 The Union Budget 2017-18 had emphasised on energising of the youth through education, skills and jobs. The Skill India Mission launched in July 2015 to maximise the benefits of a huge demographic advantage was intensified by the Skill Acquisition and Knowledge Awareness for Livelihood Promotion Programme (SANKALP) launched at a cost of ₹40 billion in 2017-18. It is expected to provide market relevant trainings to around 35 million youth. Further, the next phase of Skill Strengthening for Industrial Value Enhancement (STRIVE), launched at a cost of ₹22 billion in 2017-18 with a focus on improving the quality and market relevance of vocational trainings provided in it, would strengthen the apprenticeship programmes through an industry cluster approach. A special scheme for creating employment in the textile sector has already been launched, and a similar scheme was to be implemented for leather and footwear industries in 2017-18.

II.1.53 Going forward, the focus of Union Budget 2018-19 on certain sectors such as agriculture, infrastructure, small and medium enterprises (SMEs) and also rural areas in general may provide a further fillip to consumption demand. The expected normal southwest monsoon in 2018 may also facilitate in keeping rural demand at an elevated level.

II.1.54 To sum up, economic activity in the Indian economy exhibited resilience in the face of several shocks during the year – demonetisation's after effects; GST implementation; spillovers from global sell-offs in bonds and equities; bouts of capital outflows; frauds in domestic banking system amidst mounting loan delinquencies and capital constraints; and the ongoing terms of

trade erosion. In this setting, loss of speed in GDP growth of 0.4 percentage points in relation to the preceding year notwithstanding, India's real GDP growth at 6.7 per cent was still among the highest for major continental-sized economies in the world. In the second half of the year, the impact of these drag factors started gradually dissipating and average real GDP growth accelerated to 7.4 per cent, exceeding the annual pace of growth in 2016-17. Importantly from a forward looking perspective, several turning points were passed in various quarters during the year – notably, gross fixed investment on the demand side, and on the supply side, manufacturing in industrial activity and construction in services. If these inflexions take firmer hold, they should support an enduring acceleration of momentum in the economy and spur an expansion into employment and incomes all around.

II.1.55 Agriculture and allied activities have provided a solid foundation to the Indian economy, especially in a year marked by several shocks (as alluded to earlier). A second successive year of bumper production of foodgrains and horticulture on the back of reasonably good monsoons has not, however, translated adequately into a boost to farm and rural incomes. Adverse and worsening terms of trade and high variability in the access to international markets has sapped away the large gains in production.

II.2 PRICE SITUATION

II.2.1 A distinctive feature of the evolution of headline inflation[5] during 2017-18 has been its high variability, notwithstanding lower average inflation relative to its history through the new series (Table II.2.1). Against this backdrop, sub-section 1 discusses the movements in headline inflation through three phases during the year, with food inflation playing an important role in both disinflationary and reflationary periods. Sub-section 2 assesses global inflation developments, which is followed by a detailed analysis of the major constituents of inflation in sub-section 3, with an emphasis on the drivers of food, fuel, and excluding food and fuel inflation. Sub-section 4

Table II.2.1: Headline Inflation – Key Summary Statistics

(Per cent)

Statistics	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2017-18 (excluding HRA)*
1	2	3	4	5	6	7	8
Mean	10.0	9.4	5.8	4.9	4.5	3.6	3.4
Standard deviation	0.5	1.3	1.5	0.7	1.0	1.2	1.1
Skewness	0.2	-0.2	-0.1	-0.9	0.2	-0.2	-0.2
Kurtosis	-0.2	-0.5	-1.0	-0.1	-1.6	-1.0	-0.8
Median	10.1	9.5	5.5	5.0	4.3	3.4	3.3
Maximum	10.9	11.5	7.9	5.7	6.1	5.2	4.9
Minimum	9.3	7.3	3.3	3.7	3.2	1.5	1.5

*: Excluding the impact of house rent allowance (HRA) for central government employees under the 7th Central Pay Commission (CPC) award.
Note: Skewness and kurtosis are unit-free.
Source: Central Statistics Office (CSO), and RBI staff estimates.

[5] Headline inflation is measured by year-on-year changes in the all-India Consumer Price Index-Combined (CPI-C) (Rural + Urban) with base year: 2012=100 released by the Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation, Government of India.

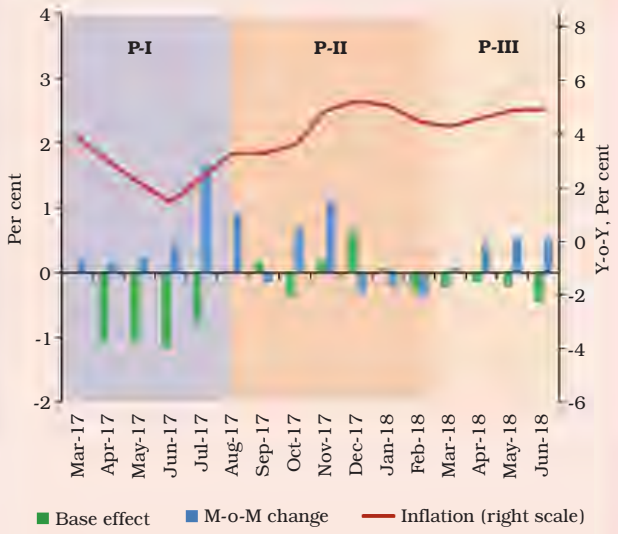
discusses other indicators of inflation such as sectoral consumer price index (CPI), wholesale price index (WPI), and GDP deflators as well as movements in wages – both rural wages and corporate staff costs. Sub-section 5 provides some concluding observations.

1. Headline CPI Inflation

II.2.2 In a surprise relative to expectations and consensus forecasts, inflation fell off the precipice in Q1 under the weight of overhang of the supply glut in inflation-sensitive food items, notably pulses and oilseeds, as well as higher *mandi* arrivals of some vegetables such as potatoes and onions. In the event, instead of the usual pre-monsoon upturn, food prices sank into deflation, taking headline inflation down into a temporary breach of the tolerance floor of the inflation target band. At 1.5 per cent in June 2017, it was the lowest reading in the new CPI series. Moreover, continuing deflation in the prices of pulses and spices (during June-March, 2017-18), along with moderation in prices of overall food and miscellaneous components imparted a negative skew to headline inflation, as against a positive skew during 2016-17.

II.2.3 From July, a confluence of domestic and global developments propelled headline inflation up by 375 basis points (bps) to 5.2 per cent in December 2017, a 17-month high (Chart II.2.1). Just as in the disinflation phase, the reflation was led by prices of vegetables, particularly of tomatoes and onions. The disbursement of house rent allowance (HRA) for central government employees under the 7th Central Pay Commission's award added momentum. In particular, the prices of vegetables surged in an unseasonal spike during October-November due to the late withdrawal of southwest monsoon leading to the damage of some crops. The usual

Chart II.2.1: Movements in Headline Inflation



Source: CSO, and RBI staff estimates.

seasonal softening in food prices with the arrival of the winter harvest finally occurred with a delay in December which, together with pro-active supply management measures adopted by the government – import of onions and imposition of a minimum export price (MEP) – helped contain price pressures and headline inflation ebbed to 4.3 per cent in March 2018. Excluding the effect of the HRA, it was even lower at 3.9 per cent. Strikingly, the weighted contribution of inflation excluding food and fuel to headline inflation jumped up in Q3:2017-18 and persisted at elevated levels through March 2018 with signs of a closing output gap and rising capacity utilisation.

II.2.4 For the year as a whole, inflation came down on an annual average basis to 3.6 per cent in 2017-18, around 90 bps lower than a year ago. Excluding the impact of HRA, annual average inflation during 2017-18 stood at 3.4 per cent (Table II.2.1). The decline was not broad-based though, with housing and fuel inflation increasing in 2017-18 (Appendix Table 4). On several occasions during the year, households

looked through transient falls in their inflation expectations formation, suggesting that adaptivity is slowly giving way to forward-looking behaviour, in line with the broad consensus in the literature[6].

II.2.5 According to the March 2018 round of the Reserve Bank's survey, inflation expectations remained elevated for both three months ahead and a year ahead horizons. This is also corroborated by more forward-looking professional forecasters in the Reserve Bank's March 2018 round of the survey of professional forecasters.

II.2.6 Beginning 2018-19, headline inflation picked up during Q1:2018-19 largely led by increase in prices within food, fuel and miscellaneous sub-groups. While price pressures were broad-based in case of miscellaneous component, within food group upside pressures primarily emanated from vegetables and select protein-rich items like meat and fish.

2. Global Inflation Developments

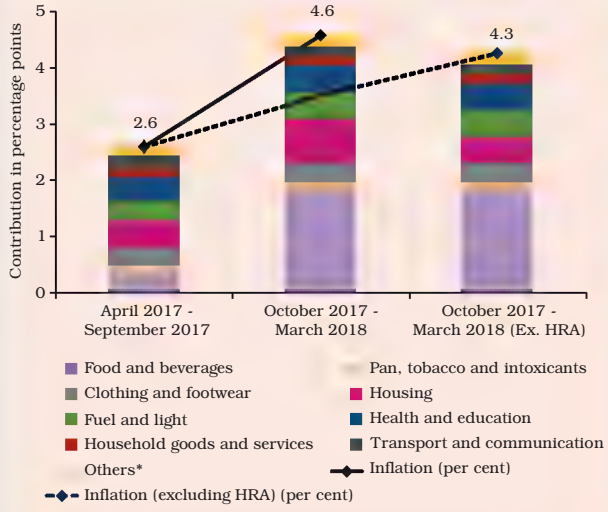
II.2.7 Domestic inflation developments acquire contextual relevance when they are situated in a global perspective. Globally, prices of agricultural commodities, especially of food items such as cereals, sugar and edible oils like soyabean remained broadly soft during the year, reflecting abundant supply. In the non-food category, metal prices hardened due to strong demand from China, which accounts for more than half of global consumption. Global crude oil prices were supported by the decision of the Organisation of the Petroleum Exporting Countries (OPEC) and non-OPEC producers – led by Russia – in November 2017 to extend the cut in oil production by 1.8 million barrels per day till the end of 2018. The price of the Indian basket of crude oil moved in tandem and rose to US$ 64 per barrel in March 2018 from US$ 51 per barrel in March 2017.

II.2.8 Against this backdrop, an interesting development has been that even as inflation has picked up with economic recovery in advanced economies during 2017, it has eased in emerging and developing Asia despite stable economic growth and rising global commodity prices, suggesting an important role for inflation targeting (IT) as a monetary policy framework and its gradual refinements over the years in a number of Asian economies (Box II.2.1).

3. Constituents of CPI Inflation in India

II.2.9 Circling back to the domestic price front, intra-year movements in headline inflation were underpinned by significant shifts at the sub-group level (Chart II.2.2). Subsequent paragraphs

Chart II.2.2: Drivers of Inflation



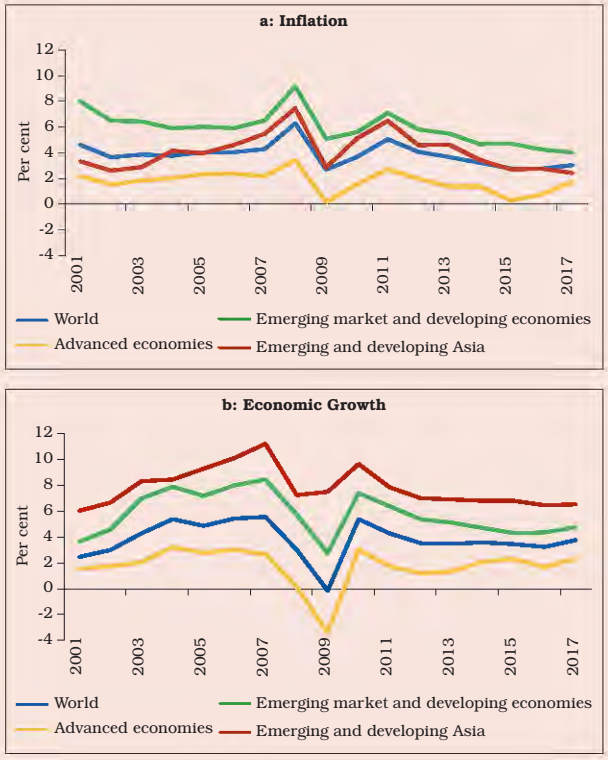
*: Includes recreation & amusement and personal care & effects.
Source: CSO, and RBI staff estimates.

[6] Patra *et al,* (2014) "Post-Global Crisis Inflation Dynamics in India: What has Changed?" in India Policy Forum 2013-14 provides a review of this literature.

Box II.2.1
Inflation in Asia after the Global Financial Crisis - How is it Different from the Rest of the World?

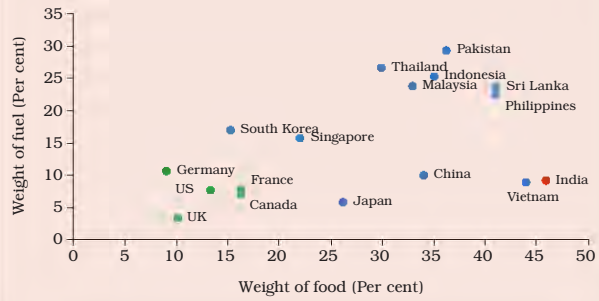
While the advanced economies have witnessed a pick-up in inflation along with economic recovery, after a prolonged period of deflationary risks, emerging market and developing economies (EMDEs) as a group, and emerging and developing Asia[7] in particular, have continued to record moderation in inflation (Charts 1.a & 1.b). A cross-country comparison of weights of fuel and food in the CPI shows that the weights are generally higher in select Asian economies than in advanced economies (Chart 2). Therefore, the impact of rising global fuel and food prices since 2015 should have resulted in rising inflation (instead of moderation) in Asia.

Chart 1: Trends in Global Inflation and Economic Growth



Source: World Economic Outlook, April 2018.

Chart 2: Weights of Food and Fuel in CPI



Source: Country-wise inflation reports.

Against this backdrop, the underlying drivers of inflation in Asia were examined in a panel framework. The data set included eleven Asian economies of which six are inflation targeters[8] and five advanced economies among which Canada, UK, Germany and France (as part of the euro area) are inflation targeters. Drawing from the literature (Fraga *et al*, 2003; Mishkin and Hebbel, 2001), a dynamic panel data model in equation (1) with the Arellano-Bover/Blundell-Bond system generalised method of moments (GMM) estimation was carried out on a panel comprising annual data for the 16 economies for the period 1990 to 2017[9].

The base model (1) aims at analysing the impact of the adoption of inflation targeting (IT) (modelled as a dummy variable taking the value 1 from the adoption year of IT and value 0 in the pre-IT years) on inflation for the entire set of countries while controlling for factors like the output gap and its lag, the fiscal deficit, the exchange rate (expressed in local currency unit per US$), global energy prices and import share in GDP. While the IT dummy, import share and global energy price inflation were considered to be exogenous variables in the model, the output gap, the fiscal deficit and the exchange rate were treated as endogenous[10]:

$$inflation_{it} = \beta_1 + \rho\ inflation_{i,t-1} + \beta_2\ ITdummy_{it} + \beta_3\ exchange\ rate_{it} + \beta_4\ fiscal\ deficit_{it} + \beta_5 output\ gap_{it} + \beta_6\ output\ gap_{i,t-1} + \beta_7 global\ energy\ inflation_t + \beta_8\ import\ share\ in\ GDP_{it} + \epsilon_{it} \quad \ldots\ldots\ldots(1)$$

(Contd...)

[7] Emerging and developing Asia includes 30 countries, the major ones being China, India, Indonesia, Malaysia, Thailand, Bangladesh, Bhutan, Sri Lanka, Philippines, Myanmar and Nepal.

[8] Eleven Asian economies include six inflation targeters – India, Indonesia, Philippines, South Korea, Thailand and Japan, and the remaining non inflation targeters – China, Sri Lanka, Pakistan, Malaysia and Singapore.

[9] When independent variables are not strictly exogenous and are correlated with their past, a dynamic panel model is considered to be appropriate. An Arellano-Bond dynamic panel using GMM in first difference of the regressors corrects for endogeneity, autocorrelation and deficiencies of the fixed effect panel regression. Arellano-Bover/Blundell-Bond, which is an augmented version of Arellano-Bond, allows for more instrumental variables, generally leading to an improved efficiency of the model.

[10] Data are sourced from IMF's World Economic Outlook (WEO) and International Financial Statistics (IFS), World Bank, CEIC and Bloomberg. The output gap for Asian economies is calculated using Hodrick-Prescott (HP) filter, while for advanced economies they are taken from WEO.

Table 1: Results of the Dynamic Panel Data Models[11]

Explanatory Variables	16 Countries: 1990-2017 Dependent Variable: Inflation		11 Asian Countries: 2001-2017 Dependent Variable: Inflation	
	Coefficient	Z-value	Coefficient	Z-value
1	2	3	4	5
$inflation_{i,t-1}$	0.36	2.73**	0.45	4.25***
$ITdummy_{it}$	-1.36	-1.76*	-2.17	-1.79*
$exchange\ rate_{it}$	0.32	1.30	0.71	2.35**
$fiscal\ deficit_{it}$	0.11	2.24**	0.03	0.27
$output\ gap_{it}$	-0.36	-0.90	0.10	1.31
$output\ gap_{i,t-1}$	0.68	1.54	0.21	2.69**
$global\ energy\ inflation_{t}$	0.02	2.72**	0.02	3.06**
$import\ share\ in\ GDP_{it}$	0.004	0.64	0.02	1.72*
constant	1.94	3.15**	-0.20	-0.31
No. of observations	406		172	
Wald $chi^2(8)$	835.18***		687.09***	

Note: *, ** and *** indicate 10 per cent, 5 per cent and 1 per cent levels of significance, respectively.
Source: RBI staff estimates.

where, *i* stands for country, *t* stands for year and ϵ_{it} is the error term.

The results show the IT dummy to be statistically significant with the expected negative sign, indicating the role of inflation targeting in lowering inflation (Table 1). Interestingly, the coefficients of past inflation (ρ) also turned out to be statistically significant, along with the exogenous shock of global energy price inflation and the fiscal deficit. It seems that while inflation targeting has acquired some success, factors like supply shocks (such as global oil price shock) and inflation inertia or history (which can adaptively drive inflation expectations) still continue to play a role in shaping inflation dynamics.

The base model was run with a truncated set of countries and time period (11 Asian economies and for 2001-2017). This time the IT dummy variable was set up to take the value 1 in case of inflation targeters and 0 otherwise. Also, the starting year of the truncated sample period was considered from 2001, taking into account China's entry into the World Trade Organisation (WTO) and its potential role in influencing regional and global inflation dynamics. While the coefficient associated with the IT dummy turned out to be statistically significant with a larger negative value, the results also suggested an increasing role of inflation persistence (lagged inflation) along with factors like supply shocks in terms of global energy price inflation, exchange rate depreciation and import share in GDP in determining inflation dynamics. Also, interestingly, the lagged output gap coefficient turned out to be statistically significant with a positive sign, which was not the case in the full sample model. This suggests that while inflation targeting has been and is an important factor in the moderation of inflation in Asian countries, other factors like exchange rate, energy prices as well as domestic demand conditions also play a role.

Table 2: Evolution of Inflation Targeting in Select Asian Economies

Country	Year of Adoption	Target Measure	Target Horizon	Initial Target	Target Measure in 2018	Target Horizon (Year of Change)	Target 2018
1	2	3	4	5	6	7	8
South Korea	1998	Headline CPI	Annual	9%±1% (Range)	Headline CPI**	Medium term - 3 years (2004)	2.0% (Point)
Thailand	2000	Core CPI	Quarterly	0 - 3.5% (Range)	Headline CPI (Since 2015)	Medium term and Annual (2016)	2.5%±1.5% (Point + Tolerance)
Philippines	2002	Headline CPI	Annual	4.5%-5.5% (Range)	Headline CPI	Medium term - 3 years (2010)	3%±1% (Point + Tolerance)
Indonesia	2005	Headline CPI	Annual targets announced at once for 3 years	6%±1%	Headline CPI	Medium term - 3 years (2014)	3.5%±1%
Japan	2013	Headline CPI	Annual	2%	Headline CPI	Annual	2%
India	2016*	Headline CPI	5 years (2016-21)	4%±2%	Headline CPI	5 years	4%±2%

*: Prior to May 2016, the flexible IT framework was governed by the Agreement on Monetary Policy Framework of February 20, 2015.
**: 2000-changed to core CPI, 2007-changed back to headline CPI.
Source: Respective central bank websites.

(Contd...)

[11] Coefficients and Z-values correspond to robust standard errors. Arellano-Bond tests for zero autocorrelation in first-differenced errors confirmed the robustness of the models.

In this context, it may be noted that the IT framework in some countries has undergone changes over the years (Table 2). For example, with the Bank of Thailand shifting to headline inflation in 2015 as its nominal anchor, all the six countries in Asia now target headline inflation. In addition, the Bank of Thailand also shifted to a point target with a tolerance band from its earlier range target in order to give a clearer signal to the public regarding the commitment of monetary policy in maintaining price stability. South Korea, Indonesia and Philippines have moved away from annual inflation targets to medium-term targets, while Thailand shifted from a quarterly target to a medium-term target combined with an annual target for each year.

References:

1. Fraga, A., I. Goldfajn and A. Minella (2003), "Inflation Targeting in Emerging Market Economies", *NBER Macroeconomics Annual*.
2. Mishkin, F.S., and Klaus Schmidt-Hebbel (2001), "One Decade of Inflation Targeting in the World: What Do We Know and What Do We Need to Know?", *NBER Working Papers No. 8397*.

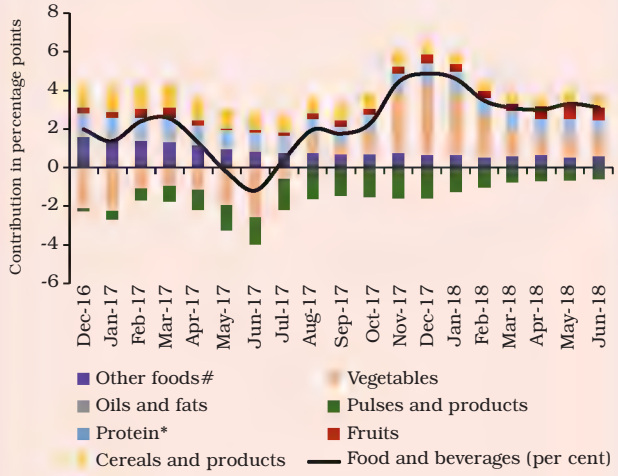
will profile the key drivers of the collapse of food inflation in the first half of the year and its surge in the second half, the sustained increase in fuel inflation from Q2 *albeit* with some moderation in Q4, and the upturn in inflation in 'excluding food and fuel category' during the second half of the year causing it to exceed 5 per cent from December 2017 and to rule above headline all through March 2018.

Food

II.2.10 For 2017-18 as a whole, food and beverages (weight: 45.9 per cent in CPI) inflation moderated sharply, with its contribution to overall inflation dropping to 29 per cent from 46 per cent a year ago amidst significant intra-year variability. The softening in food prices, which began as early as in the second half of 2016-17 under the weight of a bumper crop and distress sales post-demonetisation, spilled into the first quarter of 2017-18, diving into deflation during May-June 2017 (Chart II.2.3). Two factors stand out in this plunge in food inflation: first, the unusually muted and delayed seasonal uptick in prices of vegetables ahead of the monsoon; second, a deepening of the deflation in prices of pulses since March 2017.

II.2.11 Despite a delayed build-up of upside pressures in prices of vegetables, overall food inflation remained quiescent through Q2, aided by the timely and well-spread onset of the southwest monsoon during June-July 2017 and adequate food stocks. In August, however, the monsoon lost momentum, producing high temporal and spatial variability and a delayed withdrawal in October. This impacted the supply of perishables like onions and tomatoes severely and the resulting upsurge in prices of vegetables became a major concern during Q3, especially the spike in November which distorted the usual

Chart II.2.3: Drivers of Food Inflation (Y-o-Y)



*: Includes egg, milk & products and meat & fish.
#: Includes sugar & confectionery, spices, non-alcoholic beverages and prepared meals.
Source: CSO, and RBI staff estimates.

winter softening in these prices. The seasonal downturn finally arrived in December 2017, easing average food inflation to 3.7 per cent in Q4:2017-18.

II.2.12 Food inflation in India has undergone diverse movements over the years. With a structural break in December 2013, it has since dropped down to single digit after broadly remaining in double digits for around 20 months. During January 2011 to March 2018, both CPI-cereals inflation and CPI-pulses inflation witnessed two structural breaks, with the onset and spread of monsoon a major factor behind the breaks. Further, the easing phase in recent years in prices of both cereals and pulses is largely driven by cyclical components, indicative of good monsoon, bountiful supply and soothing global food prices.

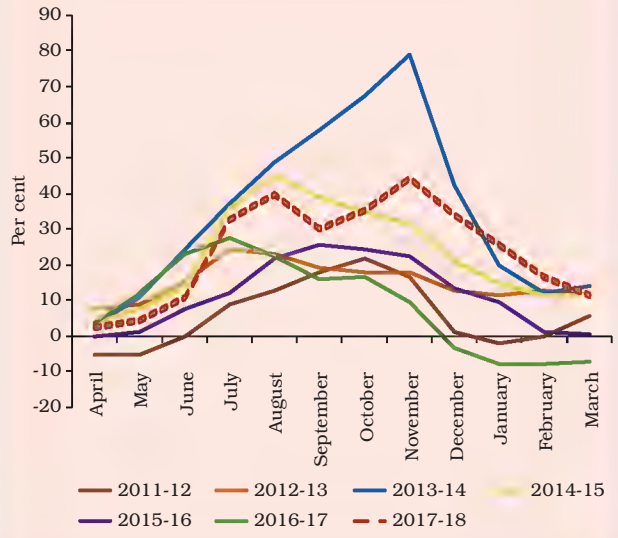
II.2.13 Prices of perishable items – primarily vegetables – that account for 13 per cent of the food group and 6 per cent of the CPI, were the principal drivers of the rise and fall of food inflation during the year. During 2016-17 and 2017-18, fluctuations in vegetables prices have proved pivotal in determining turning points and amplitude of food price waves, notwithstanding their low weight in the CPI relative to cereals and products. Notably, the trend and cyclical components of CPI-vegetables prices have reversed after the post demonetisation plunge.

II.2.14 Active supply management strategies since November 2017 appear to have played an important role in containing price pressures in vegetables and consequently, in food prices too. In terms of availability of inflation-sensitive vegetables such as tomatoes, onions and potatoes, intra-year movements in prices were influenced by the variability in *mandi* arrivals.

II.2.15 In the case of prices of tomatoes, inflation went up from (-)41 per cent in June 2017 to 119 per cent in November 2017 due to supply disruptions on account of adverse weather conditions and farmers' agitations in parts of Maharashtra and Madhya Pradesh. The decline in prices of tomatoes during August-October provided some relief, before the delayed retreat of the monsoon rainfall during October led to crop losses in important tomato producing states like Karnataka, Andhra Pradesh, Telangana, Madhya Pradesh and Odisha. With fresh winter arrivals from December, prices began softening following which tomato inflation dropped to (-)6.6 per cent in March 2018.

II.2.16 Inflation in prices of onions was another shock to food prices during 2017-18. From (-)14 per cent in April 2017, onion price inflation rose to 159 per cent in December. Again, while unfavourable weather was a factor, large procurement of onions by a few state governments was the other principal driver. Post December 2017, onion prices plunged with the arrival of fresh winter crops, supported by supply management measures by the government. The minimum export price (MEP), which is the key supply management measure used by the government to contain upsurges in onion prices, was re-implemented and fine-tuned during the year. This helped bring down onion price inflation to 66.8 per cent in March 2018. In the case of potatoes, delayed sowing in West Bengal – the key growing state in the country – due to extended monsoon showers in October induced price pressures, although carry-over stocks from the previous crop helped to rein them in. A defining characteristic of vegetables price developments in 2017-18 is that while the seasonal softening that usually begins in November was delayed,

Chart II.2.4: Seasonality in Vegetables Prices (Momentum over March)



Source: CSO, and RBI staff estimates.

the cumulative corrections since December have been much more pronounced (Chart II.2.4).

II.2.17 Excluding vegetables, food inflation would have averaged 1.5 per cent during July 2017-March 2018 (as against the actual food inflation of 3.0 per cent) as compared to 5.3 per cent during the same period of 2016-17.

II.2.18 Pulses, with a weight of around 5 per cent in the food group, imposed persistent downward pressures on food inflation throughout the year. This is illustrated by the significant shift in the contribution of prices of pulses to overall inflation from (+)6.0 per cent in 2016-17 to (-)17.9 per cent in 2017-18. With the production of pulses during 2017-18 higher at 24.51 million tonnes (23.13 million tonnes in 2016-17), double-digit deflation in pulses became more pronounced relative to the previous year. *Mandi* level *arhar* and *urad* prices in the major producing states of Maharashtra, Madhya Pradesh, Gujarat, Uttar Pradesh and Karnataka trailed well below their minimum support prices (MSPs), reflecting lower procurement relative to supply. Market prices remain above A2 costs (*i.e.,* production costs excluding imputed labour costs), however, and as a result, adverse supply responses are not yet evident but may be inevitable, going forward. Some mitigating measures have been adopted by the government during the course of the year – removal of the export ban on all pulses, imposition of 60 per cent import duty on *gram* and 30 per cent import duty on *masoor*.

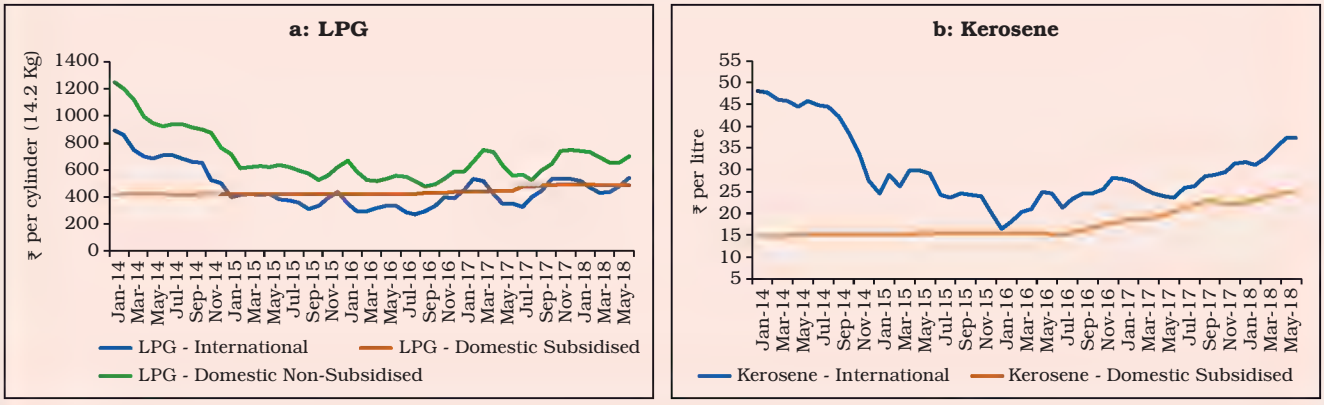
II.2.19 Prices of oilseeds, in particular of soyabean, mustard and groundnut, also fell below their MSPs on the back of healthy domestic production during 2017-18 (30.64 million tonnes) on top of a bumper crop in 2016-17 (31.28 million tonnes), after two consecutive years of drought. As a result, the prices of edible oils (mustard and groundnut) also fell and inflation treaded in negative territory for the major part of 2017-18. International prices of edible oils also eased on the back of strong global production, passing through into domestic prices through imports. The government raised the basic customs duties on different edible oils in August 2017, November 2017 and March 2018 to support domestic prices by curbing cheaper imports.

II.2.20 Sugar and spices also contributed to the overall moderation in food inflation with imports improving supply alongside higher domestic production (sugarcane production increased to 35.51 million tonnes in 2017-18 from 30.61 million tonnes in 2016-17). Inflation in cereals generally remained benign during the year, easing in the second half on comfortable stock positions.

Fuel

II.2.21 The fuel group (6.8 per cent weight in the CPI) contributed 11.3 per cent to headline

Chart II.2.5: Movements in Domestic and International Prices of LPG and Kerosene



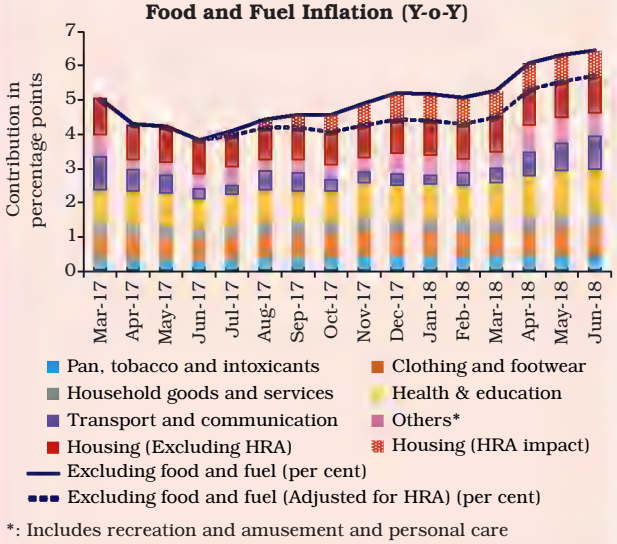
Source: Petroleum Planning and Analysis Cell (PPAC) and Bloomberg.

inflation during the year, up from 4.8 per cent a year ago. Fuel inflation picked up from July 2017 and reached a high of 8.2 per cent in November 2017 from an intra-year low of 4.5 per cent in June 2017, before easing to 5.7 per cent in March 2018. The rapid rise was led by prices of LPG and kerosene, reflecting the calibrated increase in their administered prices by the government since July 2016 with the aim of reducing the subsidy and progressively aligning domestic prices with international prices. On the other hand, domestic non-subsidised LPG prices largely tracked international LPG price movements (Chart II.2.5). The average price of non-subsidised LPG cylinders available for four metro cities fell by around ₹57 in March 2018 over December 2017, which was reflected in the moderation in fuel and light inflation during Q4:2017-18. Following the decision of the government to raise kerosene prices by 25 paise per litre every fortnight until the subsidy is eliminated, the gap between international and domestic kerosene prices has narrowed. Firewood and chips was another major contributor to the rise in fuel and light inflation during the year.

Inflation Excluding Food and Fuel

II.2.22 After remaining sticky through 2016-17, CPI inflation excluding food and fuel reached a low (in the new CPI series) of 3.8 per cent in June 2017, reflecting subdued price pressures and favourable base effects. Since then it has increased steadily till December 2017 and stayed around 5.2 per cent during Q4:2017-18, largely driven by prices of miscellaneous goods and services, and housing, which includes the statistical effect of HRA hikes (Chart II.2.6).

Chart II.2.6: Drivers of CPI Excluding Food and Fuel Inflation (Y-o-Y)



*: Includes recreation and amusement and personal care and effects.

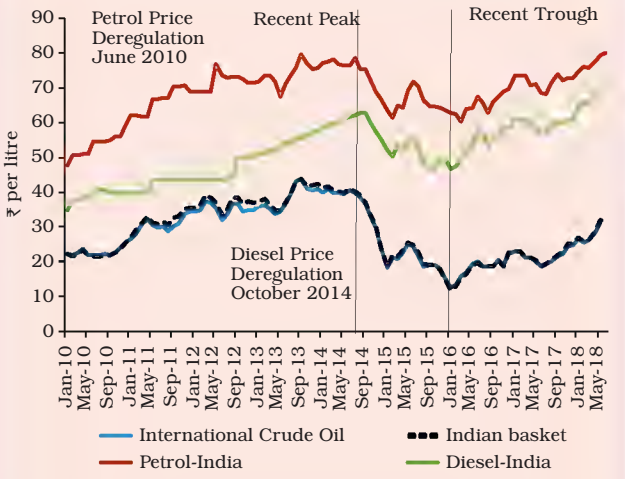
Source: CSO, and RBI staff estimates.

Adjusting for the impact of HRA, annual average inflation in excluding food and fuel group stood lower by around 40 bps at 4.2 per cent during 2017-18.

II.2.23 Net of housing, inflation excluding food and fuel averaged 4.1 per cent in 2017-18, down from 4.7 per cent in the previous year. The increase in HRA for central government employees became effective from July 2017 and its impact on housing inflation peaked in December 2017. This impact has gradually started waning from July 2018 and is expected to fade away fully by December 2018. For policy purposes, more than the direct impact of the HRA hike, a major part of which is purely statistical in nature, the second-round effects through the channel of inflation expectations would require careful monitoring. Moreover, the implementation of HRA by various state governments during 2018-19 could pose an upside risk to the inflation trajectory.

II.2.24 Within the miscellaneous group, inflation in transport and communication prices edged lower during the second half of the year to 2.3 per cent from 3.1 per cent in the first half, mainly on account of cuts in excise duties on retail prices of petrol and diesel by ₹2 per litre in October 2017 and the delayed pass-through of the rise in international crude oil prices during November-December. During 2017-18, price of the Indian basket crude oil reached its intra-year low of USD 46.6 per barrel in June 2017 in line with global crude oil prices. Since then, crude oil prices have increased month-over-month barring February 2018, with an intra-year peak of USD 67.1 per barrel in January 2018 (Chart II.2.7). On an annual average basis, the price of the Indian basket of crude oil increased by 18.5 per cent during 2017-18 (from USD 47.6 per barrel to USD 56.4 per barrel in 2017-18). The pass-through of crude oil prices to petroleum

Chart II.2.7: Oil Price Trends



Note: International crude oil price represents the average price of WTI, Brent and Dubai Fateh.

Source: World Bank Pink Sheet Database (latest available for May 2018), Indian Oil Corporation Ltd. (IOCL), and Petroleum Planning and Analysis Cell (PPAC).

products prices like petrol and diesel picked up in Q4:2017-18 after remaining muted during October-December 2017.

II.2.25 Moderation in prices of communication services – telephone and internet charges – largely reflected increased competition among service providers. Amongst other miscellaneous components, inflation in education prices moderated during the second half of the year, while the remaining components – health, recreation and amusement, household goods and services, and personal care and effects – recorded a pick-up in the second half, partly reflecting hikes in customs duties on items like TV LED panels, mobile handsets, footwear as well as an increase in gold prices.

4. Other Indicators of Inflation

II.2.26 For the year as a whole, sectoral CPI inflation based on Consumer Price Index of Agricultural Labourers (CPI-AL) and Consumer Price Index of Rural Labourers (CPI-RL), which do not have housing components, eased in line with overall CPI inflation, while the inflation in Consumer Price Index of Industrial

Workers (CPI-IW) and Consumer Price Index-Combined (CPI-C) converged in January 2018. The housing index under the CPI-IW is adjusted twice a year in January and July (in contrast with the continuous adjustment under CPI-C as a sixth of the sample gets covered every month). Therefore, the impact of the implementation of HRA was reflected in CPI-IW in January 2018.

II.2.27 Inflation measured by the WPI increased, while the GDP deflator based measure decreased during 2017-18. The rise in global crude oil prices, the hardening of metal prices due to the crackdown on polluting industries by China, and strengthening global growth spurred a rise in input costs and contributed to the turnaround in domestic farm and non-farm input costs during 2017-18.

II.2.28 Moderate increases in MSPs were announced during 2017-18 for cereals. Crops such as cotton and coarse grains, particularly *bajra* and *ragi*, received major hikes in their MSPs, and the government continued to incentivise the production of pulses and oilseeds by raising their MSPs. The role of MSPs in inflation formation from the cost side hinges on adequate procurement to ensure that market prices remain at or above the announced MSPs and remains a crucial inflation uncertainty for the upcoming year (Box II.2.2).

Box II.2.2
Minimum Support Prices (MSPs) – Do They Influence Inflation Trajectory in India?

The role of MSPs in influencing the inflation trajectory in India has been an issue of intense academic and public policy debate. While some studies indicate MSPs to be a major determinant of inflation (Kapur and Behera, 2012), others suggest limited impact (Sonna *et al,* 2014). There is also a view that MSPs may not have an independent impact on inflation (Lahiri, 2014). A dampening impact of MSPs on inflation due to the associated higher supply response is also highlighted (Gulati and Saini, 2014).

While empirical findings are mixed, the announcement by the government in the Union Budget 2018-19[12] to fix the MSPs at 1.5 times of cost of farm production effective *kharif* season 2018 warrants a reassessment of the impact of MSPs on the inflation trajectory. The government announces MSPs for 23 major crops prior to their sowing seasons to ensure guaranteed prices to farmers and protection from price fluctuations and market imperfections. Of these 23 items, 16 can be mapped to the CPI basket.

Against this backdrop, a dynamic panel regression model is estimated using Generalised Method of Moments (GMM) in view of the possible problem of endogeneity (*i.e.*, MSPs inducing a positive production response, and higher production requiring lower increases in MSPs) to assess the aggregate impact of MSPs on inflation of the 16 items under the new CPI-C series over the period 2011-12 to 2017-18:

$$\Delta Y_{14,16;t} = \rho\, \Delta Y_{(14,16;t-1)} + \beta_2\, \Delta X_{i,t} + \beta_3\, \Delta Z_{i,t} + \epsilon_{i,t},$$

where, $Y_{14,16;t}$ is weighted CPI of the 14 or 16 MSP items in period t, as the case may be; $Y_{(14,16;t-1)}$ is the weighted CPI with one period lag, $X_{i,t}$ are individual MSPs of the 14 or 16 crops in period t; and $Z_{i,t}$ is individual production of the 14 or 16 crops in period t. The estimation uses several instrumental variables, *e.g.,* agricultural wages, yields, lagged MSP, lagged production, procurement (of rice and wheat) and a rain dummy defined as deviation of south west monsoon from normal by +/-5% and the north east monsoon by +/-15%.

The model is estimated under three scenarios: (i) for all the 16 CPI items with procurement as an instrumental variable

(Contd...)

[12] In line with the budget proposal, the government fixed the MSPs for *kharif* crops on July 4, 2018, which were at least 1.5 times of A2+FL costs.

(Contd...)

(Scenario I), (ii) for all the 16 CPI items without procurement as an instrumental variable (Scenario II), and (iii) for 14 CPI items, *i.e.*, by dropping rice and wheat (where procurement is maximum at about 35 per cent of output) from the panel (Scenario III)[13].

The findings suggest that MSPs have the maximum impact on 16 items within the CPI food basket. The coefficients on the MSP term indicate that the impact of change in MSP on inflation is estimated to be stronger when procurement is used as an instrumental variable (Scenario I) than without (Scenario II). In contrast, excluding rice and wheat from the panel (*i.e.*, in the case of CPI 14), the MSP impact on inflation becomes statistically insignificant (Scenario III). This suggests that adequate procurement is the channel through which higher MSPs may push up the food inflation trajectory (Table 1).

Table 1: Empirical Results of the Dynamic Panel Data Model (16 Crops with MSP; 2011-12 to 2017-18)

Explanatory Variables	Scenario – I (CPI16 With Procurement IV)	Scenario – II (CPI16 Without Procurement IV)	Scenario – III (CPI14 Without Procurement IV)
1	2	3	4
log (*Food*.CPI16)$_{(-1)}$	0.52 (23.33)***	0.54 (54.28)***	---
log (*Food*.CPI14)$_{(-1)}$	---	---	0.83 (10.99)***
log (MSP16)	0.16 (6.61)***	0.13 (16.50)***	---
log (MSP14)	---	---	-0.06 (-0.49)#
log (Production16)	-0.04 (-5.01)***	-0.02 (-6.55)***	---
log (Production14)	---	---	-0.17 (-4.59)***
Diagnostics			
J-Statistics/prob (J-stats)	11.46; 0.12	13.19; 0.15	6.32; 0.38
Arellano-Bond test for AR(1) in first differences z/prob (z)	-2.88; 0.001	-3.33; 0.00	-2.08; 0.04
Arellano-Bond test for AR(2) in first differences z/prob (z)	-0.38; 0.701	1.21; 0.23	-0.26; 0.79

Notes: 1. MSP14 and CPI14 are excluding rice and wheat.
2. Figures in parentheses are t-statistics.
3. ***: Significant at 1%; #: Insignificant.

Instrumental variables (IV):
Log(AgriWage)$_{(0)}$; log(P.Yield)$_{(0)}$; log(MSP)$_{(-1,2,3)}$; Raindummy; log(area); log(procurement); log(Production)$_{(-1,2)}$

Source: RBI staff estimates.

The hypothesis is also examined for individual crops over the period 2008-09 to 2017-18 by studying the heterogeneity in production and procurement across states in a panel framework. Accordingly, the retail price of a crop in a state is modelled as a function of MSP, production, procurement and international prices, *i.e.*, the information that enters into fixation of MSPs by the Commission for Agricultural Costs and Prices (CACP). International prices and lagged retail prices are used as control variables. The problem of simultaneity bias (between MSP and retail prices) is addressed by the pre-announced nature of MSPs, while the inclusion of lagged retail prices and international prices alleviates omitted variable bias (as MSPs respond to these prices).

Thus, the baseline specification of retail prices of individual crops is as follows:

$$p_{st} = \beta_0 + \beta_1 msp_t + \beta_2 iprice_t + \beta_3 prod_{st} + \beta_4 proc_{st} + \beta_5\, p_{s(t-1)} + \delta_s + \varepsilon_{st},$$

where, p_{st} is retail price, msp_t is MSP, $iprice_t$ is international price, $prod_{st}$ is production, $proc_{st}$ is procurement, and δ_s captures the state fixed effects. Subscript *'s'* denotes state and *'t'* denotes crop year (annual data organised on a crop year basis, *i.e.*, July-June). For *rabi* crops, lags of MSPs, production and procurement are used because the marketing year spills over to the following crop year. In view of the use of lagged dependent variable as an explanatory variable, the Arellano-Bond estimation procedure is used which produces consistent estimates.

The results of the baseline model are presented in Table 2. They show that MSP has a positive and statistically significant effect on retail prices of all crops, although it varies significantly across crops. In general, it has a stronger effect for those crops where procurement is substantial, such as paddy and wheat. Additionally, the control variables throw up some interesting results: while international prices play a stronger role in determining

(Contd...)

[13] Besides wheat and paddy where procurement volumes are significant, some procurement also happens in the case of pulses and oilseeds by National Agricultural Cooperative Marketing Federation of India (NAFED) and Food Corporation of India (FCI) since 2016; and cotton and jute by the Cotton Corporation of India (CCI) and Jute Corporation of India (JCI); while several states also undertake procurement for release through the Public Distribution System (PDS) of items such as soyabeans in Madhya Pradesh, maize and *ragi* in Karnataka, *jowar* in Maharashtra and pulses in Tamil Nadu.

Table 2: Annual Data Panel Regressions

Dependent Variable	log (Retail Price)										
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Rice	Wheat	Arhar	Urad	Moong	Gram	Masoor	Groundnut	Soyabean	Rapeseed	Sunflower
log (MSP)	0.91***	1.27***	0.44***	0.15***	0.14***	1.13***	0.64***	0.57***	0.60***	0.83***	0.61***
	(0.10)	(0.08)	(0.10)	(0.04)	(0.03)	(0.06)	(0.06)	(0.13)	(0.08)	(0.08)	(0.06)
log (International Price)	0.07	0.03						0.40***	0.44***	0.48***	0.63***
	(0.09)	(0.02)						(0.05)	(0.02)	(0.04)	(0.07)
log (Production)	-0.02	-0.20*	-0.29			-0.30***	-0.08	-0.07*	-0.01	-0.07	-0.05**
	(0.07)	(0.08)	(0.16)			(0.05)	(0.07)	(0.03)	(0.03)	(0.10)	(0.01)
log (Procurement)	-0.10**	0.002									
	(0.03)	(0.01)									
log (Retail Price)$_{(-1)}$	0.20	0.06	0.60***	0.45***	0.31***	0.01	0.90***	-0.02	0.004	-0.06	0.16***
	(0.12)	(0.07)	(0.05)	(0.03)	(0.04)	(0.07)	(0.05)	(0.15)	(0.13)	(0.10)	(0.04)
Constant	-4.31***	-6.29***	-2.25*	1.19***	1.91***	-5.39***	-4.73***	-2.84***	-3.31***	-5.11***	-5.58***
	(0.80)	(0.43)	(0.97)	(0.22)	(0.22)	(0.26)	(0.64)	(0.75)	(0.31)	(0.39)	(0.71)
Observations	57	48	60	207	209	82	36	48	27	61	40

Notes: 1. *: p<0.05 **: p<0.01 ***: p<0.001.
2. Standard errors in parentheses.
Source: RBI staff estimates.

edible oil prices, production dampens prices the most in the case of pulses; pulses prices also exhibit the highest persistence among all crops; higher procurement in paddy is associated with lower prices, perhaps indicating a situation of over-supply.

Thus, both the panel studies (from a historical perspective), suggest a statistically significant impact of MSPs on retail inflation in the presence of adequate procurement. The actual impact of the MSP hike for 2018-19 *kharif* season, however, would depend on the procurement strategy of the government as well as the ruling market prices of various crops *vis-à-vis* the revised MSPs.

References:

1. Gulati, A. and S. Saini (2014), "Food Inflation in India - Diagnosis and Remedies", ed. Uma Kapila *(Indian Economy since Independence:* Academic Foundation, 2014).
2. Kapur, M. and H. Behera (2012), "Monetary Transmission Mechanism in India: A Quarterly Model", *RBI Working Paper Series, WPS (DEPR): 09/2012*.
3. Lahiri, A. (2014), "Don't blame MSP for inflation", *The Indian Express*, October.
4. Sonna, T., H. Joshi, A. Sebastian, and U. Sharma (2014), "Analytics of Food Inflation in India", *RBI Working Paper Series, WPS (DEPR): 10/2014.*

II.2.29 Growth in nominal rural wages, both for agricultural and non-agricultural labourers, generally moderated from August 2017, partly reflecting the lagged effects of softer inflation. A survey conducted during August-September 2016 in six Indian states, *viz.,* Gujarat, Kerala, Odisha, Punjab, Uttar Pradesh and West Bengal, shows that casual labour households are more likely to secure work under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), which can potentially lead to a shortage of labour and upward pressure on wages (Box II.2.3). In the case of the corporate sector, staff costs have exhibited high sensitivity to inflation expectations of households, pointing to the importance of anchoring inflation expectations in order to minimise the risk of a wage-price spiral.

5. Concluding Observations

II.2.30 In sum, the inflation path altered dramatically over three phases during 2017-18, highlighting how quickly inflationary pressures

Box II.2.3
Impact of MGNREGS on Rural Labour Market: An Assessment Using Survey Data

The need for strengthening social safety nets has been a key feature of public policy across the globe. In this context, India's Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) launched under the MGNREG Act, 2005 has been ranked as the world's largest public works programme, providing a social security net to almost 15 per cent of the country's population (World Bank, 2015). Its bottom-up, people-centred, demand-driven, self-selecting, rights-based design is innovative and unprecedented. However, while the scheme aims to provide 100 days of employment, the average employment provided remained below 50 days at the all-India level with marked divergence across states (Chart 1).

Furthermore, there are discernible differences in implementation of the scheme across states. Two states *i.e.,* Tamil Nadu and West Bengal, accounted for nearly one-fourth of employment provided through MGNREGS, which was more than their share in total rural households. Maharashtra and Bihar, which have a higher share in total rural households, generated comparatively lower employment through MGNREGS (Chart 2).

Against this backdrop, a primary survey was carried out among MGNREGS workers with a total sample of 1,798 during August-September 2016 in select six Indian states with diverse economic and labour market conditions.The states were Gujarat, Kerala, Odisha, Punjab, Uttar Pradesh and West Bengal, covering eastern, western, northern and southern parts of the country to get a holistic view on the impact of MGNREGS on wage level and labour market participation.

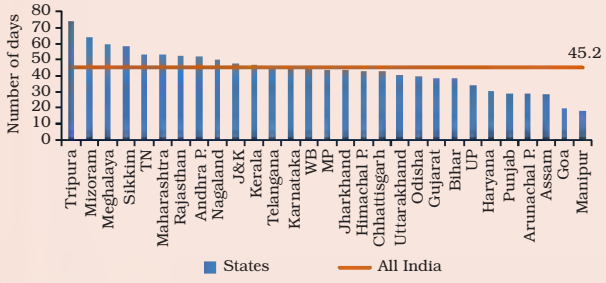
The survey revealed that more than half of the respondents were otherwise unemployed in Kerala, Gujarat and Punjab, while in Uttar Pradesh, Odisha and West Bengal, they were largely employed as agricultural labourers. The survey results also showed that (i) in all the surveyed states, only a few avoided MGNREGS work for alternate employment, and (ii) the avoidance of traditional labour for MGNREGS was different across states and across labour groups. The shift to MGNREGS from traditional employment is more in case of casual labour households and is more evident in Odisha (75 per cent), Uttar Pradesh (66 per cent) and West Bengal (42.5 per cent) rather than Punjab (29.6 per cent), Kerala (24.1 per cent) and Gujarat (8.3 per cent).

For the analysis, avoidance of traditional employment for MGNREGS was taken as the dependent variable. Given the dichotomous dependent variable, a non-linear regression model was used. Heckman's sample selection model was applied to address the likely specification bias in the model. The ρ value and Wald statistic in the Heckman model turned out to be insignificant, indicating absence of correlation between error terms of selection and outcome equations. Accordingly, a probit model was used for estimating the regression taking only the respondents who are employed other than under MGNREGS. The dependent variable takes the value 1 when the respondents shift from traditional employment to MGNREGS and zero otherwise;

$$y_i = \beta_1 CL_A + \beta_2 CL_{NA} + \beta_3 G + \beta_4 P + \beta_5 W + \beta_6 M + \beta_7 C + \varepsilon_i ,$$

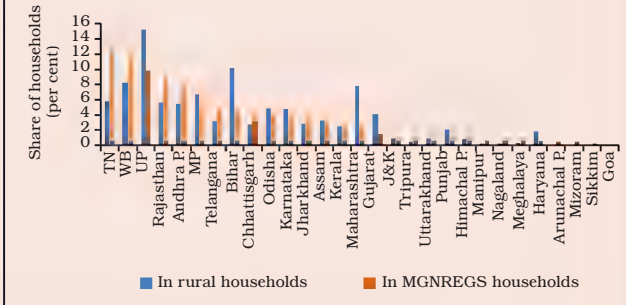
where, y_i – whether avoided alternate employment for MGNREGS: Yes=1 and No=0; CL_A – casual labour of agriculture: Yes=1 and No=0; CL_{NA} – casual labour of

Chart 1: Average Days of Employment under MGNREGS (Average of 4 years 2014-15 to 2017-18)



Source: http://www.nrega.nic.in.

Chart 2: MGNREGS Households *versus* Rural Households



Source: http://www.nrega.nic.in.

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Table 1: Results of Probit Model – Average Marginal Effects

				Number of observations = 968 Model VCE: Robust		
Variables	dy/dx	Std. Err.	z	Probability	[95% Conf. Interval]	
Casual labour in agriculture	0.19	0.03	6.23	0.001	0.13	0.25
Casual labour in non-agriculture	0.11	0.04	2.89	0.004	0.04	0.19
Difference in wages	-.000003	0.000001	-3.36	0.001	-0.000005	- 0.000001
Caste	0.03	0.03	0.93	0.351	-0.03	0.09
Gender	-0.01	0.03	-0.23	0.818	-0.07	0.06
Poverty	0.03	0.04	0.73	0.463	-0.04	0.09
No. of earning members	0.002	0.01	0.12	0.906	-0.03	0.03

Note: Wald $chi^2(7) = 62.77$; Prob > $chi^2 = 0.0000$.
Log pseudolikelihood = -614.31906; Pseudo $R^2 = 0.0500$.
Source: RBI staff estimates.

non-agriculture: Yes=1 and No=0; G – Gender: Female=1 and Male=0; P – poverty measured in terms of ration card status: BPL/Antyodaya/Annapurna=1 and APL=0; W=square of wage difference between wages from other employment and MGNREGS wages; M=number of earning members in the family; and C – Caste: Scheduled Caste/ Scheduled Tribe=1 and Others=0.

The coefficients of the probit model show the direction of relationship while the marginal effects (dy/dx column in Table 1) give the partial effect of each explanatory variable on the probability that the observed dependent variable y_i = 1, in this case the probability of avoiding traditional work for MGNREGS. The results show that for a casual labourer in agriculture, the probability of avoiding traditional work increases by 19 per cent, while in the non-agriculture casual labour category, this is 11 per cent. The difference in wages (actual *minus* MGNREGS) was significant with a negative relationship (the probability impact of this is small at 0.0003 per cent). This shows that greater the difference in wages between traditional and MGNREGS employment, lower the probability of avoiding traditional work for the latter. Thus, casual labourers are more inclined to avoid traditional employment for MGNREGS and the difference in wages is a significant factor in this decision (Table 1).

However, the limited number of employment days provided under the scheme has restricted the impact on the labour market as a whole. If and when the scheme is implemented fully, it has the potential to create shortages in labour supply in the casual labour category, propelling a wage increase in this segment. However, if the scheme is designed judiciously so as to provide employment during off seasons, it can be complementary to traditional employment by offering a fall back option. Such complementarities were evident in West Bengal to the extent that the work schedule was adjusted to the seasonality of traditional employment.

References:

1. http://www.nrega.nic.in.
2. World Bank (2015), "The State of Social Safety Nets 2015".

can get generalised and pose policy challenges. The current inflation outlook is clouded by several uncertainties. First, the staggered impact of HRA increases by various state governments may push up headline inflation in 2018-19, and potentially induce second-round effects. Second, a pick-up in global growth and/or geopolitical risks may exert further pressure on crude oil and commodity prices, with implications for domestic inflation. Third, at this stage, there is considerable uncertainty about the full impact of the MSPs for *kharif* crops on inflation. Fourth, volatility in global financial markets continues to impart uncertainty to the inflation outlook. Finally, the strengthening of the growth momentum could also exert demand pull pressures, unless

the supply response is proportionate and timely. On the downside, the recent pick-up in monsoon, after the initial lull, in conjunction with comfortable carry-over stocks from the current year on the back of record foodgrains production could help in containing food price pressures. Trade/tariff wars could end up being a drag on the global recovery and moderate inflation by weakening aggregate demand. Overall, there is a need for vigilance around the evolving inflation scenario in the coming months of the year.

II.3 MONEY AND CREDIT

II.3.1 During H2:2017-18, monetary and credit indicators rebounded from the effects of demonetisation. Money supply (M3) was driven up by scheduled commercial banks' (SCBs') credit growth, which witnessed a revival from its historic low in March 2017 and re-emerged as a significant source of financing for the commercial sector.

II.3.2 Against this backdrop, the immediately following sub-section on reserve money (RM) brings to the fore, the sustained dominance of foreign exchange assets as the largest source of RM during the year. The follow-up section on M3 documents the contrasting variations between H1 and H2 of 2017-18 as the effects of demonetisation waned; it also addresses cryptocurrency developments in the global and Indian context. The turnaround in credit in 2017-18 is investigated at both macro and sectoral levels in sub-section 3 with implications for the aggregate resource flow to the commercial sector.

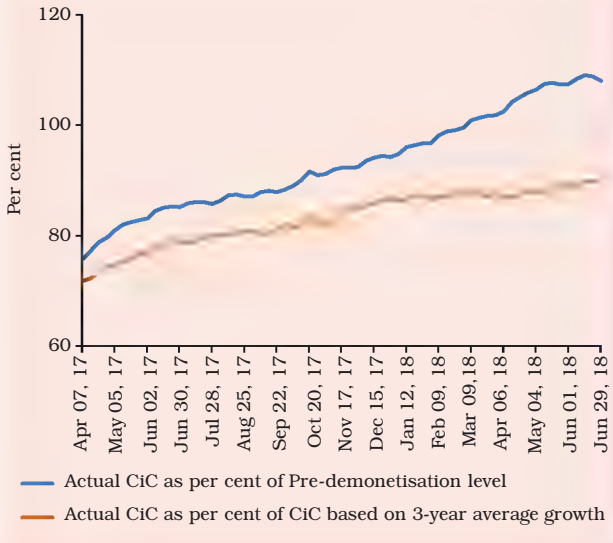
1. Reserve Money

II.3.3 During 2017-18, the evolution of RM — a stylised depiction of the Reserve Bank's balance sheet that focuses on 'moneyness'[14] — was primarily conditioned by the remonetisation of currency in circulation with newly designed notes of denomination of ₹10, ₹50, ₹200, ₹500 and ₹2000. The impact of demonetisation had plunged RM growth into contraction till November 10, 2017. Between November 9, 2016 – the effective date of demonetisation – and December 31, 2016, the Reserve Bank pumped in 23.8 billion pieces of banknotes into circulation aggregating ₹5,540 billion in value. Keeping in view the urgent need to make available adequate cash to all parts of the country at the shortest possible time, concerted efforts were made by the Reserve Bank and the printing presses to augment the production and supply of new banknotes. In Q1:2017-18, remonetisation efforts shifted into overdrive to engineer a quick recovery from the shock of demonetisation. In the ensuing months, favourable base effects kicked in and RM growth surged to an all-time peak of 60.6 per cent on January 5, 2018 before moderating to around 27 per cent as on March 31, 2018. RM growth was 21.1 per cent as on June 29, 2018.

II.3.4 Currency in circulation (CiC), the major driver of RM, increased by around ₹4.9 trillion on a year-on-year basis. While the CiC as on March 31, 2018 accounted for 101.8 per cent of its pre-demonetisation level, it works out to around 88 per cent of its underlying 3-year trend had there been no demonetisation (Chart II.3.1). Consequently, India's currency to GDP ratio moved up to 10.9 per cent in 2017-

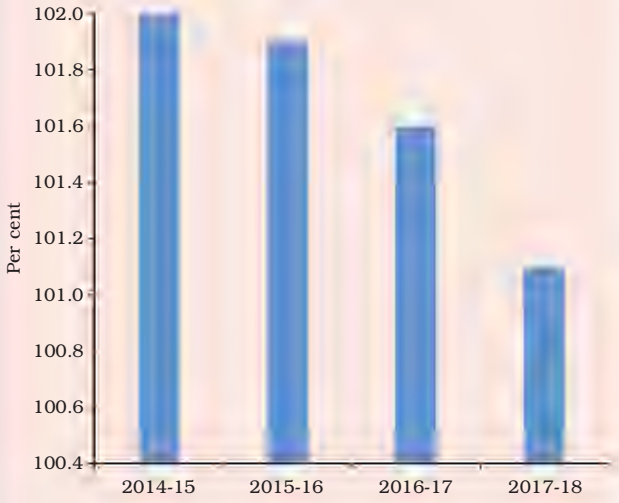
[14] 'Moneyness' refers to the characteristic of an asset to convert readily into liquidity at a low or zero transaction cost.

Chart II.3.1: CiC as per cent of Pre-Demonetisation Level: Actual *versus* Assumed



Source: RBI.

Chart II.3.2: Maintenance of Cash Balances by Banks (as per cent of CRR)



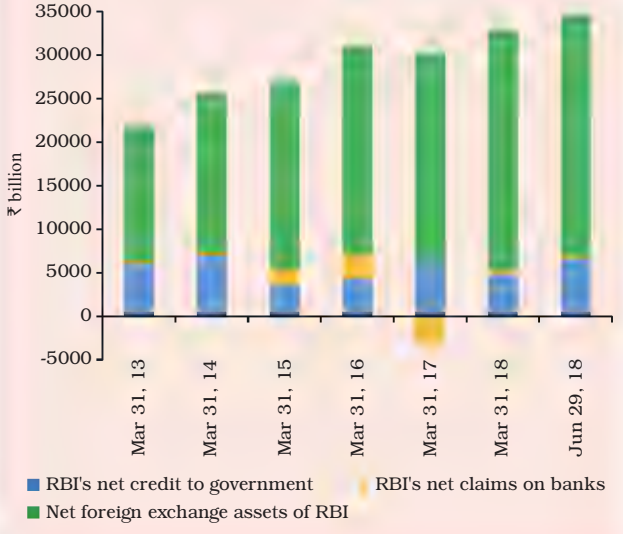
Note: Annual average of daily outstanding cash balances.
Source: RBI.

18, returning to being amongst the highest levels of currency usage in peer emerging market economies (EMEs) and advanced economies (AEs) as well (Appendix Table 4). In consonance, the use of digital payments[15], which had surged to a peak in December 2016 in the aftermath of demonetisation fell back to the elevated post-demonetisation trend before rising in recent months.

II.3.5 Amongst other components of RM, bankers' balances with the Reserve Bank grew at a moderate pace, reflecting the deceleration in bank deposits during the year. Banks' average daily cash balances, nonetheless, turned out to be 101.1 per cent of the cash reserve ratio (CRR) prescription, with the demand for excess reserves moderated by the persistence of surplus liquidity conditions throughout the year, barring the episodes of tightness in Q4:2017-18 (Chart II.3.2).

II.3.6 Turning to the sources, net foreign exchange assets of the Reserve Bank rose to account for 114.1 per cent of RM on March 31, 2018, up from the preceding 5-year average of around 110 per cent (Chart II.3.3). The consequent

Chart II.3.3: Composition of Reserve Money (RM) - Major Sources



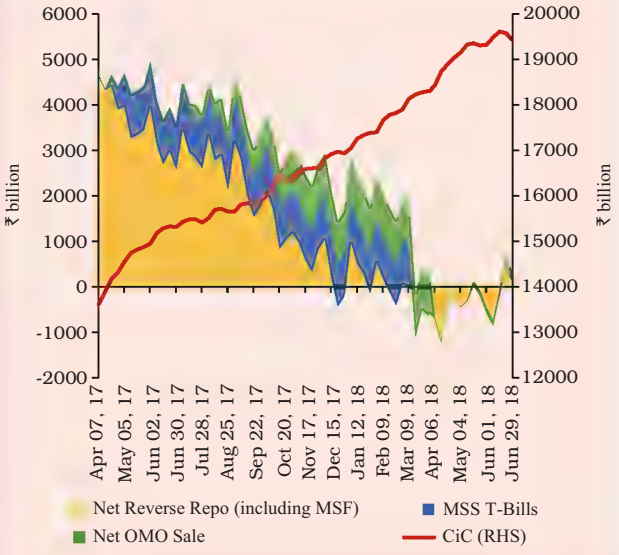
Source: RBI.

[15] Include volumes of real time gross settlement (RTGS), electronic funds transfer/national electronic funds transfer (EFT/NEFT), cheque truncation system (CTS), electronic clearing system (ECS), immediate payment service (IMPS), cards usage at point of sale, prepaid payment instruments (PPIs), mobile banking transactions and national automated clearing house (NACH).

injection of liquidity of ₹2.2 trillion trebled over its level in the previous year. Among other sources, net credit to the government sector declined by around 23.3 per cent due to open market sales by the Reserve Bank as well as higher central government deposits. In addition, average liquidity adjustment facility (LAF) reverse repo (average of outstanding on each Friday) increased to ₹2.2 trillion in 2017-18 from ₹1.5 trillion a year ago, reflecting *de facto* excess reserves due to the surge in deposits following demonetisation in 2016-17 and low credit offtake till H1:2017-18. With the gradual increase in CiC, the absorption of liquidity through open market operation (OMO) sales beginning July 2017 and the improvement in credit offtake from November 2017, the liquidity position reversed and LAF absorption gave way to a net repo of ₹575 billion as on March 31, 2018 (net reverse repo of ₹3.1 trillion a year ago).

II.3.7 Higher expenditure by the centre and lower revenues relative to budget estimates in H1:2017-18 led to frequent recourse to ways and means advances (WMA) from the Reserve Bank, thereby adding to surplus liquidity with the banking system. Consequently, large amounts parked under reverse repo despite absorption through Market Stabilisation Scheme (MSS) T-Bills, OMO sales and the increase in CiC impacted monetary aggregates. Subsequent to advance tax inflows in September 2017, government expenditure moderated, which was reflected in a gradual decline in net reverse repo (Chart II.3.4). With the introduction of a standing deposit facility, the Reserve Bank will have a new tool to absorb liquidity without collateral constraints (Box II.3.1).

Chart II.3.4: CiC and Liquidity Absorption



Source: RBI.

2. *Money Supply*

II.3.8 Movements in money supply (M3) during 2017-18 reflected shifts in the Reserve Bank's balance sheet encapsulated in changes in RM in the preceding section as well as broader developments in the economy that impacted banks' balance sheets. In H1, the lingering effects of demonetisation weighed heavily on currency with the public (CwP) which remained in contraction mode. Moreover, deposit growth slowed sharply after the post-demonetisation bulge of the preceding half and also reflected the pronounced deceleration in domestic economic activity in Q1:2017-18. Consequently, the growth of M3 slumped on a year-on-year basis to reach a historic low of 5.6 per cent as on September 29, 2017. In H2, however, the tide turned and the rapid pace of remonetisation finally lifted the growth in currency with the public (CwP) into positive territory. The growth of M3 recovered and assumed an upward trajectory, crossing into double digit on December 22, 2017. It stood at

Box II.3.1
Standing Deposit Facility (SDF)

The Union Budget 2018-19 paved the way for the introduction of a new Standing Deposit Facility (SDF), which would serve as an additional tool for the Reserve Bank to absorb excess liquidity. Accordingly, the RBI Act, 1934 has been amended for introduction of an uncollateralised deposit scheme. The SDF is generally an unlimited, fixed rate and on-tap deposit facility offered by a central bank. Its introduction would enable the Reserve Bank to suck out liquidity without offering any collateral. Hitherto, in times of large liquidity surpluses with the banking system, the Reserve Bank often faced a shortage of collateral in the form of G-secs in its portfolio which hobbled reverse repo operations and necessitated reliance on the government for the supply of G-secs under the market stabilisation scheme (MSS).

In the Indian context, the SDF was initially proposed by the Bank's Internal Group on LAF (2003) and reiterated by the Working Group on the Operating Procedure of Monetary Policy (2011). The Expert Committee to Revise and Strengthen the Monetary Policy Framework, 2014 (Chairman: Dr. Urjit Patel) recommended SDF as a tool for absorption of surplus liquidity.

Cross-Country Practices on Standing Facility

Cross-country experience suggests that standing facilities (SFs) – deposit and lending – are transparent, available to banks and other counterparties without discretionary hurdles, and are generally considered as the safety valve of a liquidity management system. The SDF offers market participants an opportunity to deposit their residual surplus that they could not deploy in the market even at a rate significantly lower than the policy rate.

The main advantage of SFs is that they provide the central bank a window to intervene in both directions when needed to achieve the operating interest rate target, with volatility in inter-bank rates restricted to the corridor around the target rate. Reducing the volatility in the inter-bank money market rate while achieving the interest rate target is both an objective and also a challenge for efficient liquidity management. The SDF, though less in use *vis-à-vis* the lending facility, has also been used by some countries to define a floor rate in the inter-bank market, especially in liquidity surplus conditions.

SDF and Monetary Statistics

According to the IMF's latest *Monetary and Financial Statistics Manual and Compilation Guide (2016)*, reserve money (RM) comprises central bank liabilities that support the expansion of credit and broad money. If the objective of SDF is to facilitate liquidity management, such central bank liabilities to banks would not be counted for reserve requirements and hence, would have to be excluded from RM. However, if banks' funds are parked under reserve requirements (including any excess reserves), they are to be treated as part of RM. Further, if the objective is to provide an interest-earning alternative to banks instead of non-interest-bearing reserves at the central bank, they would be included in RM whether or not they qualify as a reserve asset of banks. The IMF manual has, however, recognised that countries can have different definitions of RM, depending on their policy and analytical needs. As the SDF in India is announced to be a tool for liquidity management, it may not qualify to be a component of RM.

A cross-country survey of RM compilation across select central banks reveals that central banks follow different practices on the inclusion of SDF in RM/cash reserve requirement. For instance, in the United Kingdom, the SDF is part of the reserve requirement and RM. It is part of RM in the euro area even though it does not qualify for reserve requirement. Furthermore, the SDF is part of RM in Australia and Sweden. In the Philippines, however, SDF is not part of RM or reserve requirements.

Institutions currently participating in the Reserve Bank's LAF reverse repo operations would be potentially eligible for SDF as and when it is offered. While SDF is usually of overnight tenor, issuance of term SDF on a regular basis is also undertaken in certain jurisdictions. Unlike CRR balances, SDF balances would be remunerated and, therefore, need to be segregated appropriately.

9.2 per cent as on March 31, 2018, up from 6.9 per cent a year ago. M3 growth stood at 9.8 per cent as on June 22, 2018 (Table II.3.1).

II.3.9 The behaviour of M3 essentially mirrored its recently turned volatile component – CwP – which accounted for 12.6 per cent of M3 as

Table II.3.1: Monetary Aggregates

Item	Outstanding as on Mar 31, 2018 (₹ billion)	Year-on-Year Growth (per cent)		
		2016-17*	2017-18	2018-19 (as on Jun 22)
1	2	3	4	5
I. RM	24,188	-12.9	27.3	21.1
II. M3	139,626	6.9	9.2	9.8
III. Major Components of M3				
1. Currency with the public	17,597	-20.8	39.2	29.2
2. Aggregate deposits	121,790	11.1	5.8	7.3
IV. Major Sources of M3				
1. Net bank credit to government	40,014	20.6	3.8	3.1
2. Bank credit to commercial sector	92,137	4.2	9.5	12.2
3. Net foreign exchange assets of the banking sector	29,223	1.1	14.2	13.2
V. M3 net of FCNR(B)** deposits	138,193	8.5	9.2	9.7
M3 Multiplier	5.8			

*: March 31, 2017 over April 01, 2016, barring for RM. **: Foreign Currency Non-Resident (Bank).
Note: The latest data for RM pertain to June 29, 2018.
Source: RBI.

on March 31, 2018. As stated earlier, growth in CwP remained in negative territory in H1:2017-18 but turned positive for the first time after a gap of almost one year on November 10, 2017 and rose by 39.2 per cent by March 31, 2018, a sharp contrast with the contraction of 20.8 per cent a year ago. As on June 22, 2018, CwP growth was 29.2 per cent (a decline of 12.6 per cent during the corresponding fortnight last year).

II.3.10 Aggregate deposits accounted for around 93 per cent of M3 following their sharp increase in Q3 of 2016-17 due to substitution of CwP by deposits in the post-demonetisation phase. With the phase-out of restrictions on cash withdrawals and the gradual pick-up in currency demand, deposit growth started decelerating and reached its lowest level of 2.6 per cent on December 8, 2017. Over the rest of the year, deposit growth increased steadily, but at 5.8 per cent on March 31, 2018 it was sizably lower than 11.1 per cent a year ago. Both demand deposits and time deposits shared this moderation as the interest rate on deposits eased, with banks transmitting the cumulative reduction of 200 bps in the policy rate by the Reserve Bank almost fully to term deposit rates. This resulted in the returns on deposits turning less attractive relative to competing financial instruments, particularly mutual funds. This disintermediation impacted deposit behaviour significantly. The combination of surplus liquidity conditions in the wake of demonetisation and lower offtake of credit consequent upon slower economic activity also worked to mute the expansion of deposits in H1.

II.3.11 The public disenchantment from lower returns from bank deposits coupled with sobering down of returns from other assets was followed by an interesting development. Cryptocurrencies came under focus globally as an alternative source of high returns *albeit* with a high risk element (Box II.3.2).

Box II.3.2
Cryptocurrency: Evolving Challenges

Cryptocurrency is a class of privately issued digital means of payment that depends predominantly on cryptography and distributed ledger technology (DLT) such as the blockchain. A blockchain is a continuous ledger in which transactions are stored as blocks and linked using cryptography. Cryptocurrency is often allotted through initial coin offerings (ICOs), which are used as a means of raising capital through crowdfunding. Cryptocurrency typically has some monetary characteristics, but is not a liability of any entity and is not backed by any authority. Its value is driven by users' confidence in it. This, coupled with limited supply, makes its value highly volatile and, therefore, not a reliable medium of exchange or store of value (Chart 1).

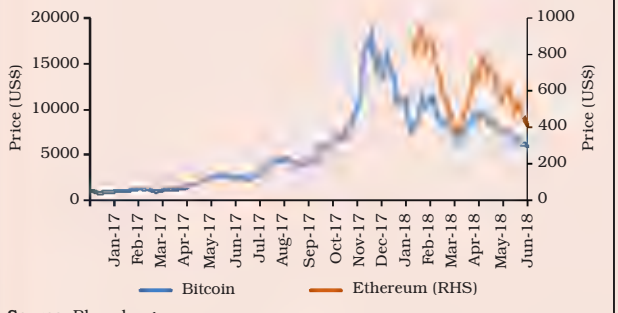
Though cryptocurrency may not currently pose systemic risks, its increasing popularity leading to price bubbles raises serious concerns for consumer and investor protection, and market integrity. Notably, Bitcoins lost nearly US$200 billion in market capitalisation in about two months from the peak value in December 2017. As per the CoinMarketCap, the overall cryptocurrency market had nearly touched US$800 billion in January 2018.

The cryptocurrency eco-system may affect the existing payment and settlement system which could, in turn, influence the transmission of monetary policy. Furthermore, being stored in digital/electronic media – electronic wallets – it is prone to hacking and operational risk, a few instances of which have already been observed globally. There is no established framework for recourse to customer problems/ disputes resolution as payments by cryptocurrencies take place on a peer-to-peer basis without an authorised central agency which regulates such payments. There exists a high possibility of its usage for illicit activities, including tax avoidance. The absence of information on counterparties in such peer-to-peer anonymous/pseudonymous systems could subject users to unintentional breaches of anti-money laundering laws (AML) as well as laws for combating the financing of terrorism (CFT) (Committee on Payments and Market Infrastructures – CPMI, 2015). The Bank for International Settlements (BIS) has recently warned that the emergence of cryptocurrencies has become a combination of a bubble, a Ponzi scheme and an environmental disaster, and calls for policy responses (BIS, 2018). The Financial Action Task Force (FATF) has also observed that cryptoassets are being used for money laundering and terrorist financing. A globally coordinated approach is necessary to prevent abuses and to strictly limit interconnections with regulated financial institutions.

On a global level, regulatory responses to cryptocurrency have ranged from a complete clamp down in some jurisdictions to a comparatively 'light touch regulatory approach'. The Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) have emerged as the primary regulators of cryptocurrencies in the United States, where these assets like most other jurisdictions, do not enjoy the legal tender status. Asian countries have experienced oversized concentration of crypto players – Japan and South Korea account for the biggest shares of crypto asset markets in the world. In the case of Bitcoins, half of transactions worldwide are carried out in Japan. In September 2017, Japan approved transactions by its exchanges in cryptocurrencies. China's exchanges hosted a disproportionately large volumes of global Bitcoin trading until their ban recently.

In India, the government and the Reserve Bank are keeping a close watch on cryptocurrency and have issued pre-

Chart 1: Cryptocurrency Prices: Emerging Trends



Source: Bloomberg.

(Contd...)

II.3.12 From the sources side, bank credit to the commercial sector was the key mover of M3 in 2017-18, accounting for 68.5 per cent of the change in M3 during the year, followed by net foreign exchange assets of the banking sector (Chart II.3.5).

II.3.13 The expansion in bank credit to the commercial sector was more pronounced

emptive cautionary warnings. In early April 2018, the Reserve Bank barred its regulated entities from dealing in or providing services to any individual or business entities dealing with or settling in virtual currencies. Regulated entities which already provide such services were asked to exit the relationship within three months.

Developments on this front need to be monitored as some trading may shift from exchanges to peer-to-peer mode, which may also involve increased usage of cash. Possibilities of migration of crypto exchange houses to dark pools/cash and to offshore locations, thus raising concerns on AML/CFT and taxation issues, require close watch. Unlike the concerns on privately issued cryptocurrency, the adoption of DLT in the domain of payment, clearing and settlement solutions holds the promise of significant economic benefits in future.

Rapid changes in the landscape of the payments industry, along with factors such as emergence of private digital tokens and the rising costs of managing fiat paper/metallic money, have led central banks around the world to explore the option of introducing fiat digital currencies. In India, an inter-departmental group has been constituted by the Reserve Bank to study and provide guidance on the desirability and feasibility to introduce a central bank digital currency.

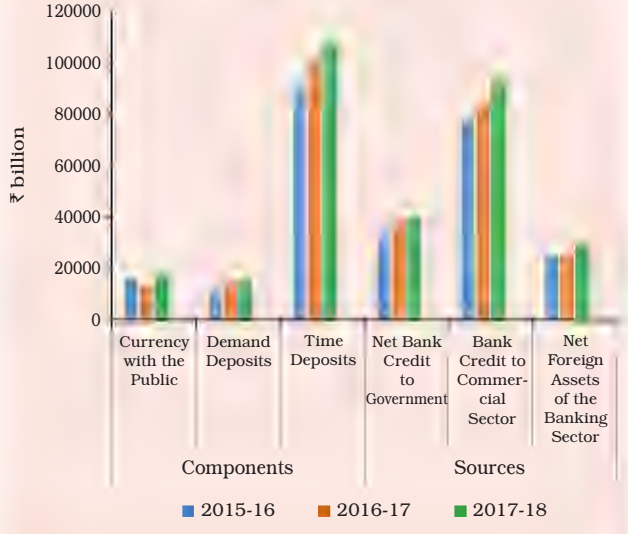
References:

1. BIS (2018), "Annual Economic Report", June, Basel.
2. CPMI (2015), "Digital Currencies", November.

during H2 of 2017-18. This needs to be seen in conjunction with an expansion in net bank credit to government at a slower pace.

II.3.14 During the year, monetary ratios such as the currency-deposit (C/D) ratio and the money multiplier (MM) exhibited behaviour in contrast to the pattern observed in the previous year. The C/D ratio experienced a steep rise due to expansion in CwP and moderation in aggregate deposits. The MM, which rose to a peak of 8.8 on January 6, 2017, started declining gradually with the process of remonetisation. As on June 22, 2018, MM stood at 5.6 *vis-à-vis* 6.3 a year ago. Adjusted for reverse repo (net) with banks - analytically akin to banks' deposits with the central bank – the MM would turn out to be slightly higher at 5.8 as on June 22, 2018 *vis-à-vis* 5.5 a year ago. However, the reserve-deposit (R/D) ratio remained broadly stable, reflecting the unchanged CRR during the year (Chart II.3.6).

Chart II.3.5: Broad Money (M3)-Major Components and Sources

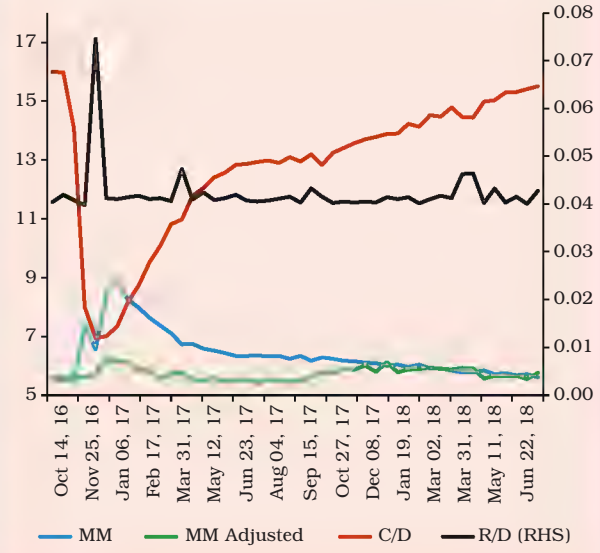


Source: RBI.

3. *Credit*

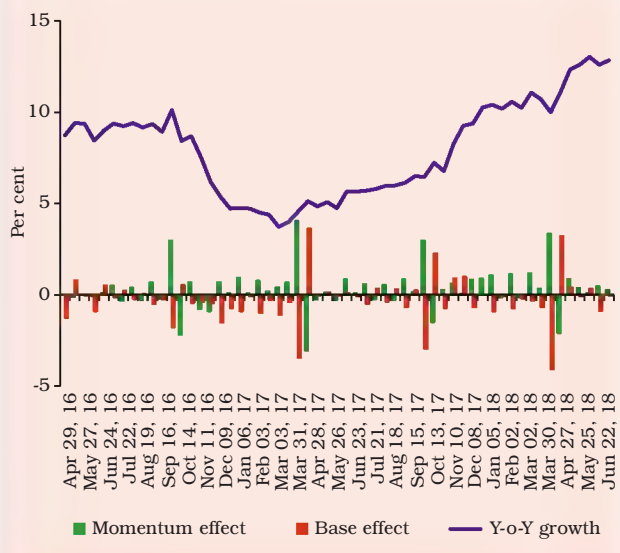
II.3.15 The growth in SCBs' credit started decelerating from November 2016 and reached an all-time low of 3.7 per cent on March 3, 2017. Although credit growth recovered in the subsequent fortnights, it trailed well below its trajectory in the previous year through April-October 2017. Besides the aftershock of demonetisation, weak demand for new bank financing and deleveraging by banks struggling with provisions for mounting loan delinquency also took their toll. Non-banks replaced bank credit as sources of funding for the commercial

Chart II.3.6: Monetary Ratios



Source: RBI.

Chart II.3.7: SCBs' Credit Growth



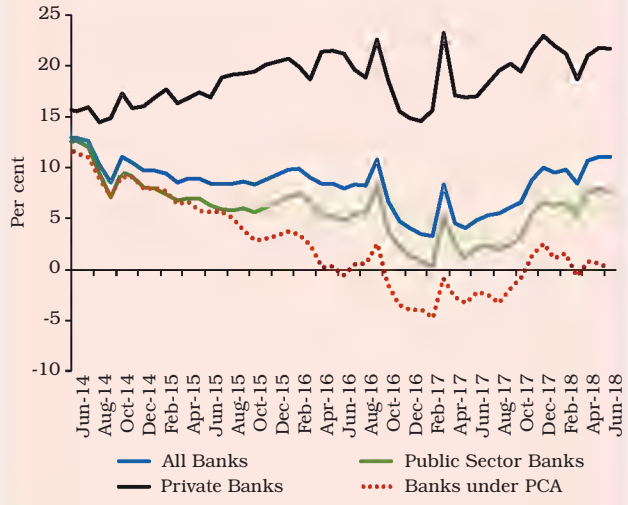
Source: RBI.

sector during this phase. From November 10, 2017, credit growth picked up as the quickening of economic activity spurred a hesitant recovery and levels of non-performing assets started plateauing *albeit* at elevated levels. By December 22, 2017, credit growth touched double digit – 10.3 per cent for the first time since September 30, 2016. As on March 31, 2018, credit growth stood at 10.0 per cent significantly higher than 4.5 per cent last year. SCBs' credit growth stood at 12.8 per cent as on June 22, 2018 (5.6 per cent during the corresponding fortnight in the previous year).

II.3.16 The recovery in credit growth from November 2017 onwards benefited mainly from a favourable base effect as credit levels a year ago were dampened by demonetisation effects. Nonetheless, momentum also provided tailwinds, indicating an upswing in credit in tune with gradually improving domestic demand conditions (Chart II.3.7). However, the credit to GDP gap continued to be negative through 2017-18, implying that actual credit demand remained lower than its potential.

II.3.17 Non-food credit growth accelerated to 10.2 per cent by March 2018 from 5.2 per cent a year ago. Bank loans to industry picked up slowly on a brightening outlook. Shifts into bank credit were also incentivised by the tightening of financing conditions in respect of non-bank sources of finance on account of the hardening of bond yields from October 2017 onwards. Credit growth was largely driven by private sector banks, which were resilient in the face of these tectonic shifts, with their credit portfolio growing at 18.7 per cent during the year as compared to 5.3 per cent by public sector banks (PSBs) and 3.8 per cent by foreign banks. Among PSBs, those under prompt corrective action (PCA) turned out to be laggards, though signs of revival were evident in this category as well during 2018-19 so far (Chart II.3.8). During Q1:2018-19, non-food credit has maintained its momentum, with credit accelerating to 12.9

Chart II.3.8: Non-Food Credit Growth (Y-o-Y)



Note: Data are provisional and relate to select banks which cover about 90 per cent of total non-food credit extended by all SCBs.
Source: RBI.

per cent as on June 22, 2018 as compared to a meagre 6.3 per cent a year ago.

Sectoral Credit Deployment by Banks

II.3.18 The growth in credit to agriculture decelerated during 2017-18 when compared to a year ago. This might be indicative of pressures in the farm sector as corroborated by agriculture debt waivers announced in some states. Credit to industry turned around from a contraction of 1.9 per cent in March 2017 to a positive 0.7 per cent in March 2018 (Table II.3.2). Industrial credit, which had shrunk for most part of 2017-18, recovered from November 2017 onwards. A pick-up was witnessed across sectors such as textiles; vehicles, vehicle parts and transport equipment; engineering; food processing; and rubber, plastic and products. In contrast, credit to infrastructure, which accounted for about one-third of bank credit to industry, contracted in a broad-based manner (by 1.7 per cent in March 2018), pulled down by power, telecommunications and roads. The modest signs of recovery in infrastructure *vis-à-vis* the previous year's position suggest that the power sector could benefit from improved electricity supply following better availability of coal. The base metal segment remained in stress, despite the recovery in global metal prices. The recent revival in manufacturing activity has provided some boost to base metal prices. The steel segment has improved on strong export demand and revival of domestic activity.

II.3.19 The growth in credit to services decelerated, led by segments like trade and professional services. The personal loans segment recorded acceleration and ran above trend, driven by housing and vehicle loans. Credit card outstanding – a small component in overall credit – recorded deceleration given its high base as also due to sluggishness in demand for consumer durables. Education loans contracted, indicative of aversion of banks in respect of lending to riskier sectors.

II.3.20 All major sectors, barring agriculture, witnessed an acceleration in June 2018. Credit to major sub-sectors such as textiles, engineering, food processing, chemical and chemical products and cement and cement products accelerated. However, credit to basic metal and metal products, construction and gems and jewellery contracted/declined. Services witnessed a sharp surge driven by trade and non-banking financial companies (NBFCs) (Table II.3.2).

Resource Flow to the Commercial Sector

II.3.21 The total flow of financial resources to the commercial sector increased by 27.1 per cent during 2017-18 as compared to an increase of 3.8 per cent in the previous year. While non-food bank credit flows more than doubled to

Table II.3.2: Credit Deployment to Select Sectors

Sectors	Outstanding as on March 30, 2018 (₹ billion)	Year-on-Year Growth (per cent)		
		2016-17*	2017-18#	2018-19##
1	2	3	4	5
Non-food Credit (1 to 4)	**76,884**	**8.4**	**8.4**	**11.1**
1 Agriculture & Allied Activities	**10,302**	**12.4**	**3.8**	**6.5**
2 Industry (Micro & Small, Medium and Large)	**26,993**	**-1.9**	**0.7**	**0.9**
(i) Infrastructure	8,909	-6.1	-1.7	0.0
of which:				
(a) Power	5,196	-9.4	-1.1	-1.2
(b) Telecommunications	846	-6.8	-0.6	6.8
(c) Roads	1,665	1.4	-7.5	-5.7
(ii) Basic Metal & Metal Product	4,160	1.2	-1.2	-5.5
(iii) Food Processing	1,554	-3.0	6.8	3.3
3 Services	**20,505**	**16.9**	**13.8**	**23.3**
4 Personal Loans	**19,085**	**16.4**	**17.8**	**17.9**
5 Priority Sector	**25,532**	**9.4**	**4.8**	**6.3**

*: March 31, 2017 over March 18, 2016. #: March 30, 2018 over March 31, 2017. ##: June 22, 2018 over June 23, 2017.
Note: Data are provisional and relate to select banks which cover about 90 per cent of total non-food credit extended by all SCBs.
Source: RBI.

₹7,959 billion, the resource flow from non-banks decreased by 2.8 per cent, mainly on account of the decline in gross private placements by non-financial entities, sharp fall in commercial paper (CP) issuances and lower credit disbursement by systemically important non-deposit taking NBFCs. The hardening of corporate bond yields in H2: 2017-18 led to lesser issuances of corporate bonds, bringing down mobilisation through this route. However, there was a significant increase in public issuance of equities by non-financial entities, credit disbursement by housing finance companies and accommodation by four All India Financial Institutions (AIFIs) regulated by the Reserve Bank. Among foreign sources, external commercial borrowings (ECB)/foreign currency convertible bonds (FCCB) recorded net outflows for the third consecutive year *albeit* of a much lower magnitude during the year. Foreign direct investment (FDI) flows declined by 10.3 per cent during the year, mainly due to higher repatriation in the second half of the year (Table II.3.3). Short-term credit from abroad, however, more than doubled to ₹896 billion during the year as import growth accelerated.

II.3.22 In summary, while key monetary and credit aggregates picked up on signs of stronger economic activity in the second half of 2017-18, they remained muted in relation to their historical record. Credit conditions remained tight for the major part of the year as the Reserve Bank's liquidity operations steadily drained away surplus liquidity and bond yields hardened in response to perceptions of higher supply of government papers, higher than budgeted fiscal deficit numbers and some uncertainty around the inflation outlook. Although credit to industry, and in particular infrastructure, remained subdued, signs of a gradual revival in the second half of

Table II.3.3: Flow of Financial Resources to Commercial Sector

(₹ billion)

Source				April-June	
	2015-16	2016-17	2017-18	2017-18	2018-19
1	2	3	4	5	6
A. Adjusted Non-food Bank Credit	**7,754**	**4,952**	**9,161**	**-1,629**	**104**
i) Non-Food Credit	7,024	3882	7,959	-1,610	175*
of which: petroleum and fertiliser credit	-18	133	27	-132	-46
ii) Non-SLR Investment by SCBs	731	1070	1,202	-19	-71*
B. Flow from Non-banks (B1+B2)	**6,241**	**9,578**	**9,308**	**304**	**2,764**
B1. Domestic Sources	**3,782**	**6,820**	**5,924**	**-318**	**1,880**
1. Public issues by non-financial entities	378	155	438	52	39
2. Gross private placements by non-financial entities	1,135	2,004	1,462	247	300
3. Net issuance of CPs subscribed to by non-banks	517	1,002	-254	-729	1,233
4. Net Credit by housing finance companies	1,188	1,374	1,986	–	–
5. Total accommodation by 4 RBI regulated AIFIs - NABARD, NHB, SIDBI & EXIM Bank	472	469	951	71	201^
6. Systemically important non-deposit taking NBFCs (net of bank credit)	-277	1,539	963	–	–
7. LIC's net investment in corporate debt, infrastructure and social sector	369	277	378	40	108^
B2. Foreign Sources	**2,459**	**2,758**	**3,385**	**622**	**884**
1. External Commercial Borrowings/FCCB	-388	-509	-51	-32	11
2. ADR/GDR Issues excluding banks and financial institutions	0	0	0	0	0
3. Short-term Credit from abroad	-96	435	896	–	–
4. Foreign Direct Investment to India	2,943	2,833	2,540	654	873
C. Total Flow of Resources (A+B)	**13,995**	**14,530**	**18,469**	**-1,325**	**2,868**
Memo: Net resource mobilisation by Mutual Funds through Debt (non-Gilt) Schemes	*147*	*1,206*	*-59*	*191*	*-383*

^: Up to May 2018.
*: Data pertain to the period April-July 6, 2018.
Note: (i) Negative net credit flows from NBFCs-NDSI in 2015-16 were mainly due to change of classification norms for NBFCs-NDSI, according to which non-deposit taking NBFCs with an asset size of ₹500 crore and more have been classified as NBFCs-NDSI as compared to the earlier position of ₹100 crore and more. Additionally, conversion of two large NBFCs *viz.,* Bandhan and IDFC into banks during the year also contributed to the decline in credit flows to the commercial sector.
Source: RBI, SEBI, BSE, NSE, merchant banks, LIC and NHB.

the year augur well for the medium-term outlook. Credit to services and personal loans remained resilient during the year. Non-bank sources of credit played an important role, especially domestic sources thereof.

II.4 FINANCIAL MARKETS

II.4.1 Barring the sell-offs in equities and bonds in February and March 2018 that ricocheted across the world, including in India, global financial markets remained generally upbeat in 2017-18 on improving growth prospects and a gradual pace of normalisation by the US Fed. Valuations rose through the greater part of the year amidst subdued volatility, except for brief flares. Fears in February 2018 about a faster pace of policy normalisation by the US Fed on the arrival of strong jobs/wages data and again in March 2018 in response to US trade policies, clouded the outlook as volatility returned amidst considerable flux in asset prices and capital flows with implications for emerging markets. Currencies were boosted by the generally weak US dollar over the greater part of the year, interrupted by idiosyncratic but short-lived reversals on safe haven effects.

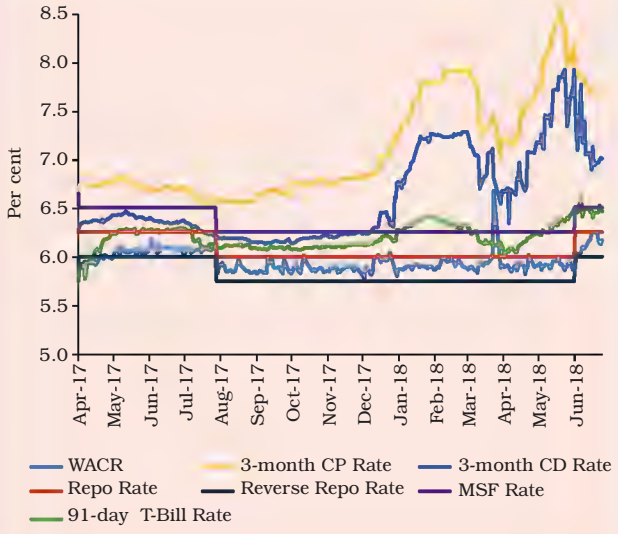
II.4.2 In India, global spillovers impacted equity and currency markets the most, puncturing the robust rallies that drove up the former segment right up to February, and reversing the appreciating bias with which the Indian rupee was trading against major currencies over most part of the year. By contrast, other market segments were mostly influenced by domestic factors. In the money market, as discussed in sub-section 1, money market rates remained anchored to the policy rate due to active liquidity management by the Reserve Bank. Sub-section 2 depicts developments in the domestic bond market where yields hardened on inflation prospects, fears of excessive issuances of papers relative to absorption capacity, fiscal slippages, rising crude oil prices and sharp increase in the US bond yields. Developments in the corporate debt market, where yields hardened significantly in H2 after softening initially in H1, have been discussed in sub-section 3. Sub-section 4 portrays developments in the domestic stock market, which remained buoyant on the back of positive domestic factors and cues from global markets. The two-way movements in the Indian rupee-US dollar (INR-US$) exchange rate, generally appreciating in H1 on significant foreign portfolio investment (FPI) inflows but depreciating in H2 on general strengthening of the US dollar and FPI outflows, have been discussed in sub-section 5.

1. Money Market

II.4.3 The money market remained broadly stable during 2017-18, with the Reserve Bank actively managing the post-demonetisation surplus liquidity through reverse repo operations of various tenors, supplemented by outright operations including Treasury Bill (T-Bill) auctions under the market stabilisation scheme (MSS). However, the Reserve Bank conducted variable rate term repo auctions of different tenors to address additional demand for liquidity that is usually observed in March every year. During Q1 of 2018-19, the liquidity condition generally remained in surplus mode mainly reflecting increased government spending. The Reserve Bank actively managed the frictional and structural liquidity conditions with term repos/reverse repos and open market operations (OMOs).

II.4.4 The weighted average call rate (WACR) in the uncollateralised inter-bank call money market traded with a downward bias relative to the policy rate through the year, although the negative spread generally narrowed from 32 basis points (bps) in April 2017 to 5 bps in March 2018 (Chart II.4.1). It may be mentioned that this decline in the negative spread over the policy rate reflected the narrowing of the spread in respect of both 'traded deals', which are the call money deals directly transacted on the electronic, negotiated and quote-driven platform for trading, the NDS-CALL and 'reported deals' which are over-the-counter (OTC) call deals subsequently reported on the NDS-CALL platform. However,

Chart II.4.1: Key Policy and Money Market Rates



Source: RBI, FBIL and Reuters.

reported deals recorded larger negative spreads over the policy rate *vis-à-vis* the traded deals. During Q1 of 2018-19, the negative spread of the WACR over the policy rate averaged around 10 bps.

II.4.5 Even as spreads narrowed, volatility in the call money segment, measured by conditional variance, ebbed and turnover remained broadly unchanged. In 2017-18, call transactions constituted less than 10 per cent of the total money market volume.

II.4.6 Collateralised money market instruments are the Collateralised Borrowing and Lending Obligation (CBLO) and market repo. In the CBLO segment, banks are usually the major borrowers, while mutual funds (MFs) are the major lenders. In the market repo segment, however, banks are the major players both on the borrowing and the lending sides; the other participants being Primary Dealers (PDs) mainly as borrowers (with a share of 28 per cent) and mutual funds as lenders (with a share of 30 per cent). Trading volumes and rates in the CBLO segment decline sharply on reporting Fridays with corresponding increases in the market repo segment. This is because borrowings in the market repo segment are exempted from the cash reserve ratio (CRR) requirement, whereas borrowings in the CBLO market are not.

II.4.7 Average daily volume in the money market (call money, CBLO and market repo) increased by 17 per cent to ₹1,687 billion during 2017-18 from ₹1,441 billion in 2016-17. Volumes in the CBLO and market repo segments increased by 25 per cent and 10 per cent, respectively, whereas in the call money segment, they decreased by 8 per cent during the year. Call money, CBLO and market repo segments accounted for 8 per cent, 63 per cent and 29 per cent, respectively, of the total volume during 2017-18 as compared with 11 per cent, 59 per cent and 30 per cent, respectively, in 2016-17. Furthermore, trading in the call money, CBLO and market repo segments are predominantly for overnight lending/borrowing and accounted for 97 per cent, 91 per cent and 88 per cent of volumes, respectively, during 2017-18. During Q1 of 2018-19, average daily volume in money market moderated to ₹1,649 billion.

II.4.8 In the certificates of deposit (CDs) market, primary issuances of CDs by banks declined during the first half of the year, reflecting the post-demonetisation surplus liquidity in the banking system. However, issuances picked-up from October 2017 due to the progressive decline in surplus liquidity. The average fortnightly issuance of CDs went up from ₹122 billion in H1 of 2017-18 to ₹216 billion during H2. The weighted average effective interest rate (WAEIR) on CDs increased to 7.04 per cent as on March 30, 2018 from 6.30 per cent as on March 31, 2017, reflecting the increase in demand. In Q1 of 2018-19, the average fortnightly issuance of CDs declined to ₹159 billion. The WAEIR on CDs generally hardened during the quarter.

II.4.9 In the commercial paper (CP) market, the average fortnightly primary issuance of CPs increased to ₹955 billion during 2017-18 from ₹867 billion during the previous year, partly reflecting the substitution of short-term bank credit with market based funding by highly rated corporates on account of lower funding costs relative to bank loans. Among the three categories of issuers of CPs in the primary market, leasing and finance companies are generally the major issuers accounting for more than one-half of the total issuances, followed by manufacturing and other companies with a share of one-third, and financial institutions accounting

for the remaining. With money market rates on an easing mode across the board on account of the surplus liquidity condition and reduction in the policy rate, the weighted average discount rate (WADR) on CPs exhibited a downward bias during the year barring a mild hardening in Q4, a typical year-end phenomenon. In Q1 of 2018-19, the average fortnightly primary issuance of CPs stood at ₹939 billion, and the WADR on CPs mostly hardened.

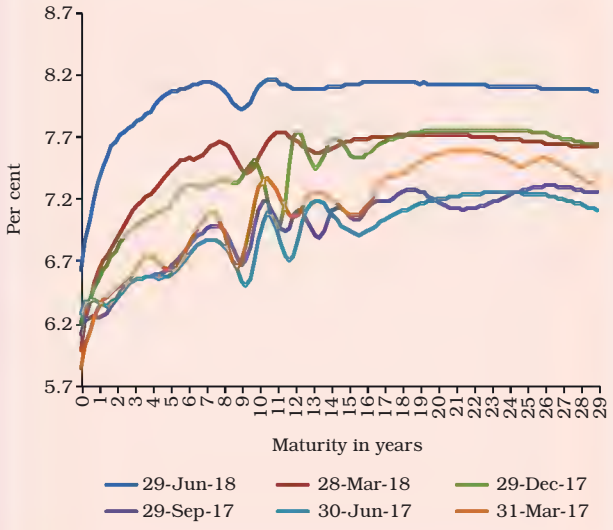
2. G-sec Market

II.4.10 The monthly average volume of transactions in central government and state governments dated securities (G-secs and SDLs) and T-Bills (outright as well as repo) declined by 15.7 per cent during 2017-18, mainly due to valuation losses on account of the hardening of yields almost continuously from August 2017. During 2018-19, until end-June 2018, the monthly average volume recorded further decline of 10.2 per cent.

II.4.11 In Q2, gilt yields shed the softening bias that had set in during Q1 when market sentiment was lifted by robust purchases by FPIs post the election results in Uttar Pradesh, the passage of the goods and services tax (GST) Bill and easing inflation (Chart II.4.2).

II.4.12 A combination of factors, *viz.*, rising inflation, announcement effects of monetary policy in the US and fears of fiscal slippage by the Government of India (GoI), triggered the hardening. In fact, the reduction in the policy rate by the Monetary Policy Committee (MPC) in its August 2017 meeting failed to enthuse the market. The announcement of the schedule for tapering off of reinvestment of maturing bonds by the US Federal Open Market Committee (FOMC) tightened yields even further in September.

Chart II.4.2: G-sec Yield Curve



Source: FBIL and FIMMDA.

II.4.13 Yields continued to trade on an elevated note through Q3 in an environment of rising inflation, firming crude oil prices, announcement effects surrounding the intention of GoI to engage in additional borrowing of ₹500 billion and concerns over weak revenue collection through the GST. Pessimism stemming from the impact of the imminent issuance of public sector bank (PSB) recapitalisation bonds and consequent over supply of paper in the market also weighed down bond prices. The upgrade of India's sovereign rating by Moody's Investors Service and the cancellation of scheduled OMO sale by the Reserve Bank in November 2017 calmed sentiments briefly. However, G-sec yields started hardening again during December 2017 due to the announcement of additional borrowing of ₹500 billion by the GoI, rising crude oil prices and higher inflation prints.

II.4.14 During Q4, the auction of a new ten-year benchmark security in January 2018 lifted the mood of the market, supported by the announcement by the GoI of pruning down its additional borrowing requirement for 2017-18 to

₹200 billion. However, spillovers from global bond sell-offs in February and March dispelled this interlude even as fiscal slippages for 2017-18 and 2018-19 indicated in the Union Budget brought back concerns about excessive issuances. However, intermittent softening in crude oil prices and softer February consumer price index (CPI) inflation reading helped to cap the hardening of yields. Additionally, the Reserve Bank's announcement of issue of longer term variable rate repos for addressing the financial year-end liquidity demand improved the market sentiment. During March 2018, domestic yields started trading with a softer bias, aided by absence of fresh supply of papers during the month, the GoI's announcement of lower market borrowing in H1 of 2018-19 and maturing of ₹ 1 trillion worth of MSS T-Bills, which allayed liquidity shortage related concerns.

II.4.15 During Q1 of 2018-19, the yields initially softened in April in response to the dispensation given to banks by the Reserve Bank for spreading out mark-to-market (MTM) losses over four quarters and reduction in inflation forecast for H1 by the MPC. Subsequently, the yields started hardening on higher crude oil price, higher CPI inflation print and increased SDL supply. Additionally, hardening of global bond yields, rising trade related tensions and policy rate hikes by the US Fed and the Reserve Bank also impacted the market sentiment. Intermittent softening in global crude oil prices and OMO purchases by the Reserve Bank helped in ameliorating the adverse impact, to an extent, thereby capping the hardening of yields. The domestic 10-year benchmark security yield closed at 7.90 per cent on June 29, 2018.

II.4.16 In terms of the Medium Term Framework, the investment limits for FPI in G-sec (including SDLs) was increased in a phased manner from ₹2,580 billion as on April 3, 2017 to ₹3,279 billion as on April 6, 2018, a year-on-year (y-o-y) increase of 27 per cent. FPI utilisation of the total available limit (inclusive of investments in SDL), which stood at 68.4 per cent on April 3, 2017, increased to 79.3 per cent as on March 28, 2018 before declining to 65.2 per cent at end-June 2018. An outflow of FPI investments to the extent of ₹225 billion was witnessed in Q1 of 2018-19 mainly due to expectations of faster than anticipated pace of normalisation of monetary policy by the US Fed and weakening of the Indian rupee. The situation has been further exacerbated by rising crude oil prices and trade related tension between the US and China. Several emerging market economies (EMEs) have witnessed debt outflows on account of FPIs offloading their investments with India being no exception.

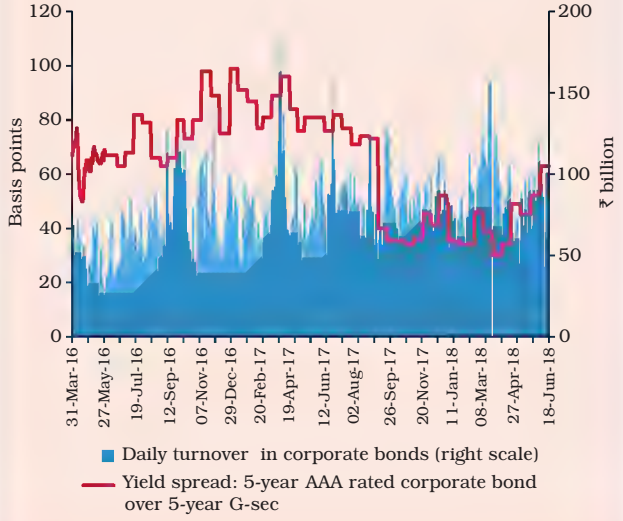
3. Corporate Debt Market

II.4.17 The corporate bond market has been boosted by a number of measures taken to develop the market in recent years. Net outstanding corporate bonds increased by 14 per cent y-o-y to ₹27.4 trillion by end-March 2018, about 16.3 per cent of GDP. The average daily turnover in the corporate bond market also increased sharply to ₹74.6 billion during 2017-18 from ₹61.0 billion a year ago. The Securities and Exchange Board of India's (SEBI's) new framework introduced in June 2017 for consolidation and re-issuance of debt securities by minimising the number of International Securities Identification Numbers (ISINs) to issuers improved market liquidity. Furthermore, proposals contained in the Union Budget 2018-19, such as, mandating large corporates to use the bond market to finance one-fourth of their funding needs, lowering the regulatory investment grade to 'A' from 'AA',

and the introduction of uniform stamp duty for issuance of bonds across the country, have paved the way for further development of the corporate bond market.

II.4.18 In line with G-sec yields, corporate bond yields softened during most part of H1 of 2017-18, supported by easing inflation, normal progress of the monsoon and the 25 bps cut in the policy repo rate by the Reserve Bank in August. However, this reversed in H2 of 2017-18 with corporate bond yields hardening persistently in tandem with the increase in G-sec yields and episodes of hardening of bond yields witnessed globally. Overall, the 5-year AAA rated corporate bond yield increased by 39 bps to 7.96 per cent during 2017-18. However, the spread over G-sec yields narrowed significantly during the year by 57 bps and 31 bps for 5-year and 10-year AAA rated corporate bonds, respectively, especially in H2, reflecting improvement in credit quality on higher corporate earnings, a stronger economic outlook and expectations of faster resolution of corporate insolvency (Chart II.4.3).

Chart II.4.3: Corporate Bond Market Turnover and Yield Spread



Source: SEBI and Bloomberg.

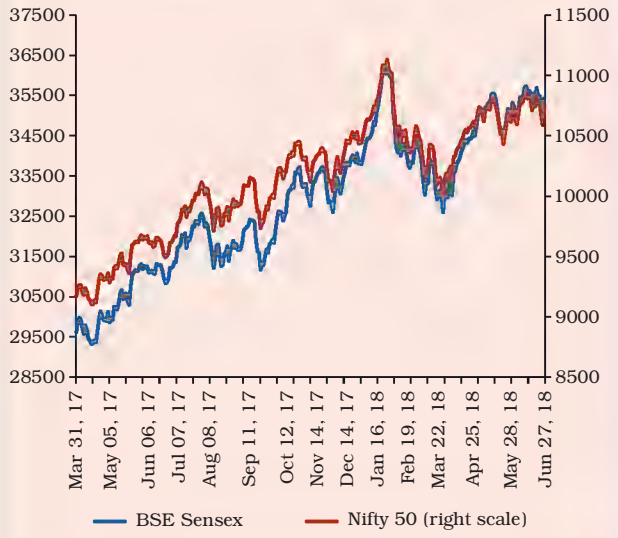
II.4.19 Primary corporate bond issuances declined by 9.8 per cent to ₹6,043 billion during 2017-18 from the peak level of ₹6,700 billion in 2016-17, which had surpassed the total bank credit extended during the year. The surge in bond yields in H2 tightened financial conditions, resulting in corporates shifting to bank credit for meeting their funding requirements. Public corporate debt issuances at ₹51.9 billion during 2017-18 were the lowest in the past eight years, as 99.1 per cent of the entire resource mobilisation from the corporate bond market was effected through the private placement route. FPI presence in corporate bond market increased to ₹2.2 trillion as at end-March 2018 from ₹1.9 trillion at end-March 2017. As a result, utilisation of the approved limit rose to 91.9 per cent from 76.0 per cent at end-March 2017.

II.4.20 Hardening of G-sec yields and increase in credit default risk, as reflected in higher credit default swap (CDS) spread, resulted in yield on 5-year AAA rated corporate bond hardening significantly by 81 bps to 8.78 per cent during Q1 of 2018-19. The yield spread of 5-year AAA rated corporate bond over 5-year G-sec widened by 24 bps. Consequently, primary issuances in corporate bond market declined by 33.6 per cent to ₹1,161 billion in Q1 of 2018-19 as compared with the corresponding period of the preceding year. The average daily turnover in the corporate bond market has increased to ₹75.0 billion in Q1 of 2018-19 as compared with ₹72.4 billion in Q1 of 2017-18.

4. Equity Market

II.4.21 The equity market was buoyed by strong rallies during 2017-18, with the benchmark indices scaling new peaks, tempered by

Chart II.4.4: Movement of BSE Sensex and Nifty 50



Source: Bloomberg.

intermittent corrections. The BSE Sensex and Nifty 50 increased by 11.3 per cent and 10.2 per cent, respectively, on the back of a combination of positive factors such as improved domestic macro-economic fundamentals and rallies in global markets (Chart II.4.4). The buoyancy in the domestic equity market was largely sustained by purchases by domestic mutual funds, though FPIs also lent support in the net.

II.4.22 Commencing the year on a positive note, equity markets registered gains during April-May 2017 on the anticipation of a normal monsoon, the amendment to the Banking Regulation Act to tackle stressed assets, a sharp fall in retail inflation and finalisation of the GST rates. However, the market turned volatile soon after, with the equity indices registering declines during June 2017 following the announcement of farm loan waivers by some state governments, the Reserve Bank stipulating higher provisioning for bank loans submitted under the insolvency process and the second interest rate hike in 2017 by the US Fed.

II.4.23 Buoyancy returned to the equity market in July 2017 after the introduction of GST and release of the minutes of the US Fed's June meeting, which reflected a lack of consensus on the future pace of rate hikes. However, market sentiment was adversely impacted in August 2017 by lower than expected corporate earnings for Q1 of 2017-18. Bearish sentiment continued to prevail in September 2017 on concerns relating to fiscal slippage, net selling by FPIs, geo-political tensions in the Korean peninsula and the US Fed's announcement of balance sheet reduction/tapering off of reinvestment of maturing securities from October 2017. However, the market bounced back sharply in October on announcement of measures to recapitalise PSBs, improving macroeconomic conditions, upbeat corporate earnings results for Q2 of 2017-18 and revival of FPI. This was followed by a correction in November, notwithstanding a sharp jump in India's ranking in the World Bank's ease of doing business and the ratings upgrade by Moody's, but the rally resumed in December triggered by Gujarat assembly election results and positive global cues.

II.4.24 The upswing gathered strength in January 2018 with the Sensex crossing the 36,000 mark and touching a historic high – 36,283 on January 29 - on positive cues from global markets, the upbeat macroeconomic outlook, encouraging corporate earnings results in Q3 of 2017-18 and optimism ahead of the Union Budget. This buoyancy was, however, associated with heightened volatility, particularly from the second half of January 2018 (Box II.4.1). The stock market witnessed a sharp correction in February 2018 on global sell-offs triggered by stronger than expected jobs and inflation data for the US and

Box II.4.1
Equity Indices and Implied Volatility

Financial asset price volatility captures the frequency and magnitude of financial price movements - both up and down - over a certain period of time. Episodes of intense market volatility create uncertainty, as firms postpone their investment decisions and consumers halt their purchases. Volatility in asset prices can be measured as historical/ realised, based on historical returns, or implied/expected, based on markets expectations of future price movements. A simple measure of realised financial asset return volatility is its variance over time but this does not capture volatility clustering for which generalized autoregressive conditional heteroskedasticity (GARCH) is used. GARCH is a standard method for measuring asset return volatility, which captures volatility clustering, *i.e.,* periods of turbulence followed by periods of calm, by measuring conditional variance, which takes into account the past history of returns. With increasing volumes of options and futures trading, implied volatility indices have gained significance because of their advantage of being forward looking, *i.e.,* based on market expectations. Movements in implied volatility provide an almost instantaneous measure of the level of uncertainty in the market.

The Volatility Index (VIX), also called the *fear index,* was introduced by the Chicago Board Options Exchange (CBOE) in 1993. The VIX, which is based on options in the S&P 500 index, measures market expectations of future volatility of the broad US stock market over the next 30 days. In India, the National Stock Exchange (NSE) introduced India VIX in March 2009 using the computation methodology of the CBOE, with suitable amendments. India VIX captures short-term expected volatility of Nifty 50, computed on the basis of order books of the underlying out-of-the-money Nifty options. The best bid-ask quotes of near and next-month Nifty options contracts, which are traded on the futures and options segment of the NSE, are used for computation of the India VIX which reflects not only investors' expectations of volatility but also the premium they require to bear volatility risk. The formula used in the calculation is as follows:

$$\sigma^2 = \frac{2}{T}\sum \frac{\Delta K_i}{K_i^2} e^{RT} Q(K_i) - \frac{1}{T}\left[\frac{F}{K_0} - 1\right]^2$$

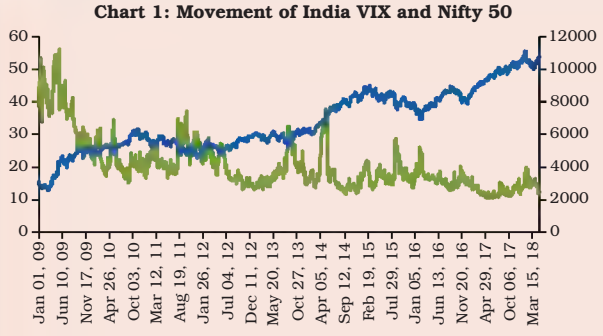
where: σ is India VIX/100, which implies India VIX= σ x 100; T is time to expiration; K_i is strike price of ith out-of-the-money option; a call if $K_i > F$ and a put if $K_i < F$; ΔK_i is interval between strike prices - half the distance between the strike on either side of K_i; R is risk-free interest rate to expiration; $Q(K_i)$ is the midpoint of the bid-ask quote for each option contract with strike K_i; F is the forward index taken as the latest available price of Nifty future contract of corresponding expiry and K_0 is first strike below the forward index level, F.

There exists a significant negative and asymmetric relationship between stock returns and implied volatility (Schwert, 1989). Negative return shocks have a larger impact on implied volatility than positive return shocks. The negative correlation between implied volatility and the stock return is based on two fundamental hypotheses: the volatility feedback effect and the leverage effect. The volatility feedback hypothesis (French *et al.*, 1987) posits that a sharp fall in the stock price leads to an increase in the risk premium due to anticipated increase in volatility, leading to an increase in VIX. On the other hand, the leverage effect (Black, 1976) indicates that a decline in a company's stock price makes it more leveraged since the relative value of its debt rises and this induces a perception of the stock being riskier and, hence, more volatile.

In India, the long term inverse relationship between India VIX and Nifty 50 turned positive during the second half of January 2018 when both the indices increased in tandem (correlation coefficient = 0.88 for January 2018). This points to market's apprehension that the index had increased excessively and a correction was imminent. Global markets also witnessed a similar phenomenon as the S&P 500 and VIX moved together during that period (correlation coefficient = 0.70). However, sharp corrections in the equity market in the first week of February 2018 and heightened volatility led to the restoration of the long-term inverse relationship between the two. The India VIX increased sharply by 25 per cent to 20.02 on February 6, 2018, its highest level since November 2016. This was mainly on account of spillover of global volatility triggered by the rising US bond yields. The volatility in the global market was exacerbated by collapse of several complex volatility-linked funds and algorithmic trading strategies tied to market volatility. Market participants indicated that

(Contd...)

Chart 1: Movement of India VIX and Nifty 50



Source: Bloomberg.

Table 1: Correlation Coefficient between Stock Market Index And VIX

Stock market/ VIX	Jan 2009 - Apr 2018	Jan-18	Feb-18
Nifty 50 and India VIX	-0.72	0.88	-0.31
S&P 500 & VIX	-0.68	0.70	-0.86

Source: RBI staff estimates.

technical factors in options products and short-volatility strategies amplified market moves. The put-call ratio, which is a ratio of number of traded put options to number of traded call options, and is an indicator of investor sentiment, broadly remained stable and stayed below one in India during the period Jan 2017-Mar 2018.

An estimation of the relationship between Nifty 50 and India VIX over a longer period, *i.e.*, January 2009 to April 2018, indicated a significantly negative correlation between the two [(-) 0.72] (Table 1 and Chart 1). The Nifty 50 index and India VIX moved in the same direction, both positive and negative, 32 per cent of the time during the period of analysis.

To assess the asymmetric nature of relationship between changes in the Nifty 50 index and India VIX for the period January 2010-January 2018, Newey-West estimator based regression has been used to overcome heteroscedasticity and autocorrelation in the error terms. Dummy variables have been used for positive and negative returns (Giot, 2005). The regression equation is given below:

$$R_{vix,t} = \beta_0^- D_t^- + \beta_0^+ D_t^+ + \beta_1^- (r_{nifty,t} D_t^-) + \beta_1^+ (r_{nifty,t} D_t^+) + e_t,$$

where *Rvix,t* represents return on India VIX at time *t*, D_t^- is the dummy variable which is equal to 1 when Nifty falls, otherwise 0; $D_t^+ = 1 - D_t^-$ and $r_{nifty,t}$ represents Nifty return at time *t*.

The results are presented in Table 2 below:

Table 2: Estimated Coefficients of the Regression

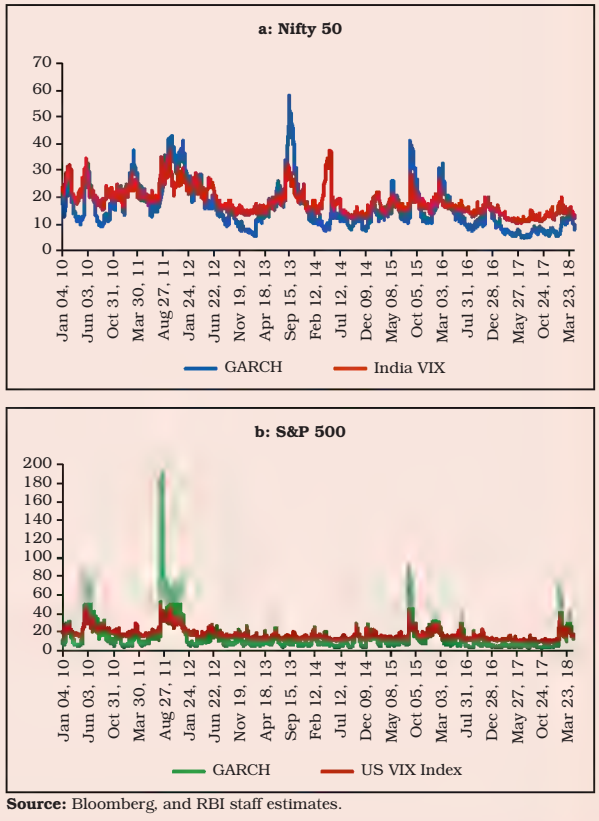
β_0^+	β_0^-	β_1^+	β_1^-	R^2
-0.003	-0.011	-2.27	-4.36	0.36
(0.17)	(0.00)	(0.00)	(0.00)	

Note: p - values are given in parenthesis.
Source: RBI staff estimates.

It is evident that a significant negative and asymmetric relationship exists between India VIX and Nifty 50 returns, as the coefficient β_1^- is larger in absolute value than β_1^+, which implies that the negative return shocks have a larger impact on implied volatility than positive return shocks.

Additionally, realised volatility of stock returns, represented by conditional variance estimated through GARCH, and implied volatility, represented by VIX in the case of both Nifty 50 and S&P 500, generally moved in tandem. The

Chart 2: Implied Volatility (VIX) *vis-à-vis* Conditional Volatility (GARCH) of Equity Indices (Jan 2010 - Apr 2018)



Source: Bloomberg, and RBI staff estimates.

(Contd...)

realised volatility generally remained lower than expected volatility. However, during periods of extreme volatility, realised volatility estimated through GARCH rose above the implied volatility (Chart 2). Thus, short-term expected volatility, represented by VIX, is able to capture the realised volatility, as reflected by the co-movement of the two, but there is also value to employing realised volatility to understand price fluctuations.

References:

1. Black, F. (1976). "Studies of Stock Price Volatility Changes." Proceedings of the 1976 Meetings of the American Statistical Association, Business and Economic Statistics.
2. French K.R., G.W. Schwert and R.F. Stambaugh (1987), "Expected stock returns and volatility", *Journal of Financial Economics,* 19(1), 3–29.
3. Giot, P. (2005), "Relationships between Implied Volatility Indexes and Stock Index Returns", *Journal of Portfolio Management*, 26, 12-17.
4. Schwert G.W. (1989), "Why does stock market volatility change over time?", *Journal of Financial Economics,* 44(5), 1115–1153.

surge in the US bond yields. Adverse reactions to Union Budget proposals and concerns regarding GoI breaching the fiscal deficit target for 2017-18 further exacerbated the situation, with the Sensex declining by around 5 per cent to close the month at 34,184. Sentiments in the equity market continued to remain subdued in March with the BSE Sensex declining by 3.6 per cent to close the year at 32,969, triggered mainly by worries of trade conflicts between the US and China following the US announcement of tariffs on its steel and aluminium imports and proposals to impose import tariffs on Chinese goods, coupled with mixed domestic macroeconomic data releases.

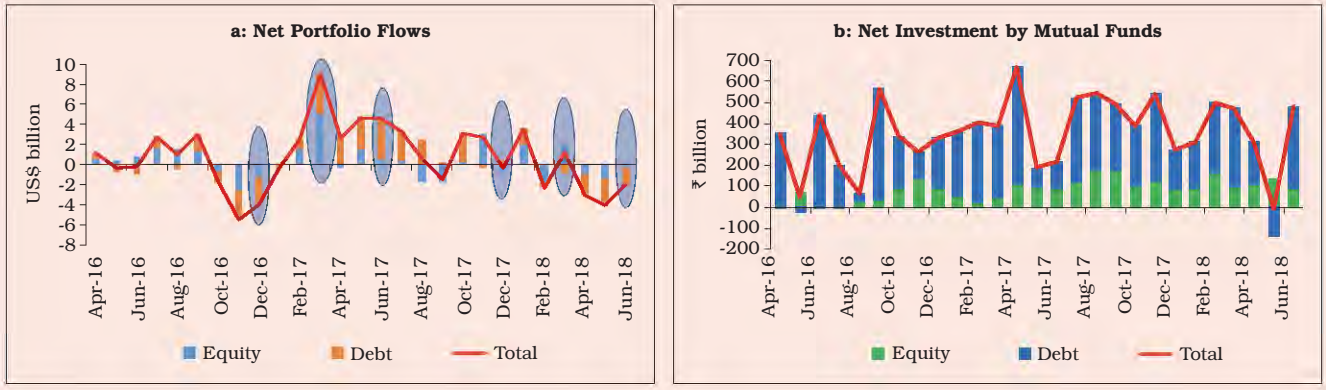
II.4.25 Buoyancy returned to the equity market in 2018-19 with the BSE Sensex and Nifty 50 increasing by 7.4 per cent and 5.9 per cent, respectively, during Q1 of 2018-19 mainly on account of GoI's announcement of a lower-than-expected market borrowing programme for the first half of 2018-19, better than expected corporate earnings results for Q4 of 2017-18, higher GDP growth for Q4 of 2017-18, positive economic activity data and forecast of normal monsoon in 2018 by the India Meteorological Department (IMD). After increasing sharply during April 2018, the markets witnessed intermittent corrections during May-June 2018, on concerns relating to prospects of trade related tensions between the US and China, political uncertainty in Karnataka, surge in crude oil prices and interest rate hike by the US Fed.

II.4.26 Sustained net investments by institutional investors, particularly mutual funds, during the year, provided upside momentum to equity markets, even as foreign portfolio flows turned volatile (Chart II.4.5). Net investment by mutual funds in equities during the year at ₹1,418 billion was much higher than ₹223 billion by foreign portfolio investors. During Q1 of 2018-19, mutual funds made net purchase of ₹335 billion, while foreign portfolio investors registered net sales of ₹204 billion.

Primary Market Resource Mobilisation

II.4.27 The primary segment of the equity market continued to be an important source of resource mobilisation. New equity issues, including qualified institutional placement (QIP), increased significantly during 2017-18, spurred by the buoyancy in the secondary market. Initial Public Offers (IPOs) and rights issues increased more than three times to ₹1,052 billion from ₹325

Chart II.4.5: Net Investment by Institutional Investors



Note: Months of Federal Funds rate hikes are encircled.
Source: SEBI and NSDL.

billion in the previous year. Companies mobilised a total of ₹838 billion through 200 IPO issues, out of which 155 issues amounting to ₹23 billion were listed on the small and medium enterprises (SMEs) platforms of the BSE and the NSE. During September-November 2017, a sharp rise in IPO activity was led by insurance companies, which accounted for 52 per cent of the total resources raised through IPOs in 2017-18. Resource mobilisation through QIP also jumped manifold from ₹85 billion in 2016-17 to ₹673 billion in 2017-18 mainly driven by increased capital requirements for banks under Basel III norms.

II.4.28 The net resource mobilisation by mutual funds declined by 20.8 per cent to ₹2,718 billion in 2017-18. However, resource mobilisation through equity and equity-oriented schemes more than doubled from ₹704 billion in 2016-17 to ₹1,711 billion in 2017-18, mainly driven by increased participation from retail investors and high net worth individuals (HNIs) who preferred equities over debt to earn higher returns. Accordingly, assets under management (AUM) of equity oriented schemes of mutual funds increased by 37.9 per cent from ₹5.4 trillion at end-March 2017 to ₹7.5 trillion at end-March 2018.

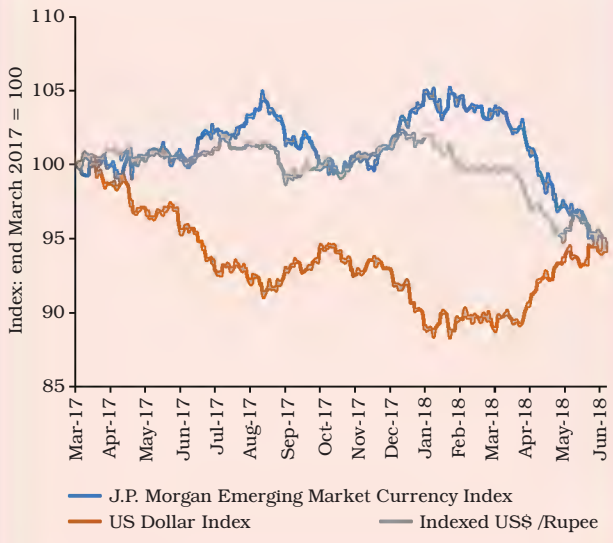
II.4.29 Primary market resource mobilisation through public issues of equity declined by 31.5 per cent (y-o-y) during Q1 of 2018-19. QIP issues also declined significantly by 85.2 per cent during Q1 of 2018-19. The net resources mobilisation by mutual funds increased by 43.4 per cent during Q1 of 2018-19.

5. Foreign Exchange Market

II.4.30 In the foreign exchange market, turnover picked up amidst broadly stable conditions during 2017-18. The INR traded with an appreciating bias against the US dollar in H1 of 2017-18 before depreciating in September 2017. Strong portfolio purchases, especially in the debt market, provided upside to the INR. Inflows on account of *Masala* Bonds and foreign direct investment supported the INR in July and August. However, geo-political tensions and the US Fed's announcement of commencement of normalisation of monetary policy pulled the INR down in September 2017.

II.4.31 In the early part of H2, the INR traded with an appreciating bias during October before weakening against the US dollar in the first two weeks of November, as political turmoil in the Middle East and the knock-on impact of

Chart II.4.6: Movement in Currencies



Source: Bloomberg, and RBI staff calculation.

international crude oil prices clouded sentiments (Chart II.4.6). FPI purchases in the Indian debt market and a weakening US dollar supported the market in December and early January. However, re-emergence of concerns around the repercussions of elevated energy prices on India's current account deficit (CAD), uncertainty around recalibration of the speed of monetary policy tightening by the US Fed upon arrival of strong wages and employment data, and the introduction of the long term capital gains (LTCG) tax domestically exerted downward pressure on the INR in the second half of January and in February. These pressures were accentuated by the strengthening of the US dollar, sales by FPIs in the equity and debt markets in India, and upward revision of fiscal deficit targets by the GoI. Overall, the rupee depreciated marginally by 0.3 per cent at end-March 2018 from its level a year ago although it appreciated in 2017-18 relative to the previous year on an average basis.

II.4.32 Rupee remained generally weak during Q1 of 2018-19 tracking broad-based gains in US dollar, sustained rise in crude oil prices and persistent FPI outflows from the Indian debt segment. The rupee staged intermittent recovery, especially towards end-May, due to softening of crude oil prices on prospects of higher production and better than expected Q4 growth but the gains could not be sustained in June due to significant hardening of crude oil prices, increase in CAD for Q4 of 2017-18, rate hike by the US Fed and intensification of trade related tensions between the US and China.

II.4.33 Forward premia recovered from post-demonetisation lows during 2017-18, although they continued to rule easy, reflecting the stability in the spot market. Turnover in both merchant and the inter-bank segments of the spot market and swap segment picked up, whereas the forward segment exhibited a minor reduction in activity.

II.4.34 Going forward, global risk factors like geo-political developments in the Middle-East leading to sharp increase in crude oil prices, faster than anticipated pace of rate hike by the US Fed and increase in protectionism leading to prospects of trade related tensions could induce volatility in the domestic financial markets. However, sound domestic macro-economic fundamentals would provide a strong bulwark against any externally induced volatility spillovers.

II.5 GOVERNMENT FINANCES[16]

II.5.1 In 2017-18, public finances were marked by deviations from budgetary deficit targets at both central and sub-national levels, essentially from the revenue account. For the central government, the pressure points turned out to

[16] The discussion on central government finances for 2017-18 is based on Provisional Accounts (PA) and for 2018-19 on Budget Estimates (BE).

be indirect tax collections, non-tax revenue and revenue expenditure. The late implementation of GST (in July 2017) and the teething problems that followed in its wake did not deter indirect tax collections from exceeding the preceding year's level but the rising buoyancy of the preceding two years was interrupted and the indirect tax to GDP ratio dipped. The shortfall in non-tax revenue relative to budget estimates (BE) needs to be viewed in the context of deferment of spectrum auctions, the acute stress in balance sheets of banks and corporates that eroded profitability, and the costs of demonetisation impinging on the balance sheet of the Reserve Bank. With revenue expenditure programmed to expand due to upward revisions in salaries, pensions and allowances of central government employees and defence personnel, capital expenditure had to be pruned from the budgeted amount. In the event, the provisional accounts (PA) for 2017-18 show that the centre's gross fiscal deficit (GFD) at 3.5 per cent of GDP was higher than the budgeted 3.2 per cent of GDP.

II.5.2 The consolidated GFD of states in 2017-18 as per revised estimates (RE) at 3.1 per cent of GDP exceeded the budgeted target (2.7 per cent of GDP). The main underlying factors were shortfall in own tax revenues and higher revenue expenditure on account of pay commission award and farm loan waivers.

II.5.3 For 2018-19, the centre's GFD is budgeted at 3.3 per cent of GDP, a reduction of 0.2 percentage points over the 2017-18 level. The fiscal deficit target of 3.0 per cent has been deferred to 2020-21. In case of states, the budget estimates of the consolidated fiscal deficit at 2.6 per cent need to be seen in light of the recent historical record and the gaps in the institutional architecture, the latter attracting new scrutiny in the context of the farm loan waivers and the implementation of the pay commission recommendations. Notwithstanding some moderation in the post crisis period, the general government GFD has remained above 6.5 per cent of GDP since 2012-13. It is estimated to be around 6.6 per cent in 2017-18 (RE) and is budgeted at 5.9 per cent in 2018-19.

1. Central Government Finances in 2017-18

II.5.4 The fiscal strategy for 2017-18 was centered on the rural economy, infrastructure and poverty alleviation while persevering with structural reforms, including in-budgetary processes such as the advancement of the budget presentation to February 1, merger of the railway budget with the Union Budget, and the abolition of the plan and non-plan classification of expenditure. In terms of actual outcomes, centre's tax revenues net of devolution to states exceeded the budgeted amount by 1.3 per cent, sustaining the upturn in the tax/GDP ratio that commenced in 2016-17. Underlying this improvement, gross direct tax revenues were buoyed by higher collections under income and corporate taxes, with growth rates of 12.0 per cent and 17.8 per cent, respectively. With corporate tax buoyancy being higher than in 2016-17, corporate tax collections also exceeded the budget estimates of 2017-18. Unlike the direct tax to GDP ratio, the indirect tax to GDP ratio declined marginally in 2017-18, although collections exceeded the previous year's receipts by 5.9 per cent.

II.5.5 Non-tax revenues recorded a shortfall of 33.3 per cent from budgetary targets, mainly on account of lower receipts from interest, dividends and profits. The Reserve Bank transferred an overall surplus of ₹306.6 billion to the government in 2017 as against ₹658.8 billion in 2016, a decline of 53.5 per cent. In 2017-18, aggregate dividend receipts were lower by 35.8 per cent than the BE and by 25.7 per cent over their 2016-17

level. Notably, net receipts from communication services fell short of BE mainly because of deferment of spectrum auctions. On the other hand, proceeds of ₹1 trillion from disinvestment on the back of strategic sales were the highest in any financial year so far and exceeded the BE by 38.2 per cent. Reflecting these constituent movements, total non-debt capital receipts registered a growth of 77.2 per cent *vis-à-vis* 3.8 per cent in the previous year.

II.5.6 Revenue expenditure exceeded the budget target by 2.3 per cent on account of higher pension and interest payments, absorbing the entire increase in non-debt capital receipts. Consequently, capital expenditure had to be pruned below the BE by 14.9 per cent in contrast to the healthy improvement in 2016-17 when capital expenditure was protected and the burden of adjustment fell on revenue expenditure.

II.5.7 Reflecting these developments, the budgeted target for GFD-GDP ratio at 3.2 per cent was breached by 0.3 percentage points in 2017-18. The revenue deficit (RD)-GDP ratio at 2.6 per cent shows a deviation of 0.7 percentage points from the BE, more than double the deviation in the GFD-GDP ratio (Table II.5.1).

2. Central Government Finances in 2018-19

II.5.8 The Union Budget for 2018-19 renewed the emphasis on reviving rural demand by focusing on the rural economy and agriculture. In contrast to 2017-18, the fiscal strategy expanded its ambit to the social sector (education, health and social welfare) and maintained its thrust on infrastructure and the financial sector, the latter through the announcement of important measures like bank recapitalisation and introduction of the standing deposit facility. Although the fiscal cost of bank recapitalisation bonds is yet uncertain, the measure could lend tailwinds to the recent recovery in bank credit and, in turn, overall growth, compensating for any additional interest burden on the government in the interim. The step-up in allocations is sought to be financed by augmenting tax collections and by sustaining the disinvestment drive.

II.5.9 The central government accepted the medium-term fiscal targets recommended by the

Table II.5.1: The Central Government's Fiscal Performance

(Per cent to GDP)

Item	2004-08	2008-10	2010-15	2014-15	2015-16	2016-17	2017-18 (RE)	2017-18 (PA)	2018-19 (BE)
1	2	3	4	5	6	7	8	9	10
Non Debt Receipts	10.4	9.5	9.5	9.3	9.1	9.4	9.7	9.2	9.7
Tax Revenue (Gross) (a+b)	10.6	10.2	10.2	10.0	10.6	11.2	11.6	11.4	12.1
Tax Revenue (Net)*	7.8	7.5	7.3	7.3	6.9	7.2	7.6	7.4	7.9
a) Direct Tax	5.0	5.9	5.7	5.6	5.4	5.6	6.0	5.8	6.1
b) Indirect Tax	5.5	4.3	4.5	4.4	5.2	5.7	5.6	5.5	6.0
Non-tax revenue	2.1	1.8	1.8	1.6	1.8	1.8	1.4	1.1	1.3
Non Debt Capital Receipts	0.4	0.3	0.4	0.4	0.5	0.4	0.7	0.7	0.5
Total Expenditure	13.8	15.8	14.3	13.4	13.0	12.9	13.2	12.8	13.0
Revenue Expenditure	11.9	14.1	12.6	11.8	11.2	11.1	11.6	11.2	11.4
Capital Expenditure	1.9	1.7	1.8	1.6	1.8	1.9	1.6	1.6	1.6
Revenue Deficit	2.0	4.9	3.5	2.9	2.5	2.1	2.6	2.6	2.2
Gross Fiscal Deficit	3.4	6.2	4.8	4.1	3.9	3.5	3.5	3.5	3.3

BE: Budget Estimates; RE: Revised Estimates; PA: Provisional Accounts.
*: Net tax revenue represents gross tax revenue net of devolution to state governments.
Source: Union Budget Documents.

Fiscal Responsibility and Budget Management (FRBM) Review Committee (Chairman: Shri N. K. Singh) but with a delayed timetable. The FRBM Review Committee had recommended a medium term GFD-GDP target of 2.5 per cent for the centre by 2022-23. Furthermore, the Committee recommended that the combined GFD should be reduced to 5 per cent of GDP, equally divided between the centre and states. As against this, the GFD target of 3.0 per cent for the centre has now been shifted from 2018-19 to 2020-21, while the central government debt will be brought down to 40 per cent of GDP by 2024-25, two years later than recommended. The government also agreed to explicit escape and buoyancy clauses. On the ground or grounds of national security, act of war, national calamity, collapse of agriculture severely affecting farm output and incomes, structural reforms in the economy with unanticipated fiscal implications, decline in real output growth of a quarter by at least 3 per cent points* below its average of the previous four quarters, the annual fiscal deficit target may be exceeded/deferred. Any deviation from the fiscal deficit target, however, shall not exceed one-half per cent of GDP in a year. The central government shall, in case of increase in real output growth of a quarter by at least 3 per cent points* above its average of the previous four quarters, reduce the fiscal deficit by at least one-quarter per cent of GDP in a year. Under situations where the fiscal deficit is allowed to vary from the prescribed target despite increase in GDP growth, the government shall lay, before both the Houses of Parliament, a statement explaining the reasons thereof and the path of return to annual prescribed targets.

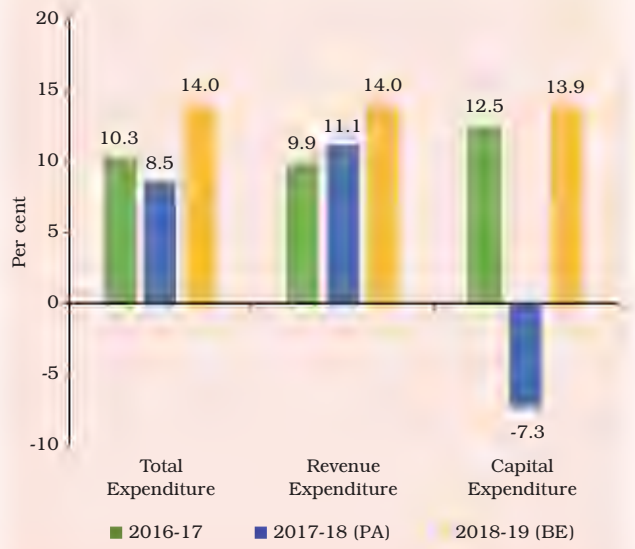
II.5.10 The GFD for 2018-19, is budgeted at 3.3 per cent of GDP, *vis-à-vis* the 2017-18 outcome of 3.5 per cent. Given the expenditure priorities of the fiscal strategy, the realisation of the budgeted GFD hinges on the centre's revenue effort – 18.3 per cent growth in gross tax revenues; 22.3 per cent in indirect taxes with GST collections increasing by 70.5 per cent. Underpinning the projections of gross tax revenue is an implicit tax buoyancy of 1.45 in 2018-19 (BE) although higher than the realised buoyancy of 1.19 in 2017-18. The average buoyancy in personal income tax was higher at 2.5 and 1.2 for 2016-17 and 2017-18, respectively, as against 1.0 during the seven years from 2009-10 to 2015-16. This is attributable to the ongoing tax base broadening and enforcement measures. Receipts from non-tax revenues are budgeted to increase in 2018-19 by 27.3 per cent, with major contributions from interest receipts, followed by non-tax receipts of Union Territories. Encouraged by the disinvestment outcomes in 2017-18, the target for disinvestment has been projected at ₹800 billion in 2018-19 (BE).

II.5.11 Total expenditure is budgeted to grow by 14.0 per cent in 2018-19 (8.5 per cent in 2017-18). Capital outlay (*i.e.,* capital expenditure excluding loans and advances) is projected to grow by 13.9 per cent (1.3 per cent decline in 2017-18). Capital expenditure is budgeted to grow at 13.9 per cent, with emphasis on transport and social welfare (Chart II.5.1). Expenditure on major subsidies, *viz.,* food, fuel and fertiliser is budgeted to rise by 38.3 per cent to 1.4 per cent of GDP from 1.1 per cent of GDP in 2017-18.

II.5.12 As per the latest information available, RD and GFD, both in absolute terms as well as per cent of BE were lower during April-June 2018 as compared to the corresponding period

* As per the Finance Act, 2018.

Chart II.5.1: Growth Rate of Expenditure



Source: Union Budget Documents.

of the previous year, since the growth in revenue receipts surpassed that in total expenditure. Non-tax revenue also surged during the quarter. The growth in total expenditure was mainly driven by capital expenditure.

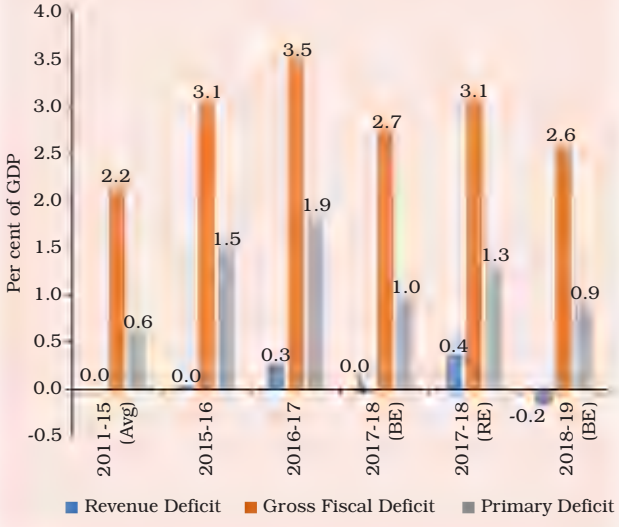
3. State Finances in 2017-18

II.5.13 Fiscal position of 29 state governments at a consolidated level points toward deterioration in key deficit indicators in 2017-18 (RE) as against the BE. The erosion occurred despite no issuances of bonds under the UDAY scheme, which had resulted in higher deficits in the preceding two years. Revised estimates for 2017-18 indicate a deviation of 0.40 percentage points of GDP in the consolidated states' revenue deficit and 0.35 percentage points in the GFD from the budget estimates. The deviation has occurred on account of both overshooting of revenue expenditure by 13 basis points (bps) due to farm loan waivers and other factors, which include pay revisions and shortfall of revenue receipts by 27 bps, mainly reflecting a decline in states' own taxes by 0.33 per cent of GDP. This shortfall was partly offset by transfers from the centre, which exceeded budget projections by 0.09 per cent of GDP. Fiscal consolidation and any deviation therefrom may have implications for macroeconomic stability and inflation, in particular (Box II.5.1).

4. State Finances in 2018-19

II.5.14 For 2018-19, states have budgeted for a consolidated GFD of 2.6 per cent of GDP. The correction mainly emanates from the revenue account, which is projected to post a surplus of 0.2 per cent of GDP [deficit of 0.4 per cent in 2017-18 (RE)] (Chart II.5.2). Revenue receipts are expected to go up on account of central transfers and states' own taxes comprising states' GST and other commodity taxes. Notwithstanding the consolidation in GFD-GDP ratio budgeted for 2018-19, eleven states are projecting a fiscal deficit above the 3 per cent threshold. With fiscal marksmanship of states being weak (RBI, 2018)[17],

Chart II.5.2: Key Deficit Indicators of the State Governments



Source: State Budget Documents.

[17] State Finances: A Study of Budgets 2017-18 and 2018-19, Reserve Bank of India, July 2018.

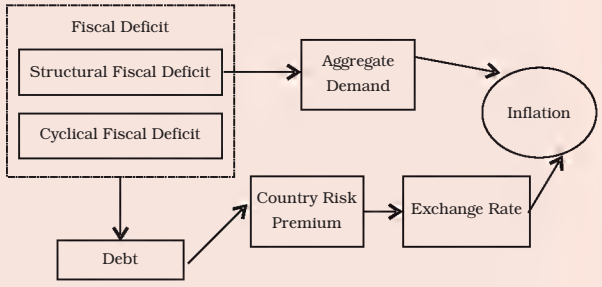
Box II.5.1
Relationship between Fiscal Policy and Inflation: Results from Quarterly Projection Model

India has adopted the flexible inflation targeting framework with consumer price inflation as the nominal anchor for monetary policy. Policy models like Quarterly Projection Model (QPM) (Benes *et al.*, 2016) under the Forecasting and Policy Analysis System (FPAS) play a critical role in ensuring consistent forward looking assessment and evaluation of the risks to baseline path over the medium term. In recent past, there have been growing concerns on the implications of the fiscal deficit at central and state levels for durable disinflation and achievement of the target. Empirical results for the recent period suggest a positive and statistically significant long-run relationship, leading from fiscal deficits to inflation in India, which is non-linear in nature, *i.e.*, the impact of fiscal deficit on inflation will be higher at higher levels of the fiscal deficit and inflation (Mitra *et al.,* 2017).

This box presents the results of the introduction of a fiscal block in the QPM to validate the role of fiscal policies on aggregate demand and overall inflation (Raj *et al.,* 2018). QPM is a forward-looking open-economy calibrated gap model based on the New-Keynesian framework and incorporates a number of India-specific characteristics of inflation process and monetary policy transmission. In QPM, fiscal stance influences inflation outcomes through its impact on aggregate demand and exchange rate.

The overall fiscal deficit, based on the IMF and OECD approach, is decomposed into structural and cyclical deficits to arrive at the structural or the underlying fiscal position when cyclical or automatic movements are removed. Cyclical deficit captures the movements in government revenue and expenditure in line with the rise and fall of economic activity and hence cyclical deficit is modelled as a function of output gap. The cyclically adjusted fiscal deficit or the structural deficit then represents the underlying or structural components of fiscal balance that do not self-correct with change in economic cycle. Government consumption shock is seen to induce private consumption and real demand. The unanticipated changes in structural deficit and deviations from debt target are formulated to have an impact on domestic economic cycles. Further, the deviation from the long-term debt target will affect the country risk premium and hence the exchange rate through the uncovered interest parity (UIP) condition. The conceptual framework for augmenting fiscal block in the QPM is presented in Chart 1.

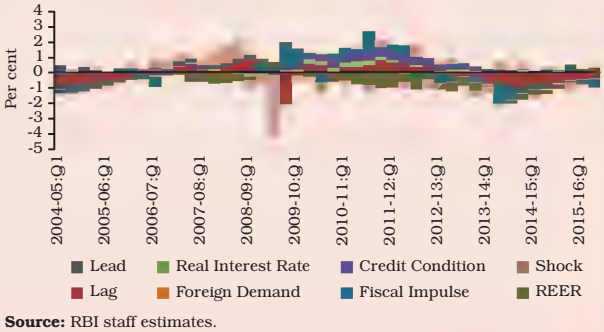
Chart 1: Conceptual framework of fiscal linkages to inflation



Source: Raj *et al.*, 2018.

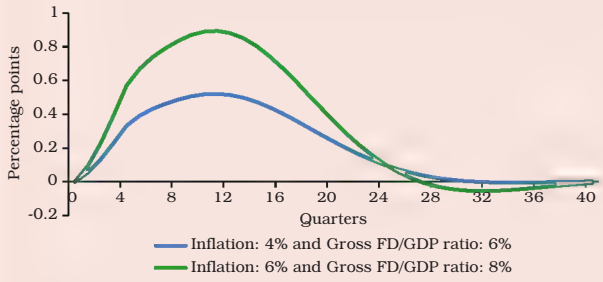
Augmenting the fiscal block to the QPM and analysing the historical decomposition of the output gap (Chart 2) in the post-GFC (*i.e.,* global financial crisis) period clearly bring out the role of large fiscal deficit when the FRBM Rule based fiscal consolidation was set on a 'pause'. Subsequently, the re-implementation of fiscal rules from 2012 has helped to temper the demand side pressures and in turn inflation. Further, the simulations from QPM after taking into account the non-linear impact of fiscal deficit on inflation, presented in Chart 3, suggests that at a level of four per cent inflation and six per cent combined fiscal deficit to GDP ratio, one percentage point shock to structural fiscal deficit to GDP ratio, would push the inflation up by around 40 bps over three-year period. However, its impact gets magnified, if the inflation and combined fiscal deficit are at higher levels. In this context, the recent monetary policy statements have highlighted the importance of the adherence to budgetary targets by

Chart 2: Historical Decomposition of Output Gap



Source: RBI staff estimates.

Chart 3: Impact of 1 percentage point Structural Fiscal Deficit Shock on Inflation (y-o-y, per cent)



Source: RBI staff estimates.

the centre and the states in achieving the medium-term target for headline inflation of 4 per cent on a durable basis.

References:

1. Benes, M. J., K. Clinton, A. T. George, P. Gupta, J. John, O. Kamenik, D. Laxton, P. Mitra, G. V. Nadhanael, R. Portillo, H. Wang and F. Zhang (2016). "Quarterly Projection Model for India: Key Elements and Properties". RBI Working Paper, November.
2. Mitra, P., I. Bhattacharyya, J. John, I. Manna and A. T. George (2017), "Farm Loan Waivers, Fiscal Deficit and Inflation", Mint Street Memo No.5, Reserve Bank of India.
3. Raj, Janak, P. Mitra, A. T. George and J. John (2018), "Monetary Fiscal Interaction in an Inflation Targeting Framework - Recent Evidence from India", Reserve Bank of India, *mimeo.*

any shortfall in the revenue account will imply that capital expenditure may have to bear the brunt of the fiscal correction as it has done over the past two years. Spending pressures pose further risks, including from farm loan waivers, and ongoing implementation of the pay commission recommendations.

5. General Government Finances

II.5.15 The general government GFD, which was in a consolidation phase from 2012-13 started deteriorating from 2015-16 to reach 7.0 per cent of GDP in 2016-17. While the centre sustained its consolidation process during the period, the states used up the fiscal space more than that vacated by the centre, keeping the combined GFD-GDP ratio at an elevated level. However, the general government GFD is budgeted to be 5.9 per cent of GDP in 2018-19 as against 6.6 per cent in the revised estimates for 2017-18.

II.5.16 Globally, general government balances across G-20 countries present a mixed picture (Table II.5.2). While countries such as Russia and Mexico strengthened fiscal consolidation in 2017, the situation deteriorated in Argentina, China and South Africa as also in the US and Japan. In Brazil and India, general government deficits continue to rule at elevated levels.

II.5.17 Outstanding liabilities of the general government are budgeted to decline to 68.3 per cent of GDP at end-March 2019 from 68.9 per

Table II.5.2: General Government Balance of Select G-20 Countries

(Per cent to GDP)

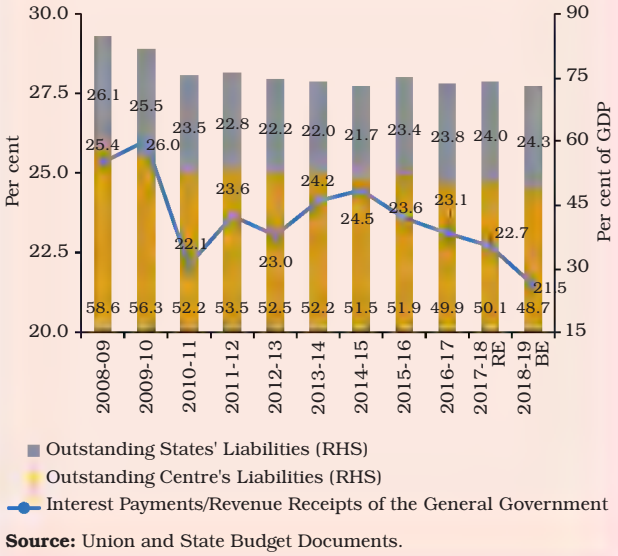
Country	2015	2016	2017
1	2	3	4
Argentina	-5.8	-6.4	-6.5
Australia	-2.8	-2.6	-2.2
Brazil	-10.3	-9.0	-7.8
Canada	-0.1	-1.1	-1.0
China	-2.8	-3.7	-4.0
France	-3.6	-3.4	-2.6
Germany	0.6	0.8	1.1
India	-6.9	-7.0	-6.6
Indonesia	-2.6	-2.5	-2.5
Italy	-2.6	-2.5	-1.9
Japan	-3.8	-3.7	-4.2
Korea	0.6	1.7	1.9
Mexico	-4.0	-2.8	-1.1
Russia	-3.4	-3.7	-1.5
South Africa	-4.8	-4.1	-4.5
Turkey	-1.3	-2.3	-2.3
UK	-4.3	-3.0	-2.3
USA	-3.5	-4.2	-4.6

Source: IMF Fiscal Monitor, April 2018; Union and State Budget Documents for India.

cent at end-March 2018 (RE). As per the revised FRBM architecture, the aim is to attain a central government debt to GDP ratio of 40 per cent and a general government debt to GDP ratio of 60 per cent by 2024-25. The definition of central government debt has also been widened to include all outstanding liabilities, including those in the Public Accounts. Further, the external debt has to be valued at the current exchange rate henceforth. The amendment further states that the central government shall not give additional guarantees with respect to any loan on security of the Consolidated Fund of India in excess of one-half of one per cent of GDP in any financial year. Though the current debt levels are above the FRBM target, the debt servicing capacity of the general government has improved over the previous two years with the interest payments as per cent to revenue receipts exhibiting a decline (Chart II.5.3).

II.5.18 The central government reported an expansionary fiscal impulse for 2017-18, driven by underperformance in non-tax revenue, indirect taxes and revenue expenditure. It was also witnessed at the level of states in respect of the GFD, the revenue deficit and the primary deficit in 2017-18 (RE), along with a deterioration in their debt position. Going forward, centre and states may have to withstand revenue expenditure pressures due to farm loan waivers, pay commission recommendations for states, likely rise in fuel subsidies and a higher interest burden associated with rising market borrowings and elevated yields. However, the broadened tax base achieved through structural reforms coupled with enhanced GST compliance and increased tax efficiency *via* successful implementation of the E-way bill, could help both centre and states in meeting these pressures successfully and in getting back to the path of fiscal consolidation over the medium term. This will help assuage market sentiment, in turn contributing towards lower interest and debt burden for the general government.

Chart II.5.3: Outstanding Liabilities and Debt Sustainability



Source: Union and State Budget Documents.

II.6 EXTERNAL SECTOR

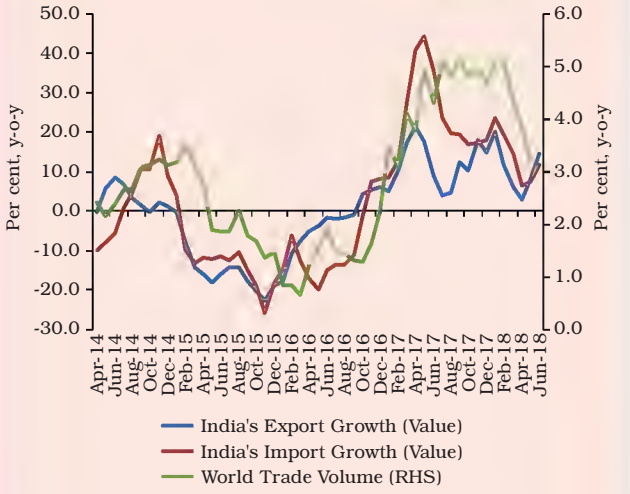
II.6.1 Just as the international environment was improving with global trade outpacing global growth in 2017 and capital flows to EMEs rebounding after bouts of reversals during 2013-16, it has been unsettled by the intensification of protectionism and retaliatory strategies that threaten to rend asunder the institutional fabric of multilateral trade. These developments have adverse implications for advanced economies (AEs) and EMEs which have sought to harness international trade as a handmaiden of growth. Meanwhile, global financial markets have been re-pricing the normalisation of monetary policy by systemic central banks which, in turn, has resulted in sell offs in bond and equity markets, realignment of major currencies and considerable flux in capital flows.

II.6.2 Against this backdrop, India's external sector exhibited resilience in the face of terms of trade losses due to the firming up of international crude prices and domestic supply constraints. As set out in the following two sub-sections, export performance improved in 2017-18 although domestic disruptions impeded a fuller response to the congenial conditions engendered by rising world trade. However, a sharp rise in imports partly due to price effects expanded the trade deficit to a five-year high. Notwithstanding the support from net invisible receipts profiled in sub-section 3, the current account deficit (CAD) widened during 2017-18 as set out in sub-section 4, but within sustainable norms and as sub-section 5 would portray, it was comfortably financed by net inflows of capital. While the level of India's net international investment position (NIIP) deteriorated modestly with the increase in liabilities in the form of direct and portfolio investment as shown in sub-section 6, performance of other external vulnerability indicators was somewhat mixed over the year though there was a sizable accretion to international reserves.

1. *Merchandise Exports*

II.6.3 Global trade volume, which emerged towards the close of 2016 out of a 20-month sub-3 per cent y-o-y growth, gained strength and traction through 2017 peaking at 6.1 per cent in March 2017 (Chart II.6.1). For the year as a whole, world trade volume grew at 4.6 per cent, up from 1.5 per cent in the preceding year. A noteworthy feature of this rebound is that the income elasticity[18] of world trade rose to 1.5 in 2017 for the first time after 5 years when it had fallen to 0.6. The recovery of world trade in 2017 was driven equally by AEs and EMEs.

Chart II.6.1: Growth in Global Trade Activity and India's Export and Import Growth



Note: Data are 3-month moving averages.
Source: Directorate General of Commercial Intelligence and Statistics. (DGCI&S) and Central Planning Bureau (CPB) Netherlands.

II.6.4 India's merchandise export growth accelerated in 2017-18 and expanded by 10.0 per cent in US dollar terms, backed by volume growth of 5.3 per cent. A fuller response to the rising tide of world trade was, however, restrained by supply-side bottlenecks relating to liquidity, documentation and delays in refunds following the implementation of the GST (Box II.6.1). Effects of the fallout were most visible in exports of labour-intensive sectors such as gems and jewellery, readymade garments, carpets and handicrafts. By contrast, shipments of other major constituents, *viz*., engineering goods, chemicals and marine products, which account for a little more than 30 per cent of total merchandise exports (19.4 per cent, y-o-y growth), showed resilience and recorded growth rates ranging between 17.1 per cent and 29.2 per cent during 2017-18.

II.6.5 Since 2012-13, structural shifts in India's export profile have been underway. First, the tradability of India's output, measured by

[18] Gross income elasticity of global trade is measured as the ratio of the average growth rate of imports of goods to average GDP growth.

Box II.6.1
Working Capital Constraints and Exports

The implementation and refund delays under the new tax regime of Goods and Services Tax (GST) had reportedly led to working capital constraints for firms. In the absence of high frequency data, it is difficult to test this hypothesis using general economic activity indicators. In order to overcome this handicap, we looked at exports data as it is available at monthly frequency. We test whether the exports of sectors with high working capital requirements were hit more severely than those with low working capital requirements due to delay in GST refunds. If GST squeezed the funding due to delays in tax refunds, it should get reflected in export performance of sectors which are highly dependent on working capital.

The GST implementation, in the beginning, was marred by infrastructure snags and implementation delays, which led to changing the date of filing July tax returns multiple times. Finally, firms were required to file their returns by September 30, under the latest revision. As per the implementation of the tax regime, exporters were supposed to get 90 per cent of the input tax refund within seven days of filing their returns. However, there were significant delays in receiving the input tax credit according to various reports, which could have adversely affected the working capital of firms.

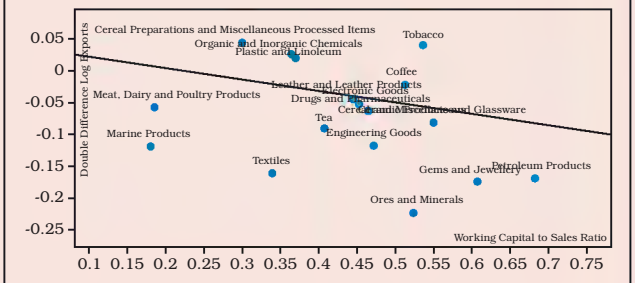
Analysis

To test our central hypothesis, we look at the difference in exports growth between October and March 2017 for different sectors and trace if this is correlated with the sector-level working capital to sales ratios. More precisely, we check whether working capital to sales ratio for sector *i* helps explain the sectoral variation in the following double difference:

$$[lnX_{Oct17} - lnX_{Mar17}]_i - [lnX_{Oct16} - lnX_{Mar16}]_i \ldots\ldots(1)$$

The object in above equation is a difference in difference variable, where the first difference captures the change in exports between October and March 2017, *i.e.,* impact of GST, while the second difference corrects for seasonality. If the GST implementation led to an export deterioration in October 2017 due to the mechanism espoused above, then we should expect a negative correlation between the above double difference and working capital to sales ratio. We indeed find that the relationship between the difference in

Chart 1: Exports Growth Difference between October-March 2017 vs Working Capital to Sales Ratio



Source: Tomar *et al.* (2018).

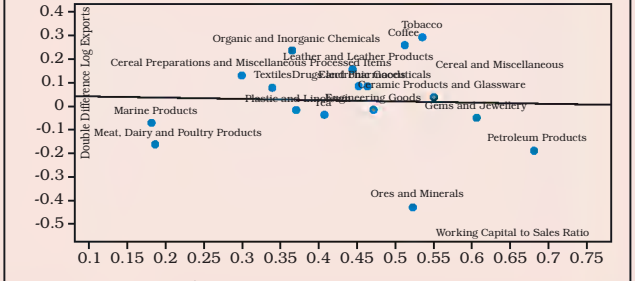
export growth and working capital to sales ratio is negative and has a slope coefficient of –0.18 in October (Chart 1). It roughly implies that a 10 per cent increase in the working capital/sales ratio led to a 1.8 per cent decrease in the exports growth. The placebo test also shows that there is no significant relationship between exports growth difference between September and March, further establishing the relationship and favouring our central hypothesis (Chart 2).

Further, we use firm-level data from Prowess to test for the impact of GST on firm behaviour. If GST led to a negative liquidity shock, we should expect firms to increase their short-term borrowings, run down their cash and bank balances and reduce their capital expenditure. We run the following regression to test the validity of these hypotheses:

$$Y_{it} = \beta_0 + \beta_1 * D(Sep\ '17) + \beta_2 * D(Sep\ '17) * (\text{Working Capital/Sales}) + \beta_3 * X_{it} + \delta_i + e_{it}, \ldots\ldots(2)$$

where, Y_{it} is the object of interest for firm *i* at time *t* and is one of the three outcome variables mentioned above. D(Sep '17) is the dummy on Q3 2017, while D(Sep

Chart 2: Exports Growth Difference between September-March 2017 vs Working Capital to Sales Ratio (Placebo)



Source: Tomar *et al.* (2018).

(Contd...)

'17) * (Working Capital/Sales) is the interaction of this dummy with working capital to sales ratio. The two coefficients of primary interest in equation (2) are β_1 and β_2. While β_1 captures the general impact of Q3 2017 (D(Sep '17)) on Y_{it} , β_2 captures the effect of Q3 2017 for firms with high working capital to sales ratio (at sector level) in Q3 2017.

Columns (1) and (2) in Table 1 show the impact of GST on the short-term borrowings of firms. The coefficient on Dummy (Sep '17) is insignificant, showing no direct impact of GST, though β_2 is significant in column 2 and shows a small but positive impact on short-term borrowings, *i.e.*, firms in sector with high working capital requirements increased their short-term borrowing in September 2017. Here, it is important to mention that this regression is conditional on firms' reporting short-term borrowings. So, the short-term borrowings increased for those firms that actually borrowed during this period as well as in the past. We also find that in Q3 2017, firms reduced their 'cash and bank balance' during this period as reflected in β_1 coefficient in column 4. Lastly, the quarter dummies are negative though insignificant in the case of capital expenditure as shown in columns 5 and 6, which suggests that capital expenditure was not affected in this period. Given these results, we can conclude that firms primarily ran down their cash and bank balance during Q3 2017 in response to the GST shock to their short-term funding.

Table 1: Empirical Results

	Log (Short-Term Borrowing)		Log (Cash and Bank Balance)		Δ (Log Capital)	
	(1)	(2)	(3)	(4)	(5)	(6)
β_1	0.00421	-0.0386	-0.171***	-0.193***	-1.392	-1.388
	(0.115)	(0.124)	(0.065)	(0.0702)	(0.739)	(0.738)
β_2		0.00312**		0.00177		0.000239
		(0.001)		(0.0006)		(0.0002)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16,436	14,171	23,332	20,213	19,292	17,934

Note: ***: Significant at 1 per cent
**: Significant at 5 per cent
Source: Tomar *et al.* (2018)

In summary, we explore using the GST shock how short-term liquidity shock could impact firms in the export sector. We find that the sectors with high working capital/sales ratio were hit the most due to the post-GST liquidity constraints. This is also corroborated by the various measures adopted by the government during November to address the concerns of the exporters. Finally, the rebound of exports in November 2017 [as reported in Tomar *et al*. (2018)] suggests these quick measures partly addressed the temporary credit constraints faced by the exporters during October 2017.

Reference:

1. Tomar S., Mathur S and Ghosh S (2018), "Working Capital Constraints and Exports: Evidence from GST Rollout," *RBI Mint Street Memo*, No. 10, February 12, 2018.

exports to GDP has been persistently declining, indicative of the declining export intensity of domestic growth. Second, in contrast to global developments, the income elasticity of India's exports remained broadly stagnant in 2017-18. This suggests that the response of India's export to global growth has been limited. Third, even as some peer economies have managed to build their market shares in key items of India's export basket, India's exports have faced erosion in terms of market presence. Consequently, the share of India's exports in world exports has been constant at around 1.7 per cent of world exports in the last five years, possibly pointing to a protracted stagnation in competitiveness. In this context, Box II.6.2 examines various aspects of India's export competitiveness in recent years. Overall export growth was largely pulled up by petroleum products which raised their share in total exports steadily to 12.3 per cent during the year. They were mainly supported by higher international prices as unit value realisations rose by 18.5 per cent, outstripping volume growth of 1.5 per cent during 2017-18.

II.6.6 Among non-oil exports, engineering exports – mainly led by iron and steel, non-ferrous metals and automobiles – went up across the board to destinations in the European Union (EU), North America, Association of Southeast Asian Nations (ASEAN), Middle East and North Africa.

Box II.6.2
Measuring India's External Competitiveness

The multi-dimensional nature of export competitiveness renders its measurement and interpretation challenging. For instance, an increase in export growth relative to its past performance or relative to that of a competitor economy may arise not just because of improvement in competitiveness (price/cost competitiveness) but due to an advantageous mix of export markets and export products. Therefore, it may be desirable to use an array of indicators to assess a country's export performance. Against this backdrop, this box identifies and quantifies measures of export competitiveness for India over time.

The literature identifies a number of indicators to measure comparative advantage and cost competitiveness, *i.e.*, the real effective exchange rate (REER); productivity; market shares; revealed comparative advantage (RCA); unit labour cost; Lafay Index (measure of RCA), Herfindahl-Hirschman Index (measures concentration) among others. A basic measure of export performance is to track a country's share in world exports over time. On this metric, India's share in world exports, which was just below 0.7 per cent in 2000 registered a 2.5 times improvement by 2017. This aggregate measure, however, does not reveal anything about the source of the improvement.

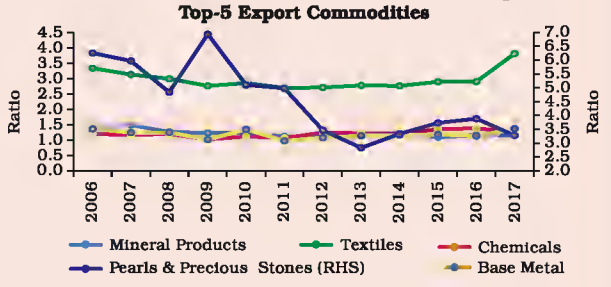
The RCA metric analyses the relative trade performance of individual countries in particular commodities. The RCA is computed as the ratio of a commodity's share in a country's exports relative to the share of the commodity in total world exports (equation 1). The trade pattern of a commodity is assumed to reflect inter-country differences in relative costs as well as in non-price factors, "revealing" the comparative advantage of the trading countries.

$$RCA=\left(X_{ij}/X_{wj} \,\middle|\, X_i/X_w\right) \qquad \text{....(eqn.1)}$$

where X_{ij} is i[th] country's export of commodity *j*,
X_{wj} is world exports of commodity *j*,
X_i is total exports of country *i,* and
X_w is total world exports.

A country is said to have comparative advantage in a particular sector if the RCA for that sector is greater than 1. An analysis of the RCA of the top five exports from India reveals a mixed trend. India's RCA in pearls and precious stones has eroded considerably over 2006-2017 while there has been an increase in India's RCA in textiles in 2017 (Chart 1). Nonetheless, India has been able to protect its relative advantage in the top five export sectors (mineral products, textiles, chemicals, base metals and pearls & precious stones). Although RCA is a widely accepted approach for assessing comparative advantage, it does not account for import trade flows, relative prices of commodities, supply and demand shocks and does not provide insights into the drivers of comparative advantage.

Chart 1: India's Revealed Comparative Advantage in Top-5 Export Commodities



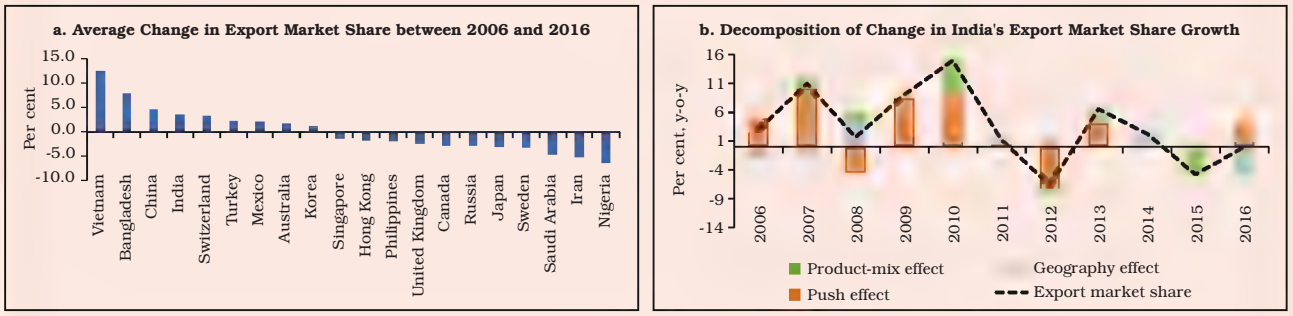
Source: World Integrated Trade Solution, World Bank and RBI staff calculations.

As indicated earlier, change in a country's market share could be driven by push factors (country-specific factors) or by shifts in the product mix or export market. Thus, the shifts in a country's market share need to be decomposed into different segments to fully comprehend the underlying dynamics. In this context, export growth can be decomposed in a weighted analysis of variance (ANOVA) framework using disaggregated bilateral trade data (Gaulier *et al.*, 2013). This method aids the assessment of export performance purged of product and geographic specialisation. The analysis reveals that between 2006 and 2016, India gained market share relative to many of its peers (Chart 2a). The contribution of push factors, shown in the chart as push-effect, was relatively strong in increasing India's export market share during 2006-2010 though it has been negative or largely muted since 2010 (Chart 2b). Similarly, changes in product mix have generally had a negative contribution to export market share since 2010.

Yet another measure of international competitiveness is the Real Effective Exchange Rate (REER). By construction, an

(Contd...)

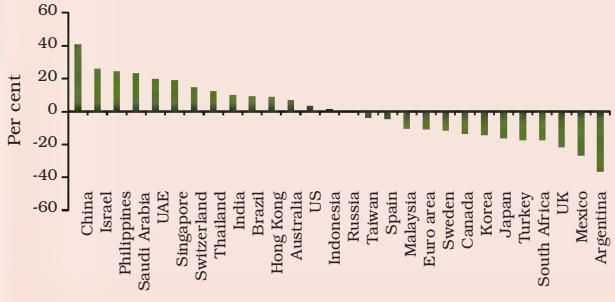
Chart 2: Change in India's Export Market Share



Note: In Chart b, data pertains to Q4. In the same Chart, for 2016, data are for Q2.
Source: Measuring Export Competitiveness Database, World Bank.

increase in the REER index is associated with diminishing external (price/cost) competitiveness. The rise in the REER in the case of India is lower than for many peer economies (Chart 3).

Chart 3: Change in REER between 2006 and 2017



Source: Bank of International Settlement (BIS).

To summarise, measures of India's external competitiveness present a mixed picture. While India has gained share in world exports over time, a decline in the RCA for a few products/sectors points towards diminishing comparative advantage even as India has been able to maintain its advantageous position in its top 5 export sectors. Similarly, a decomposition of changes in India's export market shares reveals that while push factors were important in driving the change, it was also impacted by change in product and geographical mix.

References:

1. Gaulier, G., G. Santoni., D. Taglioni., and S Zignago (2013), "In the Wake of the Global Crisis: Evidence from a New Quarterly Database of Export Competitiveness", *Policy Research Working Paper 6733*, World Bank, Washington, December.

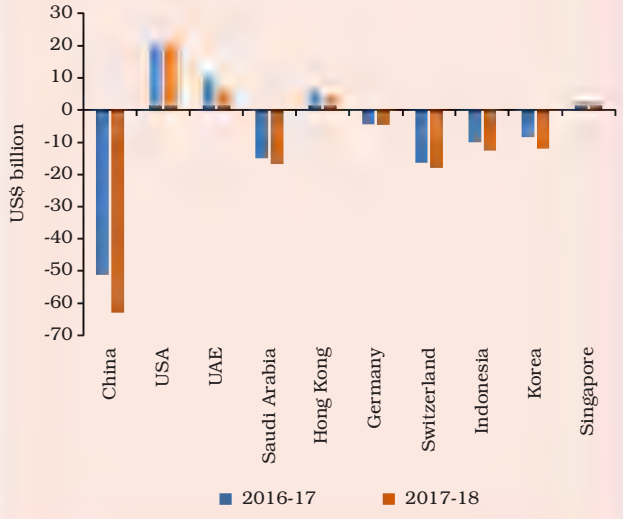
Helped by the rise in international steel prices and subdued supply from China, India turned net exporter of steel for the second consecutive year and accounted for about 2 per cent of global exports in the category. Spurred by rising demand for frozen shrimp and a drastic reduction in rejection rates by EU countries brought about by quality enhancing measures in India, marine exports increased. Exports of chemicals benefitted from the market share foregone by China due to the implementation of stricter environmental laws by the Ministry of Ecology and Environment, China. Growth in exports of organic chemicals drove up chemical exports in 2017-18.

II.6.7 The top markets that absorbed half of the increase in India's exports in 2017-18 included the USA, China, Hong Kong, Germany, Bangladesh and Vietnam. By contrast, exports to the United Arab Emirates, the third largest export destination, declined due to lower shipments of gems & jewellery and readymade garments, which shrank the bilateral trade surplus from a year ago (Chart II.6.2).

2. *Merchandise Imports*

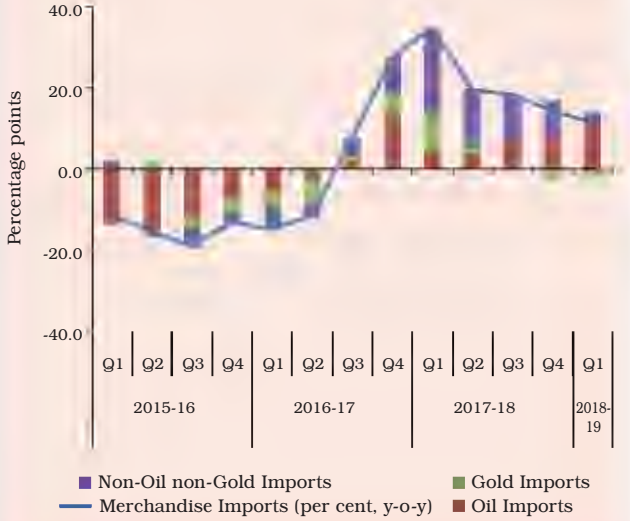
II.6.8 Merchandise imports, which had spiralled down into a prolonged decline starting in December 2014, broke out of the contraction in October 2016 and rose sharply in 2017-18

Chart II.6.2: India's Bilateral Trade Balance with Top 10 Trade Partners



Source: Ministry of Commerce and Industry.

Chart II.6.3: Relative Contribution in Merchandise Imports Growth



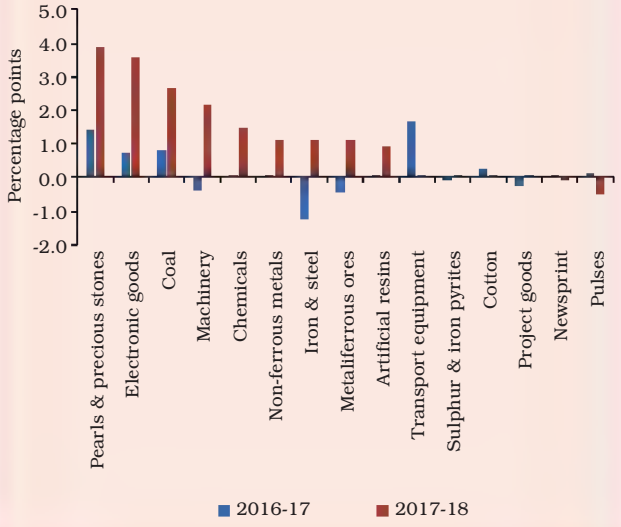
Source: DGCI&S.

peaking in April 2017 before losing some steam in ensuing months. A decomposition of these patterns through the upturn phase (October 2016 to March 2018) shows that the price impact dominated the volume effect during November 2016 – March 2017, coinciding with the sharp increase in international crude oil prices. The volume impact eclipsed the price impact during April 2017 to February 2018. The burgeoning import bill for petroleum crude and products largely reflected higher international crude oil prices as import volumes have broadly remained stable. International crude oil prices firmed up in response to production cuts imposed by the Organisation of Petroleum Exporting Countries (OPEC) and Russia, and supply shocks emanating from Venezuela which reduced global output by about 0.7 million barrels per day in 2017. These cuts are intended to remain in place till December 2018. Meanwhile, the rise in crude prices incentivised a ramping up of shale production in the US to record levels in 2017, augmenting global supply by 0.7 million barrels per day. Notwithstanding this development, the faster expansion of global demand by 1.7 million barrels per day has necessitated a drawdown of inventories by 0.5 million barrels per day in 2017 in the OECD countries, which drew a line under crude prices.

II.6.9 Gold imports at 955.2 tonnes were due to a rebound in domestic demand for the precious metal as jewellers replenished inventory amidst a turnaround in retail demand after demonetisation in the preceding year. Petroleum and gold together accounted for more than one-third of import growth in 2017-18 (Chart II.6.3).

II.6.10 Non-oil non-gold imports accounted for 65.1 per cent of total import growth on a weighted contribution basis as a part of domestic demand spilled into imports (Box II.6.3). Electronic goods, pearls and precious stones, coal, chemicals, machinery and iron and steel together contributed more than half of the growth in this segment (Chart II.6.4). Responding to unusually high imports of electronic goods, the government raised the basic customs duty for various electronic products like mobile phones including its parts and accessories, smart watches, and parts of televisions. Import duty was also increased on

Chart II.6.4: Growth in Non-Oil Non-Gold Imports-Relative Contribution of Select Sectors



Source: DGCI&S.

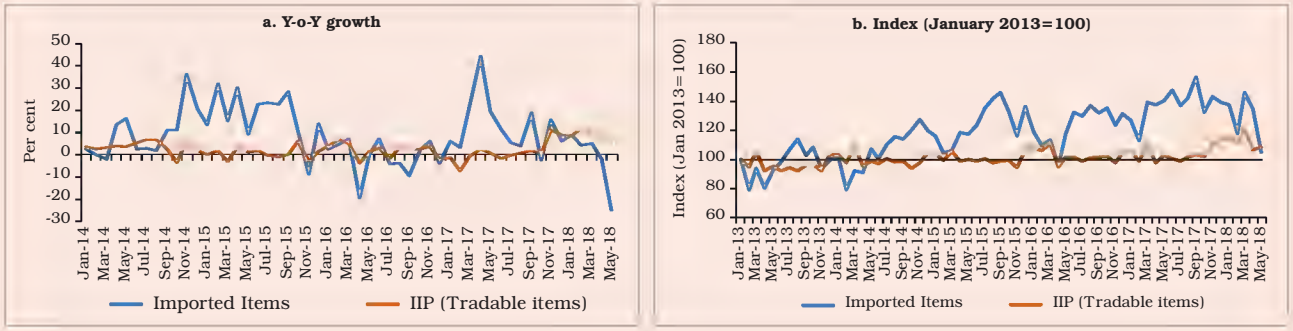
cut and polished gemstones, diamonds, and imitation jewellery. Domestic shortages of coal caused by lower production than the target set for Coal India Ltd. was met through higher imports. Imports of iron and steel remained high as restrictive measures undertaken in recent years eventually lost their efficacy, partly due to rupee's appreciation. Korea, China and Japan were important sources of iron and steel imports. With import growth largely outpacing that of exports throughout the year, the merchandise trade deficit expanded to a five-year high. Since 2011-12, the trade deficit has averaged 7.3 per cent of GDP, making it pivotal in the overall balance of payments.

Box II.6.3
The Curious Case of Reverse Import Substitution: The Indian Experience

During 2017-18, there was a surge in imports, especially in the category of non-oil non-gold items, which broke out of the traditional co-movement with export behaviour but coincided with a period of sluggish manufacturing activity. This has given rise to concerns that disruptions in the production/supply chain during post-demonetisation have forced domestic demand to spill over into imports in order to overcome domestic supply constraints. This phenomenon of *reverse* import substitution could reduce GDP in India through leakages of domestic demand into external markets.

In order to investigate the above phenomenon and attempt to identify its underlying drivers, items common between the index of industrial production (IIP) and merchandise imports were identified at the 4-digit level of the national industrial classification (NIC), 2008. As a first step, growth rates for these common items were compared, and it was observed that import growth[19] far exceeded IIP growth during mid-2014 to late 2015 and again from mid-2016 (Chart 1a and 1b).

Chart 1: Movement in Imported Items (Common with IIP Item Basket) *Vis-à-vis* IIP



Source: DGCI&S, CSO and RBI staff calculations.

(Contd...)

[19] Monthly data on commodity level imports and segment-wise industrial production in the IIP from January 2013 to May 2018 were mapped for extracting common items. Import data were deflated by corresponding wholesale price indices (WPI). Both real imports and the IIP elements were indexed (January 2013 at 100).

In the second stage, the manufacturing supply chain was identified by using the CSO's Supply Use Tables (SUT) for 2012-13. The reverse import substitution hypothesis was empirically tested for industrial raw materials in a dynamic panel data framework across major industry segments. The dependent variable, defined as ratio of composite index of import intensity and domestic production of inputs ($I_{it} = \frac{Import_{it}}{Prod_{it}}$), was calculated for each industry segment, where $Import_{it}$ is the composite index of import intensity of industrial inputs and $Prod_{it}$ is the composite index of domestic production of the same inputs. If I_{it} increases, it indicates that imports are substituting for domestic production.

The dynamic panel can be expressed as

$$I_{it} = \alpha_0 + \alpha_i + \beta_t + \gamma X_{it} + \theta Y_t + \epsilon_{it}$$

where X_{it} captures industry-specific effects and Y_t is a vector of exogenous variables representing macroeconomic conditions. α_i captures industry fixed effects not included in X_{it} while β_t represents time.

Here, $X_{it} = (I_{it-1}, I_{it-2}, \Delta P_{it})$

$Y_t = (\Delta IIP_{t-1}, \Delta USD_t, Dummy_t^D, Dummy_t^{Post}, \pi_t^w)$.

ΔIIP_{t-1} is the growth of the manufacturing component of IIP with a one-period lag to account for the procurement of raw material inputs for final production; ΔUSD_t is the month-on-month (MoM annualised) change in the nominal INR-USD exchange rate to factor in exchange rate effects embedded in imported inputs ($\Delta USD_t > 0$ implies depreciation, and $\Delta USD_t < 0$ represent appreciation). A dummy variable $Dummy_t^D$ is used to capture the possible supply chain disruptions post-demonetisation and pre-GST implementation takes the value 1 from November 2016 to September 2017 and 0 otherwise[20]. The other dummy variable $Dummy_t^{Post}$ takes value of 1 from October 2017 to May 2018, invigorates possible state of supply chain in post GST period. π_{t-1}^w is non-food manufacturing component of the wholesale price index (WPI) controls for domestic price conditions – if domestic prices are benign, they will discourage imports. ΔP_{it} is the year-on-year (YoY) growth of final goods produced by the i[th] target industry. Following the Arellano–Bond approach to estimation by the generalised method of moments (GMM), the dynamic panel regression yields the following results (Table 1).

These results suggest that there is an adaptive process underway as imported inputs enter the domestic production process, as evident in the significance of the lagged dependent terms. The significance of $Dummy_t^D$ indicates that there is a structural upward shift in the recourse to imports during the period post demonetisation, pointing to a regime change in which reliance on imported inputs increased significantly. On the other hand, the dummy for post GST period, exhibit negative significant coefficient indicating gradual normalisation in imports. The demand for imports is essentially being driven up by domestic demand represented by the growth of final products – as domestic production goes up in response to demand, the procurement of raw material inputs from abroad increases, given the constraints on domestic availability. Exchange rate changes work to deter import intensity, as expected, but only at the margin, as evident in the relatively small size of the coefficient on the exchange rate term. Domestic inflation works in tandem with the exchange rate – if inflation in India goes up, it incentivises recourse to cheaper imports.

In summary, import intensity of industrial raw materials used in manufacturing is influenced by domestic demand and cost conditions, whereas exchange rate depreciation plays a dampening role. The fact, however, that the dummy is significant from November 2016 up to September 2017 followed by reversal of sign of dummy in subsequent period, suggests that reverse import substitution effects was at best transient and ebbed gradually as industrial activity in India emerged out of its sluggish phase and regained its momentum.

Table 1: Parameter Estimates of Dynamic Panel Regression

	Coefficients	SE
1	2	3
Import intensity$_{t-1}$ (I_{it-1})	0.412***	0.040
Import intensity$_{t-2}$ (I_{it-2})	0.322***	0.024
Dummy-D ($Dummy_t^D$)	0.181***	0.090
Dummy – Post ($Dummy_t^{Post}$)	-0.060**	0.024
Industry Growth (ΔP_{it})	0.004*	0.002
IIP Mfg growth$_{t-1}$ (ΔIIP_{t-1})	0.038***	0.021
INR-USD (ΔUSD_t)	-0.002**	0.001
WPI NFMP (π_{t-1}^w)	0.008*	0.003

Sargan test of over-identifying restrictions: (Prob > chi^2) = 0.19.
Note: ***, **, & *: Significant at 1 per cent, 5 per cent, and 10 per cent level of significance, respectively.
Source: RBI staff estimates.

[20] The dummy variable has been altered to take into account different end points starting from June to September 2017 to validate the robustness of the results.

3. *Invisibles*

II.6.11 Net invisibles – comprising net earnings from export of services, remittances and the net outgo of income payments (profits, dividends and interest payments) – recorded a double-digit growth in 2017-18. With a sizeable expansion in the merchandise trade gap, however, net invisibles could finance only 70 per cent of the merchandise trade deficit as compared with 87 per cent in the corresponding period of the previous year.

II.6.12 Among the major categories of services, export of travel services increased on the back of a significant jump in tourist arrivals during 2017-18 and increased per capita earnings from a year ago. Tourists from Bangladesh, the US and the UK accounted for about 45 per cent of total tourist arrivals. Introduction of policy measures to improve infrastructure facilities and revitalise heritage cities under the National Heritage City Development and Augmentation Yojana (HRIDAY) scheme in the Union Budget bode well for the travel and tourism sector. Meanwhile, higher travel payments by outbound Indian tourists also increased substantially during the year. Nevertheless, net receipts generated by travel services exceeded the level in the preceding year by about 30 per cent.

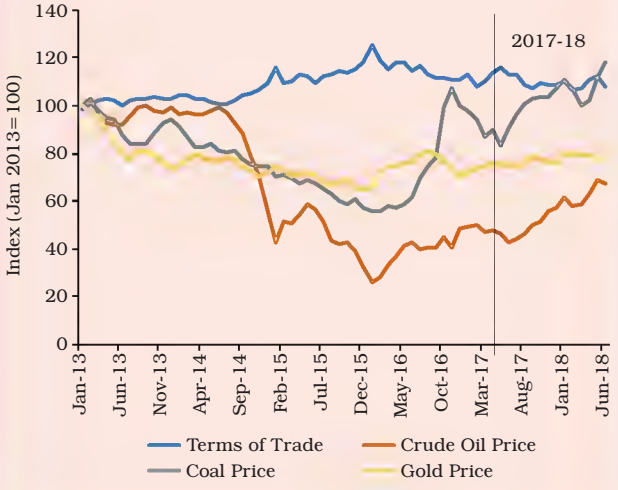
II.6.13 Despite a challenging global business environment in the IT sector, India's software exports improved modestly, drawing support from a broad-based demand across industry verticals. Gradual diversification into advanced technological segments and moving up the value chain in IT supplemented the recovery process for major companies.

II.6.14 Inbound remittances by Indians working overseas – which were held back by lower international crude oil prices in the preceding year – recovered sharply in 2017-18 as income conditions in both AEs and the Gulf region improved. According to the World Bank (2018), global remittances are expected to be driven by a relatively stronger growth in the EU, Russian Federation and the US. Structural factors such as labour market adjustment in the Gulf countries and anti-immigration sentiment in many destination countries, however, may pose a downside risk going forward. Marginally higher net outgo on account of income payments reflected higher payments of profits and dividend on foreign investments.

4. *Current Account Deficit*

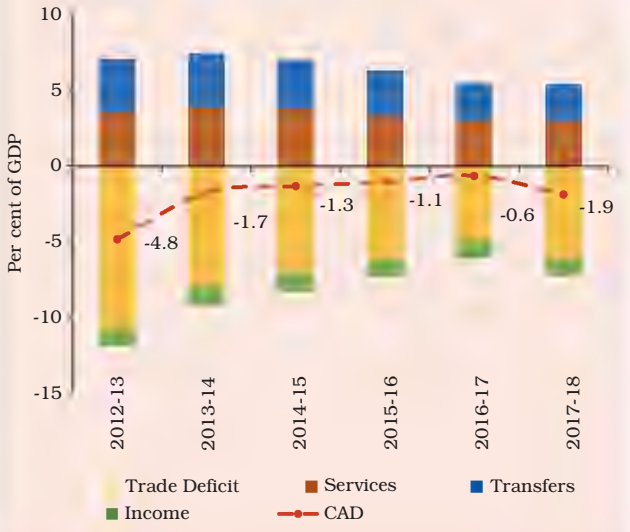
II.6.15 Notwithstanding buoyant net receipts from services exports and remittances, the CAD trebled during the year from its level a year ago, essentially due to the sharply higher merchandise trade deficit, and the worsening of both gross and net terms of trade (Chart II.6.5). In particular, the net terms of trade erosion caused by firming international commodity prices – especially of crude oil, gold and coal – is estimated to have

Chart II.6.5: International Prices of Select Imports and Terms of Trade



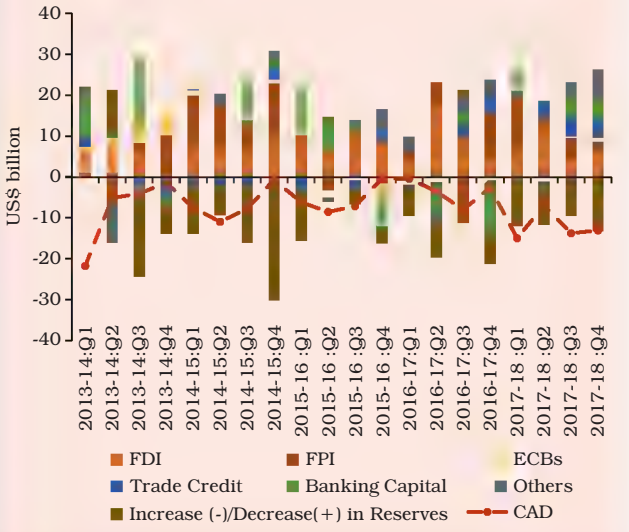
Source: Petroleum Planning & Analysis Cell (PPAC), World Gold Council (WGC), World Bank and RBI staff calculations.

Chart II.6.6: Composition of India's Current Account Deficit



Source: RBI.

Chart II.6.7: Capital Flows Financing Current Account Deficit



Source: RBI.

widened the trade deficit by about 1.2 percentage points of GDP during 2017-18. During 2017-18, the CAD expanded to 1.9 per cent of GDP from 0.6 per cent a year ago, which remained far lower than the peak of 4.8 per cent attained in 2012-13. Furthermore, the CAD remained well within the norm of viability /sustainability (Chart II.6.6).

5. *External Financing*

II.6.16 Marking a shift from 2016-17, the funding mix of CAD was more diversified in 2017-18. Net investment inflows of foreign direct investment (FDI) and foreign portfolio investment (FPI) together amounting to US$ 52.4 billion and accounting for 57 per cent of net capital inflows, played a large role in external financing (Chart II.6.7).

II.6.17 Gross inflows of FDI to India increased during the year mainly due to higher flows into the communication services, retail and wholesale trade, financial services and computer services. In terms of sources, FDI inflows were concentrated mostly in Mauritius and Singapore that accounted for about 61 per cent of total equity investments. This was despite the phased implementation of an amended double taxation avoidance agreement with these countries effective from April 2017 to prevent evasion of taxes on income and capital gains. With the ongoing policy reforms in sectors ranging from single brand retail trading, civil aviation, real estate broking service and simplification of legal and regulatory system, India moved into the top 100 countries in the World Bank's Ease of Doing Business global rankings. According to the UNCTAD's Investment Trends Monitor (2018), India was the 10th largest recipient of global FDI in 2017 and remained the topmost destination for greenfield capital investment – even ahead of China and the US, if reckoned on an approval basis (FDI market intelligence 2017).

II.6.18 There was a substantial increase in FPI flows in 2017-18 from the preceding year, mainly driven by higher flows into the debt segment. FPI inflows in the debt segment were broadly resilient to risk-off effects of three Fed fund rate

hikes in 2017-18. There were sell-offs around the world and in India in February and March though, as markets recalibrated expectations about the pace of normalisation of the US monetary policy. On the other hand, FPI into the equity segment slowed to almost half of its level in the preceding year amidst concerns about earnings growth, rising valuations and spillovers from monetary policy of systemic central banks. The introduction of the long-term capital gains (LTCG) tax in equity investments announced in the Union Budget on February 01, 2018 raised concerns, leading to net sell-off in February and the first half of March, slowing down the pace of FPI inflows. Investment in participatory notes (P-notes) slumped with regulatory tightening by the Securities and Exchange Board of India (SEBI), the application of a fee on each instrument issuance, and restrictions for FPIs in some derivative products. Foreign investors' sustained interest in Indian capital markets, however, was reflected in a growing number of FPI registrations with the SEBI and net purchases in the equity market in March 2018. However, foreign portfolio investors withdrew US$ 9.1 billion on a net basis from the domestic capital market in 2018-19 (up to June 29), reflecting volatility in global financial markets.

II.6.19 A sharp increase in net inflows of short-term trade credit financed growing imports. In 2017-18, net inflows in the form of trade credit amounted to US$ 13.9 billion as compared with US$ 6.5 billion in 2016-17. Major imports with recourse to trade credit during the year included oil, gold and coal, which together accounted for nearly one-third of the total trade credit.

II.6.20 Although external commercial borrowings (ECBs) raised by domestic entities increased sharply, there were net outflows due to higher repayments. The Reserve Bank brought in restrictions on issuance of *Masala bonds* (rupee-denominated bonds issued abroad) by raising the minimum maturity period for issuances over and above US$ 50 million to five years and for those below US$ 50 million to three years. A cap on the all-in-cost ceiling was also put in place. Issuance of *Masala bonds* was also brought under the purview of the ECB approval process, thereby freeing up more space for investments by FPIs. ECBs in the form of rupee denominated bonds/ loans declined in 2017-18. About 33 per cent of the total ECB agreement amount (other than rupee denominated bonds/loans) was hedged during the period as compared with 41 per cent a year ago.

II.6.21 Net flows under non-resident deposit accounts witnessed a turnaround during the year despite a sharp moderation of deposits under Non-Resident (External) Rupee (NRE) accounts and Non-Resident Ordinary (NRO) accounts. This was essentially due to positive accretions of Foreign Currency Non-Resident (FCNR)(B) accounts as against a net outflow in the preceding year. The fall in deposits under NRE and NRO could be due to strengthening of the rupee during the year.

6. *Vulnerability Indicators*

II.6.22 At end-March 2018, India's external debt expanded by US$ 58.4 billion from its level at end-March 2017. The rise was primarily due to an increase in portfolio investment in debt securities embedded in commercial borrowings, NRI deposits and short-term debt. Of the total external debt, 49.5 per cent was denominated in the US dollar, followed by the Indian rupee (35.8

per cent), the SDR (5.5 per cent), the Japanese Yen (4.8 per cent), the Euro (3.4 per cent) and others (1.0 per cent).

II.6.23 Notably, accretion to the external debt stock was modest and the average interest payments relative to external debt remained flat. The external debt-to-GDP ratio was the second lowest among the major EMEs, if compared with the 2016 level of external debt positions.

II.6.24 The movement in India's external vulnerability indicators between end-March 2017 and end-March 2018 was somewhat mixed (Table II.6.1). The ratio of external debt to GDP increased marginally with the maturity profile of external debt tilted towards a shorter duration on both original and residual maturity bases. India's foreign exchange reserves at end-March 2018 were more than adequate to meet short-term debt liabilities; nonetheless, these liabilities accounted for a larger share of foreign exchange reserves at end-March 2018 relative to March 2017. The foreign exchange reserves cover of imports declined between March 2017 and March 2018.

II.6.25 While strong capital inflows added to the stock of foreign liabilities, most of the increase was offset by the rise in stock of foreign assets largely reflecting the steep rise in foreign exchange reserves. As a result, India's net foreign liabilities (*i.e.,* net IIP) rose modestly and in terms of ratio to GDP, there has been a marginal decline at end-March 2018 over end-March 2017. The modest increase in net external liabilities is essentially a reflection of a modest and sustainable CAD.

II.6.26 To sum up, India's external sector exhibited resilience despite the widening of the CAD on account of a surge in prices of major import commodities. Net inflow of foreign capital, however, exceeded the funding requirements of CAD which led to a significant build-up of reserves. The external sector outlook will be shaped by international commodity prices, the course of monetary policy in major AEs and

Table II.6.1: External Sector Vulnerability Indicators

(Per cent, unless indicated otherwise)

Indicator	End-Mar. 2014	End-Mar. 2015	End-Mar. 2016	End-Mar. 2017	End-Mar. 2018
1	2	3	4	5	6
1. External Debt to GDP ratio	23.9	23.9	23.4	20.0	20.5
2. Ratio of Short-term Debt to Total Debt (original maturity)	20.5	18.0	17.2	18.7	19.3
3. Ratio of Short-term Debt to Total Debt (residual maturity)	39.7	38.5	42.7	41.6	42.0
4. Ratio of Concessional Debt to Total Debt	10.4	8.8	9.0	9.4	9.1
5. Ratio of Reserves to Total Debt	68.2	72.0	74.3	78.5	80.2
6. Ratio of Short-term Debt to Reserves	30.1	25.0	23.2	23.8	24.1
7. Ratio of Short-term Debt (residual maturity) to Reserves	58.2	53.5	57.5	53.0	52.3
8. Reserves Cover of Imports (in months)	7.8	8.9	10.9	11.3	10.9
9. Debt Service Ratio (Debt Service Payments to Current Receipts)	5.9	7.6	8.8	8.3	7.5
10. External Debt (US$ billion)	446.2	474.7	484.8	471.3	529.7
11. Net International Investment Position (NIIP) (US$ bn)	-340.8	-364.3	-358.9	-388.5	-420.3
12. NIIP/GDP ratio	-18.2	-18.3	-17.4	-16.5	-16.3
13. CAD/GDP ratio	1.7	1.3	1.1	0.6	1.9

Source: RBI

the resulting cross-border spillovers, and the rising incidence of protectionism. Even though software exports could successfully withstand the challenging global business environment in the IT sector in 2017-18, further tightening of visa procedures in the US, the rise of automation and artificial intelligence, and competition from other markets including China can potentially impact export earnings. In this context, strengthening of domestic macroeconomic fundamentals holds the key to ensuring a viable external sector that is reasonably buffered against global shocks.

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

III MONETARY POLICY OPERATIONS

Following a reduction in the policy rate by 25 basis points (bps) in August 2017, the policy rate was kept on hold until June 2018 when it was raised by 25 bps. The policy stance remained neutral from February 2017 onwards. Surplus liquidity in the system generated in the wake of demonetisation was gradually drained away by the Reserve Bank's liquidity management operations. Transmission of policy impulses to deposit and lending rates improved further during the year, albeit with large variations across sectors and bank groups.

III.1 The conduct of monetary policy in 2017-18 continued to be guided by the objective of achieving the medium-term target for consumer price index (CPI) inflation of 4 per cent within a tolerance band of +/- 2 per cent, while supporting growth. Although fluctuations in food prices imparted considerable intra-year volatility to headline inflation, it remained within the target, averaging 3.6 per cent for the year as a whole. Growth-inflation trade-offs accentuated during the course of the year, which was reflected in the voting pattern of members of the Monetary Policy Committee (MPC). The Reserve Bank continued to manage liquidity consistent with the monetary policy stance and carried out operations in the form of variable rate reverse repo auctions of various tenors to absorb the surplus liquidity unleashed by demonetisation. Monetary transmission from the policy rate to banks' deposit and lending rates improved further during 2017-18, although it remained uneven across sectors/bank groups.

Agenda for 2017-18: Implementation Status

Monetary Policy

III.2 In the first bi-monthly monetary policy statement for 2017-18 (April 6, 2017), the MPC unanimously voted to keep the policy repo rate unchanged at 6.25 per cent. Inflation was projected to average 4.5 per cent in the first half of 2017-18 and 5 per cent in the second half, with risks evenly balanced around this baseline trajectory. Growth was projected to strengthen in 2017-18 on the back of the fast pace of remonetisation, favourable capital expenditure stimulating proposals in the Union Budget and the upsurge in activity in the primary capital market. With underlying inflation pressures persisting, however, and the output gap gradually closing, the MPC stressed that aggregate demand pressures could build up, with implications for the inflation trajectory.

III.3 By the second bi-monthly statement of the MPC of June 7, 2017, an abrupt and significant retreat of inflation imparted considerable uncertainty to the evolving inflation trajectory. The MPC observed that the transitory effects of demonetisation had lingered on in price formations relating to salient food items, entangled with excess supply conditions with respect to fruits and vegetables, pulses and cereals. At the same time, the effects of demonetisation on the

broader economy were seen as sector-specific and transient. The MPC noted that in such an uncertain environment, premature action risked disruptive policy reversals later and the loss of credibility. Accordingly, the MPC decided to keep the policy repo rate unchanged and continued with the neutral stance. Five members of the MPC were in favour of the monetary policy decision, while one member favoured a reduction in the policy repo rate by 50 bps.

III.4 In the run-up to the third bi-monthly statement of August 2, 2017, CPI inflation had plunged to its lowest reading (in the series with base 2012) in the print for June 2017. The MPC observed that even as inflation had fallen to a historic low, a conclusive segregation of transitory and structural factors driving disinflation was still elusive. Taking cognisance of the significant fall in inflation excluding food and fuel during Q1 of 2017-18 and fairly stable international commodity price outlook, the MPC noted that some of the upside risks to inflation had either reduced or not materialised: (i) the baseline path of headline inflation was projected lower than in the June policy to reach a little above 4 per cent by Q4, *sans* the impact of increase in house rent allowance (HRA) under the 7th Central Pay Commission (CPC); (ii) inflation excluding food and fuel had fallen significantly over the past three months; and (iii) the monsoon was normal. Given the dynamics of the output gap, the MPC noted that some space had opened up for monetary policy accommodation. Accordingly, the MPC decided to reduce the policy repo rate by 25 bps with four members voting in favour of the monetary policy resolution, one member voting for a larger cut in the policy repo rate of 50 bps and one member voting for *status quo*. The MPC, however, decided to keep the policy stance neutral and watch incoming data as the projected trajectory of inflation was expected to rise from the then prevailing lows.

III.5 By the time, the MPC met for the fourth bi-monthly policy in early October, inflation had risen by around two percentage points from the level prevailing during its August meeting and the increase was across the board. These price pressures coincided with an escalation of global geo-political tensions and heightened volatility in international financial markets. While the outlook on food prices was largely stable, generalised momentum was building in prices of items excluding food. These developments, along with the possibility of fiscal slippages, called for a careful management of risks to inflation. The MPC acknowledged the likelihood of the output gap widening, but indicated that it required more data to better ascertain the transient *versus* sustained headwinds in the growth prints. Accordingly, the MPC decided to keep the stance neutral and the policy rate unchanged with a majority of 5 votes; one member voted for a reduction in the policy repo rate by at least 25 bps.

III.6 Retail inflation recorded a seven-month high reading in October, driven by a sharp uptick in momentum. This inflation outcome was, however, broadly in line with the projection. The MPC in its resolution for the fifth bi-monthly policy review on December 6, 2017, noted that the evolving inflation trajectory needed to be carefully monitored in view of higher food and fuel inflation, rising input cost conditions, fiscal slippage risk [from implementation of farm loan waivers by select states, partial rollback of excise duty and value added tax in the case of petroleum products, and decrease in revenue on account of reduction in goods and services tax (GST) rates for several goods and services] with attendant implications

for inflation. The expected seasonal moderation in prices of vegetables and fruits, and the lowering of tax rates by the GST Council were seen as mitigating factors. Accordingly, the MPC decided to keep the policy rate on hold with a majority of 5 votes; one member voted for a reduction in the policy repo rate by 25 bps. However, keeping in mind the output gap dynamics, the MPC decided to continue with the neutral stance. The MPC reiterated its commitment to keeping headline inflation close to the target on a durable basis.

III.7 The increase in HRA for central government employees pulled up headline inflation in December. Food prices and fuel inflation also rose abruptly in November before reverting partly in December. Households' inflation expectations rose in December and remained elevated, while firms reported input price pressures and increase in selling prices. In this backdrop, the sixth bi-monthly policy on February 7, 2018 projected inflation to remain elevated in H1 of 2018-19, before softening in H2 under the assumption of a normal monsoon and effective food supply management. The MPC noted that there were both upside risks and mitigating factors at play. On the one hand, several factors could impinge on the inflation outlook: staggered impact of HRA increases by state governments; pick-up in global growth that could harden crude oil and other commodity prices; the revised guidelines on minimum support prices (MSPs) for *kharif* crops; increase in customs duty on a number of items; and fiscal slippage as indicated in the Union Budget. On the other, subdued capacity utilisation, the possibility of oil prices softening from prevailing levels based on production responses, and moderate rural real wage growth provided some comfort to the inflation outlook. The MPC noted that there was a need for vigilance around the evolving inflation scenario and voted to keep the policy repo rate on hold while continuing with the neutral stance. One MPC member, however, voted for an increase in policy repo rate by 25 bps.

III.8 In the first bi-monthly monetary policy statement for 2018-19 of April 5, 2018, the MPC held the policy repo rate unchanged, with five members voting in favour of the decision, and one member voting for an increase of 25 bps. Actual inflation outcomes in January-February were somewhat lower than those projected in the MPC's February resolution. Although inflation projections for 2018-19 were revised downwards, MPC noted that there were several uncertainties surrounding the baseline inflation path such as increase in MSPs for *kharif* crops based on a revised formula announced in the Union Budget 2018-19, volatility in crude oil prices, and the risk of fiscal slippages at national and sub-national levels. The performance of the monsoon and volatility in food prices also imparted uncertainty to the inflation outlook. While the staggered impact of HRA revisions by state governments was seen as pulling up inflation, the MPC indicated that it would look through the direct statistical impact of the increase in HRAs while watching out for the second round impact. Against this backdrop, the MPC decided to keep the policy repo rate on hold and continued with the neutral stance.

III.9 At the time of the MPC's June 6, 2018 meeting, headline inflation had edged up driven mainly by inflation excluding food and fuel, suggesting hardening of underlying inflationary pressures. Inflation projection for H2 of 2018-19 was revised upward to 4.7 per cent *vis-à-vis* 4.4 per cent in the April statement. The MPC noted that a major upside risk to the baseline inflation path had materialised in the form of a sharp increase in

crude oil prices that was seen to be durable. The MPC also flagged risks to inflation from global financial market developments, the significant rise in households' inflation expectations, the staggered impact of HRA revisions by various state governments, and the revision in the MSP formula for *kharif* crops; the forecast of a normal monsoon which was expected to keep food inflation benign. Taking these into consideration, the MPC decided to increase the policy repo rate by 25 bps, while keeping the stance neutral and reiterating its commitment to achieving the medium-term target for headline inflation of 4 per cent on a durable basis.

The Operating Framework: Liquidity Management

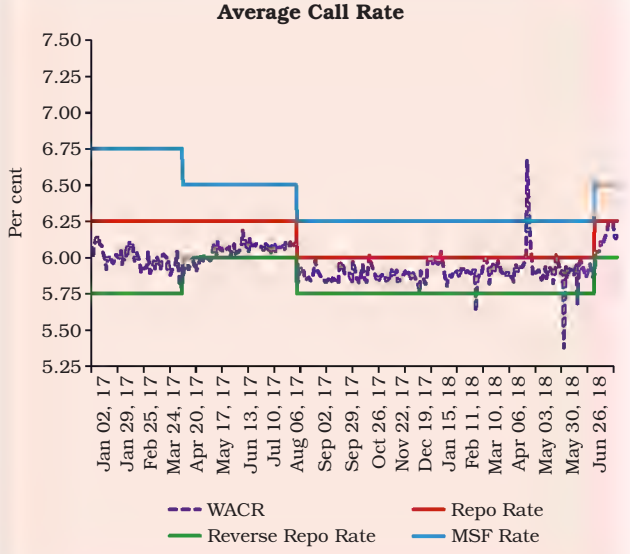
III.10 The operating framework of monetary policy aims at aligning the operating target – the weighted average call rate (WACR) – with the policy repo rate through proactive liquidity management consistent with the stance of monetary policy. In pursuit of this objective and keeping in view the evolving liquidity situation, the Reserve Bank adopted a dual approach during 2017-18: (i) providing forward guidance on the scale and scope of liquidity management operations to be conducted during the year; and (ii) making subtle changes in the operating framework to minimise volatility in the inter-bank market.

III.11 First, given the large liquidity overhang consequent upon demonetisation, liquidity management operations during 2017-18 were principally aimed at modulating system liquidity from a surplus mode to a position closer to neutrality, consistent with the stance of monetary policy. Anticipating that surplus liquidity conditions may persist through 2017-18, both on account of liquidity overhang and higher capital inflows, the Reserve Bank provided forward guidance on liquidity in April 2017 when it indicated it would conduct: (i) variable rate reverse repo auctions with a preference for longer term tenors to absorb the remaining post-demonetisation liquidity surplus; (ii) issuances of Treasury Bills (T-Bills) and dated securities under the market stabilisation scheme (MSS) to modulate liquidity from other sources; (iii) issuances of cash management bills (CMBs) of appropriate tenors in accordance with the memorandum of understanding (MoU) with the Government of India (GoI) to manage enduring surpluses due to government operations; (iv) open market operations (OMOs) to manage durable liquidity with a view to moving system level liquidity to neutrality; and (v) fine-tuning variable rate reverse repo/repo operations to modulate day-to-day liquidity.

III.12 Second, in consonance with the recommendation of the Expert Committee to Revise and Strengthen the Monetary Policy Framework (Chairman: Dr. Urjit R. Patel), the width of the policy rate corridor was narrowed from 100 bps in April 2016 to 50 bps in April 2017 in a symmetric manner. Accordingly, the reverse repo rate under the liquidity adjustment facility (LAF) was placed 25 bps below the policy repo rate, while the marginal standing facility (MSF) rate was placed 25 bps above the policy repo rate. With the narrowing of the LAF corridor, volatility in the call money market reduced even as the volume remained broadly unchanged at less than 10 per cent of the total overnight market. Moreover, in order to provide operational flexibility and enhance the liquidity of collaterals, substitution of collateral by market participants in the term repos under the LAF was allowed, effective April 17, 2017.

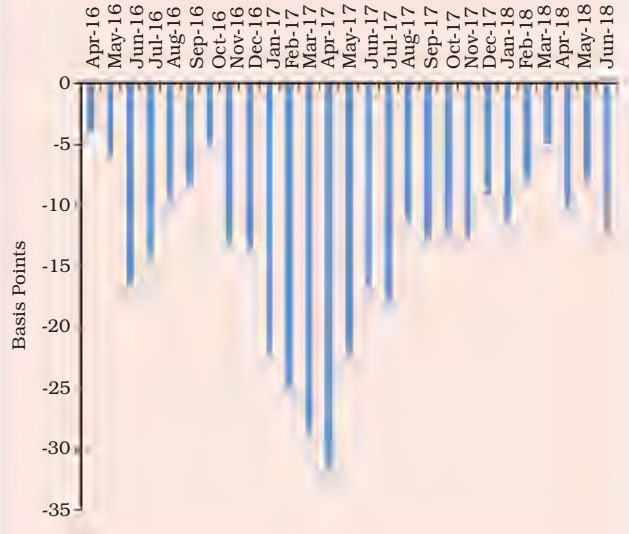
III.13 Demonetisation induced system-wide liquidity moderated gradually during 2017-18, impacted by the front-loading of government

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



Source: CCIL, RBI and Staff calculation.

Chart III.2: Average Spread of WACR over Policy Repo Rate



Source: RBI and Staff calculation.

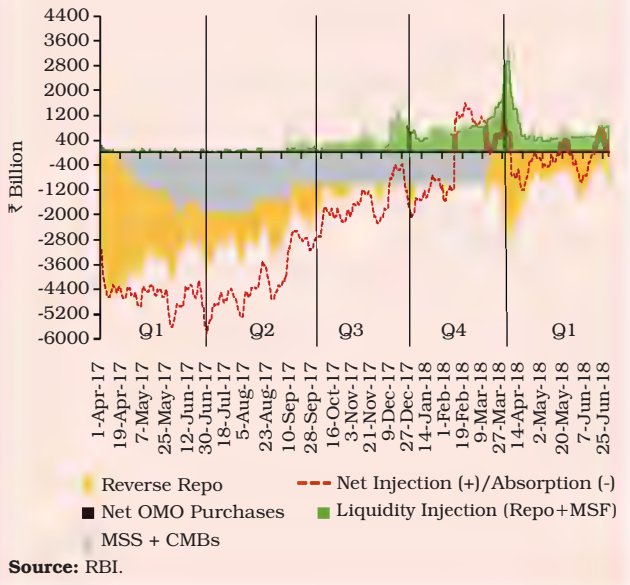
spending, advance tax outflows, foreign exchange market operations of the Reserve Bank and remonetisation, which was reflected in higher currency in circulation. Surplus liquidity conditions progressively moderated and turned into deficit mode in February and March. Nonetheless, easy liquidity conditions were reflected in the WACR trending below the policy repo rate throughout the year except towards the year-end (Chart III.1). This trend continued in Q1 of 2018-19 till the policy rate hike of June 6, 2018, post-which the WACR firmed up towards the repo rate.

III.14 As liquidity absorption under the LAF moderated during the course of the year, the average spread between the WACR and the policy repo rate narrowed from (-) 32 bps in April 2017 to a mere (-) 5 bps by March 2018 (Chart III.2). At the end of June 2018, the spread, however, widened to (-) 12 bps reflecting easing of liquidity conditions since April.

III.15 In Q1 of 2017-18, expansion in currency in circulation due to rapid remonetisation drained about ₹2 trillion of surplus liquidity from the system, which was, however, more than offset by front-loaded expenditure by the government and large redemption of government securities. To mop up the resulting surplus liquidity and consistent with its objective of moving towards liquidity neutrality, the Reserve Bank auctioned T-Bills (tenors ranging from 312 days to 329 days) aggregating ₹1 trillion under MSS in April and May 2017. The average daily net absorption of liquidity increased to ₹4.6 trillion (including reverse repo, MSS and CMBs) during Q1 of 2017-18 from ₹3.1 trillion at end-March 2017 (Chart III.3).

III.16 During Q2 of 2017-18, frequent recourse to ways and means advances (WMAs) and overdrafts (ODs) by the government augmented market liquidity even as currency in circulation absorbed up to ₹571 billion from the system. With the government's cash balance position improving during August, the average daily net absorption of liquidity declined from ₹5.1 trillion (including LAF, MSS and CMBs) in the first week of August to ₹4.4 trillion by end-August 2017. With advance tax outflows in mid-September,

Chart III.3: Liquidity Management



Source: RBI.

surplus liquidity in the system declined to ₹2.8 trillion by end-September. Moreover, the Reserve Bank conducted open market sales consequent on forex intervention purchases to absorb ₹600 billion of durable liquidity (₹200 billion each in July, August and September) in addition to variable rate reverse repo auctions of various tenors.

III.17 In Q3 of the year, average daily net liquidity absorbed under the LAF (mainly through variable rate reverse repo auctions of tenors ranging from overnight to 28 days) declined from ₹1.4 trillion in October 2017 to ₹718 billion in November, aided by the increase in currency in circulation and pick-up in credit growth. Moreover, the Reserve Bank conducted open market sales on three occasions to absorb ₹300 billion on a durable basis (₹200 billion in October and ₹100 billion in November) in order to mitigate the liquidity impact of forex purchases during the quarter. Liquidity conditions temporarily turned into deficit mode in the second half of December with the slowdown in government spending prolonging the shortfall created by the usual advance tax outflows. Accordingly, liquidity amounting to ₹1.3 trillion was injected by the Reserve Bank through variable rate repos of varying tenors in addition to regular 14-day term repos.

III.18 During Q4, surplus liquidity declined and turned into deficit towards the year-end. The average daily net liquidity absorbed under LAF (including MSF) amounted to ₹353 billion in January. The liquidity situation, however, turned into deficit in February-March on account of the drying up of government spending and large tax collections, which necessitated average daily net injection of liquidity amounting to ₹140 billion by the Reserve Bank.

III.19 Anticipating tightness in liquidity conditions in March and with a view to providing greater flexibility to the banking system to tide over the usual year-end liquidity mismatches, four additional variable rate repo operations (₹250 billion each) of longer tenors (24 to 31 days) were conducted and standalone Primary Dealers were allowed to participate within the usual notified amount of the regular term repo auction conducted on March 28, 2018. Furthermore, liquidity was augmented in March through redemption of T-Bills, which were issued under the MSS in April and May 2017. On the whole, average daily net liquidity absorbed under the LAF (including MSF) declined from ₹812 billion in Q3 to ₹30 billion in Q4.

III.20 During Q1 of 2018-19, liquidity conditions generally remained in surplus mode, although it moderated during the quarter from an average daily surplus (under LAF) of ₹496 billion in April to ₹140 billion in June. The surplus liquidity mainly reflected the drawdown of government balances due to transfer of GST proceeds to states in April and higher budgetary spending by the GoI, especially in June 2018. In order to manage the

surplus liquidity, the Reserve Bank conducted variable rate reverse repo auctions of various tenors while CMBs were again issued in June to address temporary mismatches in government balances. On the other hand, the Reserve Bank conducted variable rate repos of other tenors in addition to the regular 14-day term repos in June to tide over temporary tightness in systemic liquidity on account of advance tax outflows. During the quarter, the Reserve Bank also injected ₹200 billion through OMO purchases of ₹100 billion each in May and June. Overall, average daily net liquidity absorption under LAF during the quarter amounted to ₹258 billion.

III.21 The Reserve Bank has been conducting OMOs to manage the enduring liquidity impact of forex interventions. Such sterilisation operations can, however, have their own interactions with other aspects of the economy and markets (Box III.1).

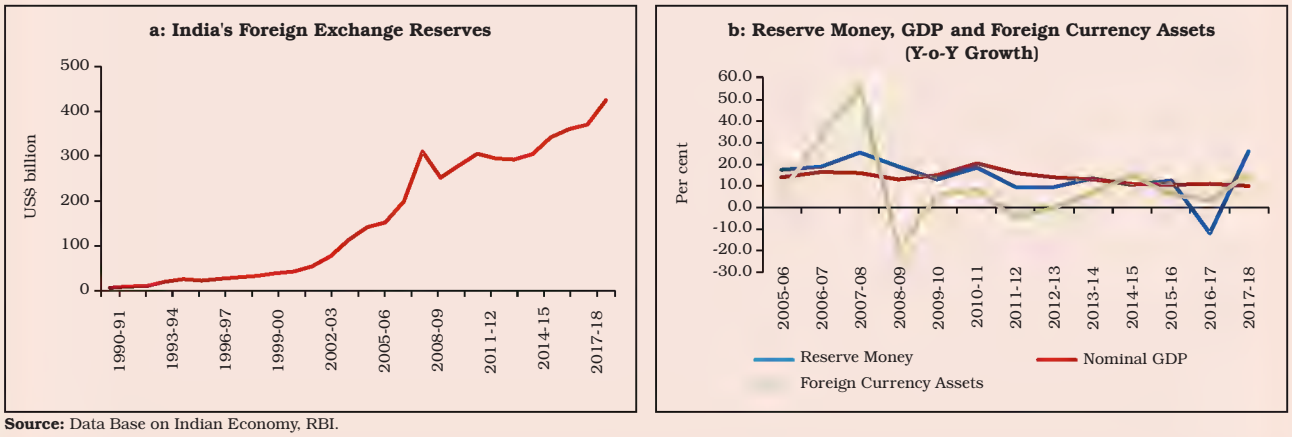
Box III.1
Sterilisation of Capital Flows

From the perspective of a central bank balance sheet, domestic liquidity conditions are mainly driven by autonomous factors, *viz*., currency in circulation, government cash balances and foreign exchange flows. While currency in circulation and government cash balances have a bearing mostly on domestic liquidity conditions (interest rates), foreign exchange flows can also have an impact on the exchange rate and the real economy. In a globalised world, volatile capital flows pose significant challenges to liquidity management and the conduct of monetary policy. Central banks, therefore, sterilise inflows to retain monetary control.

Cross-country evidence suggests that the extent of sterilisation operations conducted by emerging market economies has increased significantly, commensurate with the magnitude of such flows (Aizenman and Glick, 2008). As in the South East Asian region, foreign exchange reserves also increased in India (Chart 1.a). Despite this, expansion in primary liquidity (reserve money) was kept in sync with the needs of the growing economy largely through sterilised interventions (Chart 1.b).

Sterilisation operations, if undertaken through sale of domestic securities, can put upward pressure on domestic interest rates which, in turn, can widen interest rate differentials. In such a scenario, sterilisation operations can trigger higher capital inflows. Thus, the change in net domestic assets (NDA) can be nullified through a change in net foreign assets (NFA). Empirically, the extent and

Chart 1: Reserve Accumulation and Reserve Money



Source: Data Base on Indian Economy, RBI.

(Contd...)

effectiveness of sterilisation operations undertaken by a central bank can be measured by computing sterilisation and offset coefficients, respectively, both varying between 0 and -1. The sterilisation coefficient measures the extent to which the NDA of a central bank change in response to a change in NFA, while the offset coefficient measures the extent to which a decrease/increase in NDA causes an increase/decrease in NFA. A value of -1 for the sterilisation coefficient suggests complete sterilisation, *i.e.*, no impact of capital flows on the reserve money, a value of 0 would imply that forex intervention is not sterilised at all by the central bank. A value of -1 for offset coefficient suggests the complete ineffectiveness of the central bank in sterilising capital flows, *i.e*., complete attenuation of monetary control. An offset coefficient value of -1 can also be an indication of perfect capital mobility, while a value of 0 would imply no capital mobility.

To assess the effectiveness of sterilisation operations in the Indian context, the sterilisation coefficient is estimated through a modified money demand function, while the offset coefficient is estimated from a modified equation on capital flows for the period July 1997 to October 2017 using monthly data and the two-stage least-squares (2SLS) method (Cavoli and Rajan, 2013). The variables used in equations: 1 and 2 are (i) NDA; (ii) NFA (adjusted for valuation changes); (iii) nominal GDP (quarterly data interpolated to monthly) (GDP); (iv) interest differential measured as the spread of the call rate over the effective federal funds rate (IF); (v) real effective exchange rate (REER); (vi) money multiplier (ratio of broad money to reserve money) (Mul); (vii) spread between the policy rate and the weighted average call rate (DS); and (viii) quantum of secondary market operations in government securities (GS). Recognising the endogeneity problem between NDA and NFA in both equations, relevant instrumental variables are used in estimation, *i.e.*, REER and IF in the first equation for NFA, and DS and GS in the second equation for NDA. All variables are considered in the year-on-year difference form, which takes care of both seasonality as also stationary properties of the variables. GDP, REER and GS are taken in log form. The NDA and NFA are normalised by the log of reserve money of the previous year.

The sterilisation coefficient is estimated at -1.03 and the offset coefficient at -0.83. The sterilisation coefficient, being greater than the offset coefficient (in absolute terms), suggests some effectiveness of sterilisation operations in controlling liquidity (Raj *et al.*, 2018).

The Indian experience suggests that the Reserve Bank has been successful in retaining monetary policy independence, while dealing with capital flows. This reflects the use of multiple instruments available at its disposal to maintain domestic monetary and liquidity conditions consistent with the monetary policy stance. The standing deposit facility announced in the Union Budget 2018-19 and notified in April 2018 is expected to strengthen the array of instruments in the arsenal of the Reserve Bank to manage volatile capital flows more effectively, going forward.

$$NDA = 86.02 - 1.03\ NFA + 58.25\ GDP - 239.52\ Mul + 0.31\ DS + 0.66\ AR(1) + 0.14\ AR(3) \quad \text{..... (1)}$$

(0.00) (0.00) (0.73) (0.00) (0.59) (0.00) (0.03)

Adj. R^2= 0.94 DW= 2.00

$$NFA = 67.45 - 0.83\ NDA + 133.59\ GDP - 0.10\ IF + 294.33\ REER - 200.41\ Mul + 0.68\ AR(1) + 0.15\ AR(2) \quad \text{..... (2)}$$

(0.00) (0.00) (0.41) (0.88) (0.00) (0.00) (0.00) (0.03)

Adj. R^2= 0.95 DW= 2.00

Note: Figures in parentheses are p-values.

References:

1. Aizenman, J. and R. Glick (2008), "Sterilisation, Monetary Policy and Global Financial Integration", *NBER Working Paper*, No. 13902, March.
2. Cavoli, T. and R. S. Rajan (2013), "Capital Inflows and Interest Premium Problem: Revisiting the Effects of Monetary Sterilisation in Asia", Paper prepared for the International conference on *Pacific Rim Economies and the Evolution of the International Monetary Architecture*, City University of Hong Kong, December.
3. Raj, J., S. Pattanaik, I. Bhattacharya and Abhilasha (2018), "Forex Market Operations and Liquidity Management," *RBI Bulletin*, August.

III.22 An amendment to Section 17 of the RBI Act, 1934 would allow the Reserve Bank to accept "money as deposits, repayable with interest, from banks or any other person under the standing deposit facility scheme, as approved by the Central Board, from time to time, for the purposes of liquidity management". The standing deposit facility (SDF), as and when operationalised, will provide an additional mechanism for draining liquidity, particularly during periods of exceptional liquidity glut.

Monetary Policy Transmission

III.23 In response to the cumulative 200 bps decline in the policy rate during January 2015 to May 2018, banks lowered their deposit and lending rates (Table III.1). Banks passed a large part of the reduction in their cost of funding due to increase in the share of low cost current account and savings account (CASA) deposits to their new borrowers, with interest rates on fresh rupee loans exhibiting a faster decline than that on outstanding loans. However, the transmission from the policy repo rate to deposit and lending rates on fresh rupee loans slowed down during 2017-18 in comparison with the previous year, mainly due to deceleration in deposit growth and a modest revival in credit demand. Following the policy rate hike of 25 bps on June 6, 2018, the median term deposit rate and 1-year marginal cost of funds based lending rate (MCLR) increased by 5 bps and 3 bps, respectively. The weighted average lending rate (WALR) on fresh rupee loans also increased by 8 bps in June.

Table III.1: Transmission to Deposit and Lending Rates

(Basis points)

Period/Variation	Policy Repo Rate	Term Deposit Rates		Lending Rates			
		Median Term Deposit Rate	WADTDR	Median Base Rate	1-Year Median MCLR	WALR - Outstanding Rupee Loans	WALR - Fresh Rupee Loans
1	2	3	4	5	6	7	8
January 2015 to May 2018	-200	-159	-193	-80	*	-172	-205
June 2018	25	5	-2	0	3	0	8
April 2016 to June 2018	-50	-84	-104	-20	-93	-108	-99
April 2016 to March 2017	-50	-68	-76	-10	-85	-40	-73
April 2017 to March 2018	-25	-25	-30	-10	-20	-65	-40
Memo:							
Pre-Demonetisation							
January 2015 to October 2016	-175	-99	-126	-61	*	-75	-97
April 2016 to October 2016	-50	-29	-35	-1	-17	-11	1
Post-Demonetisation							
November 2016 to June 2018	0	-55	-69	-19	-76	-97	-100
Post-August 2, 2017 Policy							
August 2, 2017 to June 2018	0	1	-6	-3	2	-47	-32
August 2, 2017 to December 2017	-25	-15	-22	-3	-20	-32	-39
January 2018 to June 2018	25	16	16	0	22	-15	7

WADTDR: Weighted Average Domestic Term Deposit Rate.
WALR: Weighted Average Lending Rate. MCLR: Marginal Cost of Funds based Lending Rate.
*: MCLR system was put in place on April 1, 2016.
Source: Special Monthly Return VIAB, RBI and banks' websites.

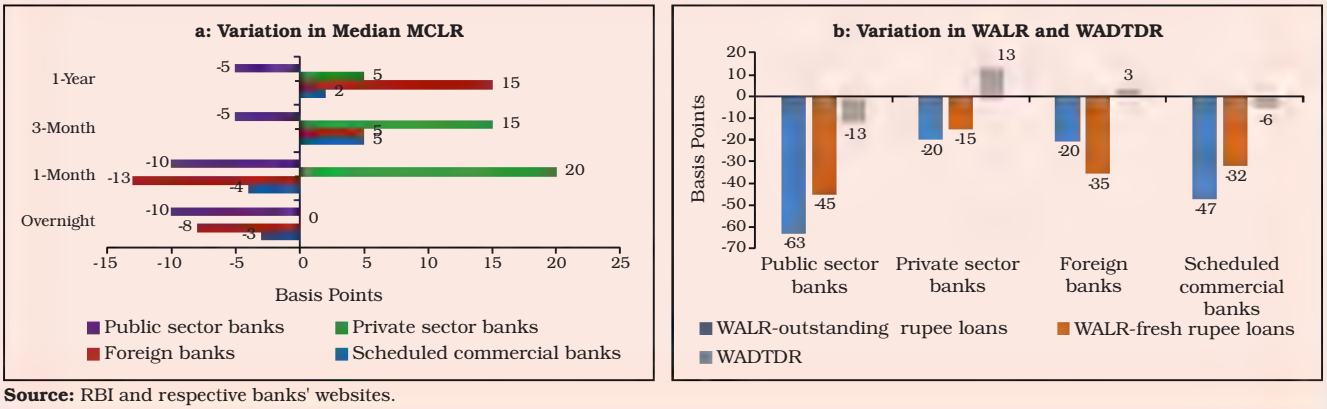
III.24 Several large banks – in both public and private sectors – reduced their savings bank deposit rates beginning July 31, 2017. This was the first time that the median savings deposit rate declined after the Reserve Bank deregulated it in October 2011. The pace of the decline in term deposit rates was, however, lower during 2017-18 than in the previous year as the pace of accretion to term deposits decelerated. Significantly, the WALRs on fresh rupee loans declined more than the decline in term deposit rates during 2017-18 unlike in the previous year for two reasons. First is the reduction in the interest rates on savings account deposits of banks as stated earlier, which accounted for 31.3 per cent of aggregate deposits as at end-March 2018. Second, the share of low-cost CASA deposits of commercial banks (barring regional rural banks, small finance and payment banks) increased from 40.6 per cent in March 2017 to 41.1 per cent in March 2018. Unlike in the previous year, the WALR on outstanding rupee loans declined faster in 2017-18 – by 65 bps as against a decline of 40 bps in the WALR on fresh rupee loans – as banks reset interest rates at prevailing lower rates on the floating rate loans contracted in the past.

III.25 Following the cut in the policy repo rate by 25 bps on August 2, 2017, the median MCLR declined across tenors and bank groups till December 2017, with the 1-year median MCLR declining by 20 bps. However, the gradual dissipating of surplus liquidity contributed to an upward pressure on money and bond market rates since Q3. This fed into the retail term deposit rates and eventually the 1-year median MCLR rose by 22 bps during January-June 2018. Despite this, the WALR on outstanding rupee loans continued to exhibit a downtrend reflecting the downward movements in lending rates as the old loans were reset at lower rates, as alluded to before. After rising by 14 bps during January-February 2018, WALR on fresh rupee loans declined sharply by 21 bps in March alone - a usual year-end seasonal phenomenon as banks doubled (rise of 98 per cent) sanctioning of fresh rupee loans over February, partly reflecting interest application and partly window dressing. Bank group-wise, both deposit and lending rates of public sector banks exhibited the largest decline (Chart III.4).

Sectoral Lending Rates

III.26 Monetary transmission is not uniform across sectors due to idiosyncratic factors.

Chart III.4: Transmission across Tenors and Bank Groups
(August 2017 – June 2018)



Source: RBI and respective banks' websites.

During 2017-18, lending rates on outstanding loans declined across the sectors in a wide range of 24-123 bps, with the largest decline occurring in the personal credit card segment (Table III.2).

III.27 In line with the aggregates, the transmission of the policy rate to the lending rates on fresh rupee loans for housing and vehicle loan segments slowed down significantly during 2017-18 *vis-à-vis* a year ago (Table III.3).

III.28 In order to improve transparency in lending rates, the MCLR system was introduced in April 2016 in place of the then prevailing base rate system. However, transmission during the MCLR regime has not been entirely satisfactory. In order to examine the various aspects of MCLR and to suggest refinements, an Internal Study Group (Chairman: Dr. Janak Raj) was constituted by the Reserve Bank. The report of the Group was placed in the public domain for feedback in October 2017. The feedback received and the responses of the Group to the suggestions/ comments received were placed in the public domain in the form of an addendum to the report in February 2018. The recommendations of the Group are under consideration of the Reserve Bank.

Agenda for 2018-19

III.29 Under the agenda for 2017-18, studies on estimates of exchange rate pass-through to gauge non-linearity, asymmetry and time-varying nature of the pass-through; determinants of inflation in a Phillips curve framework to assess the role of demand conditions and supply shocks; effects of Basel III liquidity regulations on the operating target of monetary policy; the impact of increase in HRAs by the central government

Table III.2: Sector-wise WALR of SCBs (Excluding RRBs) - Outstanding Rupee Loans
(at which 60 per cent or more business is contracted)

(Per cent)

End-Month	Agricu-lture	Industry (Large)	MSMEs	Infrast-ructure	Trade	Professional Services	Personal Loans					Rupee Export Credit
							Housing	Vehicle	Education	Credit Card	Other $	
1	2	3	4	5	6	7	8	9	10	11	12	13
Dec-14	10.93	12.95	13.05	13.05	13.09	12.39	10.76	11.83	12.90	37.86	14.24	12.16
Mar-16	10.74	12.36	12.25	12.06	12.50	11.81	10.56	11.65	12.48	38.00	13.90	11.46
Oct-16	10.88	11.64	12.23	11.89	11.86	11.56	10.00	11.45	12.40	39.01	12.98	10.78
Mar-17	10.95	11.57	11.88	11.80	11.59	11.21	9.78	11.05	11.70	39.02	12.85	10.98
Jun-17	10.78	11.28	11.75	11.59	11.41	10.91	9.59	10.87	11.53	38.88	12.85	9.78
Sep-17	10.82	11.29	11.64	11.55	11.69	10.86	9.55	10.73	11.47	38.28	12.67	10.60
Dec-17	10.72	11.21	11.45	11.51	10.95	10.93	9.42	10.79	11.28	38.61	12.50	10.12
Mar-18	10.71	11.03	11.41	11.40	11.08	10.87	9.38	10.74	11.29	37.79	12.48	10.08
June-18	10.67	11.23	11.30	11.28	11.00	10.73	9.43	10.66	11.29	38.55	12.66	10.07
Variation (Percentage Points)												
June-18 over Dec-14	-0.26	-1.72	-1.75	-1.77	-2.09	-1.66	-1.33	-1.17	-1.61	0.69	-1.58	-2.09
Mar-18 over Mar-17	-0.24	-0.54	-0.47	-0.40	-0.51	-0.34	-0.40	-0.31	-0.41	-1.23	-0.37	-0.90
Mar-17 over Mar-16	0.21	-0.79	-0.37	-0.26	-0.91	-0.60	-0.78	-0.60	-0.78	1.02	-1.05	-0.48

$: Other than housing, vehicle, education and credit card loans.
MSMEs: Micro, Small and Medium Enterprises.
Source: Special Monthly Return VIAB, RBI.

Table III.3: 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-16	9.78	11.98	11.14	11.21
Oct-16	9.55	11.50	10.70	11.79
Mar-17	8.94	10.77	10.03	10.24
Sep-17	8.85	10.51	9.76	10.50
Dec-17	8.84	10.33	9.96	10.14
Mar-18	8.80	10.61	9.45	10.05
June-18	8.77	11.06	9.60	10.75
Variation (Percentage Points)				
June-18 over Dec-14	-1.76	-1.22	-2.13	-1.78
Mar-18 over Mar-17	-0.14	-0.16	-0.58	-0.19
Mar-17 over Mar-16	-0.84	-1.21	-1.11	-0.97

Source: Special Monthly Return VIAB, RBI.

for its employees; the impact of farm loan waivers and fiscal slippages on inflation; and the role of asset quality of banks in the transmission of policy rate to bank lending rates were completed, as scheduled.

III.30 Since inflation forecast is the intermediate target in a flexible inflation targeting regime, the focus would be on a detailed assessment of the likely factors impinging upon the inflation outlook: (i) the impact of increase in HRA by state governments as it unfolds and influences the inflation path, with emphasis on tracking second round effects; (ii) demand pressures arising on account of strengthening of domestic growth impulses, especially in view of rising input price pressures and corporates gradually regaining pricing power; (iii) capturing the dynamics of crude oil prices and the channels through which they influence headline inflation in view of strengthening of global growth and elevated geo-political tensions; and (iv) assessing the impact of increases in MSPs being contemplated by the government.

III.31 Studies would also be undertaken to improve the understanding of the factors driving growth, which is important under a flexible inflation targeting framework. A detailed empirical analysis of the investment cycle would be taken up to understand the duration of the investment cycles and inflexion points/structural breaks. Given the substantial backward and forward linkages of the real estate sector with the broader economy, examining the structural and cyclical dynamics of the sector assumes importance. The quarterly projection model[1] that is applied for medium-term growth and inflation projections would be augmented by incorporating a fiscal block for an enhanced understanding of monetary-fiscal interface in the Indian context. Pro-active liquidity management is the key to the effectiveness of monetary policy. In this context, a detailed analysis of the liquidity impact of forex operations would be undertaken.

[1] Benes, Jaromir, *et al.* (2016), "Quarterly Projection Model for India: Key Elements and Properties", *RBI Working Paper Series*, No. 08/2016.

IV CREDIT DELIVERY AND FINANCIAL INCLUSION

The Reserve Bank undertook several new initiatives during the year for strengthening credit delivery mechanism and also enhancing financial inclusion. Some of these measures include revised guidelines on priority sector lending, launch of Certified Credit Counsellors (CCCs) Scheme for micro, small and medium enterprises (MSMEs), conduct of survey for assessing the challenges faced by the MSME sector, revamp of Lead Bank Scheme (LBS), implementation of some of the key recommendations of the Committee on Medium-Term Path on Financial Inclusion and also innovative approaches for financial literacy. The work is also underway for the formulation of a National Strategy for Financial Inclusion. In order to ascertain efficacies, the Reserve Bank would undertake the impact assessments of some of the projects under credit delivery and financial inclusion during 2018-19.

IV.1 The Reserve Bank continued its focus on ensuring availability of banking services to all sections of people across the country, and further strengthening the credit delivery system to cater to the needs of all productive sectors of the economy, particularly agriculture, and micro and small enterprises sectors. In order to improve credit delivery and promote financial inclusion, a number of initiatives were taken during 2017-18. Some of these initiatives include revision in guidelines on lending to the priority sectors with an emphasis on enhanced flow of credit to more employment intensive sectors, revamping of the Lead Bank Scheme (LBS) to ensure economic development of districts and also adopting innovative approaches to financial literacy to bring more people under financial inclusion. Further, during the year, some of the key recommendations of the Committee on Medium-Term Path on Financial Inclusion (2015) were implemented including launching of the CCCs scheme in co-ordination with Small Industries Development Bank of India (SIDBI) for MSMEs, Business Correspondent (BC) registry portal and BC certification course. Initiatives were also undertaken to provide fillip to financial literacy such as starting a pilot project on the Centres for Financial Literacy (CFL) and also use of various tools for dissemination of financial awareness messages. The Financial Inclusion and Development Department (FIDD) is the nodal department for the seamless implementation of the Reserve Bank's financial inclusion agenda, and a comprehensive forward looking strategy document on financial inclusion is currently being finalised by the department.

Agenda for 2017-18: Implementation Status

IV.2 As integrity and consistency of data are crucial for framing policy and designing strategies, an Automated Data Extraction Project (ADEPT) which was initiated for extraction of data from banks by the Reserve Bank, is in the final stage of implementation. Similarly, the National Strategy for Financial Inclusion document is being finalised under the aegis of the Financial Inclusion Advisory Committee (FIAC).

IV.3 The Statement on Developmental and Regulatory Policies of the first bi-monthly monetary policy for 2018-19, mentioned that a 'one size fits all' approach for imparting financial education to various target groups is sub-optimal and financial education sought to be delivered to diverse target groups needs to be customised. Towards this objective, FIDD has developed tailored financial literacy content for five target

groups (*viz.,* farmers, small entrepreneurs, school children, self-help groups and senior citizens) that can be used by the trainers in financial literacy programmes. The content in the form of five booklets can also be downloaded from the financial education webpage of the Reserve Bank. Financial Literacy Centres (FLCs) of banks have been advised to structure the pedagogy for the mandated target-specific financial literacy camps with the help of the booklets.

CREDIT DELIVERY

Priority Sector

IV.4 The priority sector lending (PSL) mechanism seeks to provide an access to credit for those vulnerable sections of the society, who are often deprived of it due to their perceived lack of credit worthiness. Small value loans to farmers for agriculture and allied activities, micro small and medium enterprises, poor people for housing, students for education, other low income groups and weaker sections are included under the priority sector. Social infrastructure and renewable energy sectors are also covered under the priority sector. The performance of scheduled commercial banks (SCBs) in terms of their achievement on priority sector lending (PSL) targets is given in Table IV.1.

Table IV.1: Performance in Achievement of Priority Sector Lending Targets

(₹ billion)

End-March	Public Sector Banks	Private Sector Banks	Foreign Banks
1	2	3	4
2017	19,889	7,110	1,238
	(39.5)	(42.5)	(36.4)
2018	20,723	8,046	1,402
	(39.9)	(40.8)	(38.3)

Note: Figures in brackets are percentages to adjusted net bank credit (ANBC) or credit equivalent of off balance sheet exposures (CEOBE), whichever is higher, in the respective groups.

Source: Priority Sector Returns submitted by SCBs.

IV.5 The Priority Sector Lending Certificates (PSLCs) scheme was introduced in April 2016 as a mechanism to incentivise banks which surpass their targets in lending to different categories under the priority sector. In a manner similar to carbon credit trading, PSLCs allow market mechanism to drive the PSL by leveraging the comparative strength of different banks. For instance, a bank with an expertise in lending to small and marginal farmers can exceed targets and derive benefit by selling the over-achieved credit target through PSLCs. Another bank that is better at lending to small enterprises can buy these certificates while selling PSLCs for micro-enterprise loans. The Reserve Bank has provided the banks with a platform to trade the certificates through its core banking solution portal (e-Kuber).

IV.6 The PSLC platform saw active participation from all the eligible entities including Urban Co-operative Banks (UCBs) and Small Finance Banks (SFBs) during 2017-18. As at end-March 2018, total trading volume of PSLCs was ₹1843.3 billion as against of ₹498.0 billion at end-March 2017. Among the four PSLC categories, the highest trading was observed in the case of PSLC-general and PSLC-small and marginal farmer with the transaction volumes being ₹796.72 billion and ₹696.22 billion, respectively.

Review of Priority Sector Guidelines

IV.7 Foreign banks with 20 branches and above were on a five year roadmap (2013-18), following which the sub-targets for lending to small and marginal farmers and micro enterprises were to apply after a review in 2017. Accordingly, after the review, it was decided to harmonise their priority sector targets with domestic banks and make applicable the sub-target of 8 per cent of adjusted net bank credit (ANBC) or credit equivalent amount of off-balance sheet exposure (CEOBE), whichever was higher, for lending to

Table IV.2: Targets and Achievements for Agricultural Credit

(₹ billion)

Year	Commercial Banks		Co-operative Banks		RRBs		Total	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
1	2	3	4	5	6	7	8	9
2016-17	6,250	7,998	1,500	1,428	1,250	1,232	9,000	10,658
2017-18 *	7,040	8,772	1,560	1,504	1,400	1,410	10,000	11,685

*: Provisional.
Note: Figures might not add up to the total due to rounding off of numbers.
Source: National Bank for Agriculture and Rural Development (NABARD).

small and marginal farmers and the sub-target of 7.5 per cent of ANBC or CEOBE, whichever was higher, for lending to micro enterprises, effective from 2018-19.

IV.8 Based on the stakeholders' feedback and keeping in view the growing importance of services sector in the economy, it was decided to remove the extant applicable loan limits of ₹50 million and ₹100 million per borrower to micro/small and medium enterprises (services), respectively, for classification under the priority sector. Accordingly, all bank loans to MSMEs, engaged in services as defined in terms of equipment investment under the MSME Development (MSMED) Act, 2006, shall qualify under the priority sector without any credit cap.

IV.9 In order to bring greater convergence of the PSL guidelines for housing loans with the affordable housing scheme definition under *Pradhan Mantri Awas Yojana* and to give a fillip to the low-cost housing for the economically weaker sections and lower income groups, it has been decided to revise the housing loan limits for PSL eligibility from the existing ₹2.8 million to ₹3.5 million in metropolitan centres (with population of ten lakh and above), and from the existing ₹2 million to ₹2.5 million in other centres, provided the overall cost of the dwelling unit in the metropolitan centre and at other centres does not exceed ₹4.5 million and ₹3 million, respectively.

Flow of Credit to Agriculture

IV.10 The Government of India has been fixing the target for agricultural credit every year. During 2017-18, the Government set the target of ₹10,000 billion for agricultural credit. As on March 31, 2018, commercial banks achieved 124.6 per cent of their target whereas co-operative banks and regional rural banks (RRBs) achieved 96.4 per cent and 100.7 per cent, respectively (Table IV.2).The Government has set an agricultural credit target of ₹11,000 billion for 2018-19.

IV.11 The Kisan Credit Card (KCC) scheme aims to provide an adequate and timely institutional credit to farmers with simplified and flexible procedures. The scheme is implemented by SCBs, RRBs and co-operative banks. It comprises both short-term crop loan and term loan components. The progress on the scheme for the last two years is presented in Table IV.3.

Table IV.3: Kisan Credit Card (KCC) Scheme

(Number in million, Amount in ₹ billion)

Year	Number of Operative KCCs	Outstanding Crop Loan	Outstanding Term Loan
1	2	3	4
2016-17	23.37	3,851.89	498.13
2017-18*	23.53	3,911.34	419.80

*: Provisional.
Source: Public Sector Banks and Private Sector Banks.

Table IV.4: Relief Measures for Natural Calamities

(Number in million; Amount in ₹ billion)

Year	Loans restructured/ rescheduled		Fresh finance/ Relending provided	
	No. of accounts	Amount	No. of accounts	Amount
1	2	3	4	5
2017-18*	0.10	11.88	0.48	13.68

*: Provisional.
Source: State Level Bankers Committees (SLBCs).

Relief Measures for Natural Calamities

IV.12 Periodical occurrences of natural calamities take a heavy toll of human lives and also cause wide-spread damage to both properties and standing crops in some parts of the country. The devastation caused by such natural calamities calls for massive rehabilitation efforts by all agencies (including banks). During 2017-18, five states, *viz.,* Andhra Pradesh, Rajasthan, Odisha, Madhya Pradesh and Gujarat, declared natural calamities. A dedicated portal was developed to capture the data on relief measures extended by banks (Table IV.4).

Credit Flow to Micro and Small Enterprises (MSEs)

IV.13 The measures taken by the Reserve Bank for facilitating flow of credit to MSMEs and other steps taken by the government over the last few years have resulted in an increase in credit flow to MSEs (Table IV.5).

Certified Credit Counsellors (CCCs) Scheme

IV.14 As announced in the first bi-monthly monetary policy statement for 2016-17 on April 5, 2016, a framework for accreditation of credit counsellors was prepared by the Reserve Bank, and provided to the SIDBI which subsequently launched the CCCs scheme in July 2017. The SIDBI, acting as a registering authority of CCCs, has issued operational guidelines on the scheme (details are available at https://udyamimitra.in/Home/CCC). The CCCs are expected to advise the MSMEs in preparing business proposals, and financial documents/ statements. The CCCs would also share information with MSMEs on suitable credit instruments available in the market. In pursuance of greater awareness, the Reserve Bank has advised banks to sensitise their field level functionaries/dealing officials about the scheme. As on June 30, 2018, 512 credit counselling institutions and 13 certified credit counsellors were registered with the SIDBI.

Table IV.5: Credit Flow to MSEs

Year	Number of Accounts (million)	Amount Outstanding (₹ billion)	MSE credit as per cent of ANBC
1	2	3	4
2016-17	23.2	10,701.3	14.3
2017-18	25.9	11,493.5	14.6

Source: Priority Sector Returns submitted by SCBs.

IV.15 The MSME sector has emerged as a highly vibrant and dynamic sector of the Indian economy over the last five decades, weathering several challenges. This sector has played a crucial role in not only providing large employment opportunities and increasing exports but also in promoting industrialisation of rural and backward areas, thereby reducing regional socio-economic imbalances. MSMEs are regarded as complementary to large industries, as ancillary units. In view of the limited availability of data for assessing the challenges being faced in the MSME sector, a comprehensive survey was conducted by the Reserve Bank with feedback from 2,355 MSMEs and 1,790 bank branches across states during January-February 2018 to examine (a) whether the flow of credit to MSMEs was conditioned by demand side rather than supply side factors, and (b) how effective the various government schemes were in promoting the MSME sector. Box IV.1 provides an empirical analysis on the survey data in order to analyse

Box IV.1
Access to Formal Finance for MSMEs: Some Assessment

Worldwide, micro and small firms face challenges to access formal finance due to the information asymmetry and high transaction cost involved in the case of small value loans. Despite being an important issue, there are very few attempts (e.g., Eastwood and Kohli 1999, Kohli 1997 and Nikaido *et al.,* 2015) to understand what determines small firms' access to formal finance in the context of India. Based on the Reserve Bank survey data, an attempt is made to determine the major factors which influence the probability of an MSME firm accessing a formal source of finance by deploying a logit model. The dependent variable takes the value of 1 if one of the most important sources of finance as reported by an MSME firm was formal, and 0 otherwise. Two sets of independent variables - firm specific and owner specific - are used. Owner specific variables are age profile, social group, religion, gender and education. Firm specific factors are age of the firm, activity, number of employees, annual turnover, and size of the firm. The results of the logit analysis are presented in Table 1.

The results indicate that if a firm is already in operation for more than 5 years, it is less likely to have formal finance as a major source of financing. This may be due to the life cycle of an MSME firm where capital outlays are mostly required in initial years. This may also suggest lack of scaling up by the MSME firms after they start their operations. Further, as compared to manufacturing, services sector MSME firms have higher probability of having formal funding as an important source. As compared to smaller MSMEs with a turnover of less than ₹10 lakh, larger sized firms were found to have higher probabilities of having formal funding as the most important source. Medium-sized firms are more likely to have formal access to finance relative to micro and small entities.

Regarding owner-specific variables, it was found that older owners have better odds of accessing formal funding as the most important source as compared to owners of younger age. Strikingly, the probability of accessing formal source as the most important source did not vary much with higher achievements in education. Rather, it is found that attending training significantly increases the odds of having a formal source as the major source of funding. This supports that training of entrepreneurs rather than their education level is an important step in increasing the flow of credit to the MSME sector.

Table 1: Empirical Results

Variable/Category		Odds Ratio
Firm age (Base≤5 years)	5-10 years	0.587***
	>10 years	0.775*
Firm activity (Base-Manufacturing)	Service	1.444**
	Both	4.056**
Number of employees (Base<10)	10-20	1.191
	20-50	1.431*
	51-100	1.791
	>100	0.938
Annual turnover (Base<10 lakh)	10-50 lakh	4.369***
	50-100 lakh	6.737***
	100-500 lakh	8.467***
	500-1000 lakh	11.808***
	1000-5000 lakh	15.376***
	>5000 lakh	15.577***
Training attended (Base-No)	Yes	3.131***
Size (Base-Micro)	Small	1.264
	Medium	1.708*
Age (Base 18-25 years)	26-49	2.402**
	50-65	3.624***
	>66	2.493**
Social Group (Base-General)	SC	0.969
	ST	0.474**
	OBC	1.391**
Religion (Base-Hindu)	Christian	0.780
	Muslim	1.957**
	Others	2.147***
Gender (Base-Male)	Female	1.086
Education (Base-Illiterate)	Primary	0.466
	Secondary	1.232*
	High School and Junior College	1.329
	Graduation and above	1.415
LR chi^2 (31) = 705.03	Pseudo R^2 = 0.2508	

***: Significant at 1 per cent; **: Significant at 5 per cent;
*: Significant at 10 per cent.
Source: RBI staff estimates.

References:

1. Eastwood, R., & Kohli, R. (1999), 'Directed credit and investment in small-scale industry in India: Evidence from firm-level data 1965–78', *The Journal of Development Studies*, 35(4), 42-63.
2. Kohli, R. (1997), 'Credit Availability and Small Firms: A Probit Analysis of Panel Data', *Reserve Bank of India Occasional Papers 18, No. 1*. Reserve Bank of India, Mumbai.
3. Nikaido, Y., Pais, J., & Sarma, M. (2015), 'What hinders and what enhances small enterprises' access to formal credit in India?', *Review of Development Finance*, 5(1), 43-52.

the impact of various firm and owner specific attributes on MSMEs' access to formal finance.

FINANCIAL INCLUSION

IV.16 The Reserve Bank continued its efforts towards fulfilling the financial inclusion agenda during the year. In this direction, several new initiatives were undertaken during 2017-18.

Revamping the Lead Bank Scheme (LBS)

IV.17 The LBS was started to ensure economic development of the districts/states by establishing co-ordination between banks and government agencies. In view of changes that have taken place in the financial sector over the years, the Reserve Bank constituted a Committee of Executive Directors of the Bank to study the efficacy of the scheme and suggest measures for its improvement. The Committee's recommendations were discussed with various stakeholders and based on their feedback, it has been decided to bring changes in the scheme which include, *inter alia*, streamlining functioning of the State Level Bankers' Committees (SLBCs) by bifurcating policy and operational issues whereby operational issues would be addressed by specific sub-committees and a steering sub-committee would decide on the primary agenda items for the SLBC; a standardised approach to manage websites of the SLBCs including direct collection of data through respective CBS of all participating banks and a revised agenda for SLBC meetings for more focused reviews on setting up of CBS-enabled banking outlets at the unbanked rural centres (URCs); operations of BCs; digital modes of payments including connectivity; Direct Benefit Transfer (DBT); financial literacy initiatives; digitisation of land records; and discussion on improving rural infrastructure/credit absorption capacity.

Small Finance Banks (SFBs) under the Lead Bank Scheme

IV.18 SFBs are required to participate in their respective locations, in various fora under the LBS, *i.e.,* SLBC, District Consultative Committee (DCC)/ District Level Review Committee (DLRC) and Block Level Bankers' Committee (BLBC) as regular members from 2018-19 and also be part of the credit planning exercise.

Assignment of Lead Bank Responsibility

IV.19 Under the LBS, one bank in each district is assigned the leadership role and acts as a consortium leader to coordinate the efforts of the banks in that district, particularly in matters such as branch expansion and credit planning to meet the credit needs of the district. The assignment of lead bank responsibility to designated banks in every district is done by the Reserve Bank. As of June 2018, 20 public sector banks and one private sector bank have been assigned lead bank responsibility in 714 districts across the country.

Committee on Medium-Term Path on Financial Inclusion

IV.20 The Committee on Medium-Term Path on Financial Inclusion (Chairman: Shri Deepak Mohanty, Executive Director), 2015 sought to propel the economy to a medium-term sustainable inclusion path. Drawing upon the recommendations of the Committee, the Reserve Bank focused on strengthening the mechanism for effective credit delivery to the productive sectors of the economy. Some of the major recommendations that were implemented during 2017-18 include the following: (a) BC registry portal has since been launched to enable domestic SCBs, excluding RRBs, to upload data pertaining to BCs deployed by them. Subsequently, on stabilisation of the database,

facility of using BC tracker for public shall be made available; (b) a basic certification course for BCs has commenced. The translation of the syllabus into different languages is also under process; and (c) The CCC scheme for MSMEs which could help bridge the information gap, and thereby help banks to make better credit decisions was launched during 2017-18.

Financial Inclusion Plans (FIPs)

IV.21 In order to have a planned and structured approach to financial inclusion, banks have been advised to prepare Board-approved Financial Inclusion Plans (FIPs). These FIPs capture banks' achievements on parameters such as the number of outlets (branches and BCs), Basic Savings Bank Deposit Accounts (BSBDAs), overdraft facilities availed in those accounts, transactions in Kisan Credit Cards (KCCs) and General Credit Card (GCC) accounts and transactions through the Business Correspondent-Information and Communication Technology (BC-ICT) channel. The progress made on these parameters as reported by banks as at end-March 2018 is set out in Table IV.6.

Penetration of Banking Services

IV.22 The Reserve Bank has taken several steps to provide banking facilities in the unbanked villages in the country. The use of information technology (IT) and intermediaries has made it possible to increase outreach, scale and depth of banking services at affordable cost. Upon issuance of revised guidelines on branch authorisation policy on May 18, 2017 clarifying on 'banking outlet', SLBC convenor banks were advised to consider opening of a CBS enabled banking outlet or a part time banking outlet in the

Table IV.6: Financial Inclusion Plan (FIP): a Progress Report

Particulars	End-March 2010	End-March 2017	End-March 2018**
1	2	3	4
Banking Outlets in Villages – Branches	33,378	50,860	50,805
Banking Outlets in Villages>2000-BCs	8,390	1,05,402	1,00,802
Banking Outlets in Villages<2000- BCs	25,784	4,38,070	4,14,515
Total Banking Outlets in Villages – BCs	34,174	5,43,472	5,15,317
Banking Outlets in Villages – Other Modes	142	3,761	3,425
Banking Outlets in Villages –Total	**67,694**	**5,98,093**	**5,69,547**
Urban locations covered through BCs	447	1,02,865	1,42,959
BSBDA - Through branches (No. in Million)	60	254	247
BSBDA - Through branches (Amt. in ₹ Billion)	44	691	731
BSBDA - Through BCs (No. in Million)	13	280	289
BSBDA - Through BCs (Amt. in ₹ Billion)	11	285	391
BSBDA - Total (No. in Million)	**73**	**533**	**536**
BSBDA - Total (Amt. in ₹ Billion)	**55**	**977**	**1,121**
OD facility availed in BSBDAs (No. in million)	0.2	9	6
OD facility availed in BSBDAs (Amt. in ₹ Billion)	0.1	17	4
KCC - Total (No. in Million)	24	46	46
KCC - Total (Amt. in ₹ Billion)	1,240	5,805	6,096
GCC - Total (No. in Million)	1	13	12
GCC - Total (Amt. in ₹ Billion)	35	2,117	1,498
ICT-A/Cs-BC-Total Transactions (Number in million)	27	1,159	1,489
ICT-A/Cs-BC-Total Transactions (Amt. in ₹ billion)	7	2,652	4,292

**: Provisional.
Source: As reported by banks.

villages with population less than 2000 that still remain unbanked.

IV.23 The guidelines on Branch Authorisation Policy mandate banks to open at least 25 per cent of the total number of banking outlets opened during a financial year in Unbanked Rural Centres (URCs) (*i.e.*, tier 5 & tier 6 centres). SLBC convenor banks were advised that while opening new banking outlets in URCs, banks should give priority to URCs having population above 5000 (*i.e.,* tier 5 centres). To facilitate banks in doing so, SLBCs were also advised to compile and maintain an updated list of all URCs in the state and review the progress in SLBC meetings.

National Strategy for Financial Inclusion

IV.24 In order to systematically accelerate the level of financial inclusion in the country in a sustainable manner, the National Strategy for Financial Inclusion document is being finalised under the aegis of the FIAC to take forward the momentum generated by the Reserve Bank's financial inclusion policies, the government's *Jan Dhan* programme and the emerging advancements in the field of digital technology.

IV.25 Apart from an overview of the progress made so far in bringing financial inclusion to the hitherto unserved and underserved sections of the population, the document would also provide a critique on the key issues and challenges that hamper financial inclusion in the country. Based on a cross-country analysis, the document would provide a vision and mission for ensuring sustainable financial inclusion in the country, through provision of easy to use, affordable and appropriate financial services to the entire population.

IV.26 With an increased understanding of the inter-linkages among financial inclusion, financial literacy and consumer protection framework, the following strategy pillars have been identified in the document: (a) developing adequate physical and digital infrastructure in the country through providing necessary access points and connectivity; (b) designing suitable regulatory framework that balances innovation and risks in the financial sector to enable financial service providers to come up with innovative ways to ensure universal access to financial services; (c) focus on increasing financial awareness among various target groups in order to enable prospective customers and new customers to make suitable choices; (d) putting in place structures for a robust grievance redressal mechanism to protect the customers' rights and have a timely redressal of their grievances; (e) designing of appropriate scientific assessment tools to granularly measure the extent and issues in financial inclusion; and (f) fostering an effective co-ordination mechanism among all the relevant stakeholders.

FINANCIAL LITERACY

IV.27 Financial literacy is crucial for imparting efficacy to financial inclusion initiatives of the Reserve Bank. In this direction, a number of new initiatives were undertaken during 2017-18.

Innovative Approaches on Financial Literacy

IV.28 In order to explore innovative and participatory approaches to financial literacy, a block level CFL project was initiated in 2017 by the Reserve Bank across 80 blocks in 9 states. The project is currently being implemented by 6 NGOs in collaboration with 10 sponsor banks. Some of the best practices and innovative methods adopted by the NGOs in the execution of the project are highlighted in Box IV.2.

IV.29 In order to improve the effectiveness of financial literacy camps, FLCs and rural branches

Box IV.2
Pilot Project on Centres of Financial Literacy (CFL)

A hub-and-spoke approach to strengthen the financial capabilities of communities has been adopted wherein CFL function as a hub for training and learning, creating trained human resources from communities within the block. Subsequently, these trained human resources drive outreach in their respective communities as spokes.

NGOs work with low income communities to build their financial capabilities. The trainers and community financial health workers engage with the community and deliver financial education. *Anganwadi* teachers, *Asha* workers and self-help group leaders who demonstrate good communication skills are recruited from amongst the community. Peer learning and participatory learning methods are among the key components of the pedagogy.

A mass awareness campaign is initially conducted targeting 100 people in a village. Subsequently, interested participants are divided into batches of 25 and focused 3 day training programmes are conducted for these participants for about 3-4 hours per day. This reinforcement helps the participants build knowledge and skill to choose appropriate financial products and services.

As a first step, influencers, *viz*., members of SHGs, farmers federations, *panchayati raj* institutions and health workers are identified and named as "Change Agents - CAs". They are then nurtured and equipped with knowledge, and ways of behaviour change, through a series of multiple and repeated literacy sessions.

A suitably designed digitally equipped vehicle is being utilised to reach out to ensure that both illiterate people and people in far-flung areas are targeted. This Digital Financial Literacy Vehicle contains financial literacy material, audio/video (power point, demo equipment, *etc*.) and is managed by a block counselor.

of banks were advised to use hand-held projectors to show audio-visuals and posters on financial awareness messages. Reimbursement for hand held projectors and speakers is provided from the Financial Inclusion Fund (FIF) to the extent of 50 per cent of the cost incurred, subject to a maximum of ₹5,000 per rural branch/FLC.

IV.30 The National Centre for Financial Education (NCFE) supported by the financial sector regulators has prepared audio visuals on the financial awareness messages provided by the Reserve Bank such as (a) address proof declaration under KYC norms, (b) use of BCs, (c) electronic payment systems (NEFT/RTGS), (d) not falling prey to fictitious emails/calls and ponzi schemes, (e) process of using the unified payment interface through BHIM, and (f) various ways of going digital and cashless. FLCs and rural branches of banks were advised to use the audio-visuals while conducting financial literacy camps.

RBI-OECD Global Symposium on Financial Education

IV.31 The Reserve Bank, in collaboration with the Organisation for Economic Co-operation and Development (OECD), organised the RBI-OECD high level global symposium on financial education during November 8-9, 2017 in New Delhi. The symposium stimulated ideas, discussions and solutions around implementing effective financial literacy policies in a changing financial landscape and focused on financial literacy in the digital age. Two hundred and forty high-level delegates from 40 countries participated in the two-day event, including officials and experts from the OECD International Network on Financial Education (OECD/INFE), ministries of finance and education, central banks, regulatory and supervisory authorities, international organisations, academia, private sector and NGOs. The key takeaways from the conference were as follows: (a) countries have

initiated evaluation of programmes in their national strategies and their outcomes; (b) digital financial services make it easy for consumers to access credit but consumers might not comprehend the impact that repayment obligations would have on their finances; (c) the increase in digital delivery of financial services is also creating new pockets of financial and social exclusion such as many elderly and digitally illiterate persons; (d) digital tools represent an opportunity to develop more engaging financial education, in particular for young audiences; (e) evidence on the level of financial literacy of the population is a key building block for developing effective and tailored policies and practices; and (f) countries recognise the need to encourage the use of professional advice and of work place initiatives to support new and existing investors.

Financial Literacy Week 2018

IV.32 In order to create awareness at a large scale on key topics every year, the Reserve Bank had decided to observe one week in a year as 'Financial Literacy Week' starting from 2017. This year, financial literacy week was observed during June 4-8, 2018 with the theme of "Consumer Protection". The week focussed on four consumer protection messages, *viz*., 'Know your Liability for Unauthorised Electronic Banking Transactions', 'Banking Ombudsman', 'Good Practices for a Safe Digital Banking Experience' and 'Risk *versus* Return'. The activities during the week involved display of financial literacy material in bank branches, ATM, bank websites and conduct of camps by the FLCs.

IV.33 As at end-March 2018, 1,395 FLCs were operational in the country. During the year ended March 2018, 1,29,280 financial literacy related activities were conducted by the FLCs as against 96,315 activities during the preceding year.

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IV.34 Going forward, in order to ascertain efficacies, the Reserve Bank would undertake the following steps on credit delivery and financial inclusion: (a) preparation of a framework for credit delivery to tenant farmers; (b) integration of FIP data with ADEPT to enable automated and timely extraction from CBS of banks; (c) impact assessment of pilot CFL project by an independent agency and (d) strengthening of BC Model by capacity building of BCs through the "Train the Trainers" programme.

V FINANCIAL MARKETS AND FOREIGN EXCHANGE MANAGEMENT

During 2017-18, the Reserve Bank made concerted efforts to strengthen various segments of the financial markets. The Reserve Bank used a variety of instruments to absorb the persisting surplus liquidity in the system for ensuring better alignment of money market rates with the policy rate in order to achieve efficient transmission of monetary policy signals. The Reserve Bank operated in both over-the-counter (OTC) and exchange traded currency derivatives (ETCD) segments to maintain orderly conditions in the forex market. Further rationalisation of regulations while maintaining a mechanism for effective monitoring of foreign exchange transactions was carried out during the year for facilitating cross-border flow of funds.

V.1 The Reserve Bank has always strived to develop the financial markets for meeting the evolving financing needs of a fast growing economy. It issued many directions/circulars during 2017-18 for enhancing the operational flexibility of the market participants. Further, it employed a multitude of liquidity management tools for managing the persistent surplus liquidity condition in the financial system. It also intervened in both OTC and ETCD segments of the forex market for managing excessive volatility. Regulations were rationalised during the year, particularly in respect of foreign investment, cross-border mergers and acquisitions, external commercial borrowings (ECBs), acquisition and transfer of immovable property in India while maintaining a robust reporting structure for monitoring these transactions, with a view to facilitating seamless cross-border flow of funds.

FINANCIAL MARKETS REGULATION DEPARTMENT (FMRD)

V.2 FMRD is tasked with the responsibility for development, regulation and surveillance of money, government securities (G-secs), foreign exchange and related derivatives markets. The department initiated a number of measures during 2017-18, aimed at broadening participation in financial markets, both domestic and foreign; easing access and transaction norms for participants, widening the range of products, improving financial market infrastructure and maintaining market integrity.

Agenda 2017-18: Implementation Status

V.3 In order to encourage Indian rupee (INR) invoicing of trade transactions while also encouraging non-residents to hedge INR risks onshore, non-resident centralised treasuries of multinational companies were permitted in March 2017 to hedge the INR risk on transactions of their Indian subsidiaries. In October 2017, the scope of this facility was broadened by permitting non-resident importers and exporters (NRIE) entering into INR invoiced trade transactions with residents to hedge their INR exposures through their centralised treasury/group entities.

V.4 The operational complexity of currency hedging activity was also sought to be resolved through a new simplified hedging facility, introduced in November 2017, under which both residents and non-residents could hedge exchange rate risk on any current and capital account transaction with any of the products permissible under the Foreign Exchange Management Act (FEMA), 1999. Further, the

requirement to provide documentary evidence for establishing the exposure was removed. Furthermore, entities could freely resort to dynamic hedging, following the removal of most restrictions on cancellation and rebooking of hedge contracts.

V.5 In February 2018, persons resident in India and foreign portfolio investors (FPIs) were permitted to take positions (long or short), without having to establish existence of underlying exposure, upto a single limit of US$ 100 million equivalent across all currency pairs involving INR, put together, and combined across all exchanges. Earlier this limit was US$ 15 million per exchange for position in US$-INR and US$ 5 million equivalent per exchange for position in EUR (*i.e.*, euro)-INR, GBP (*i.e.*, Great Britain pound)-INR and JPY (*i.e.*, Japanese yen)-INR pairs, all put together.

V.6 The Reserve Bank allowed FPIs on November 16, 2017 to settle OTC G-sec transactions either on a T+1 or T+2 basis. This measure would enable easing of market pressure on days of short squeeze.

V.7 With a view to improving liquidity in the G-sec market and to address short squeeze, notional short sales were permitted in November 2017, allowing market participants not to compulsorily borrow securities in repo market. In exceptional situations of market stress, entities undertaking notional short sale are permitted to deliver securities from their own held to maturity (HTM)/available for sale (AFS)/held for trading (HFT) portfolios.

V.8 To facilitate further development of Interest Rate Futures (IRF) market, a separate limit of ₹50 billion for FPIs to take long position in IRF was introduced in March 2018. The existing limits prescribed for investment by FPIs in G-sec (currently ₹2,860 billion) will be exclusively available for investment in G-sec.

V.9 The Financial Benchmarks India Private Limited (FBIL), an independent financial benchmark administrator, introduced five new benchmarks, *viz.,* Treasury Bill (T-Bill) rates, Certificates Deposit (CD) curve, Market Repo Overnight Rate (MROR), Mumbai Inter-bank Forward Offer Rate (MIFOR) and Mumbai Inter-bank Overnight Indexed Swaps (MIOIS) rates during the year, with the approval of the Reserve Bank. As advised by the Reserve Bank, FBIL has started publication of both central government securities and state development loans (SDL) valuation benchmarks with effect from March 31, 2018.

V.10 Draft comprehensive repo directions were issued in March 2018 for simplifying, harmonising and streamlining the existing repo guidelines. After receiving comments from the market participants and other stakeholders, final guidelines will be issued in this regard.

V.11 Rupee interest rate options (IROs) were introduced in December 2016. Initially, only plain vanilla IROs were allowed but, in June 2018, directions on rupee interest rate options were reviewed resulting in the introduction of rupee interest rate swaptions.

V.12 Draft guidelines on the framework of electronic trading platform for financial instruments, regulated by the Reserve Bank, were issued in October 2017 for public comments/ suggestions. The objective of this framework is to improve transparency, reduce transaction time and cost, facilitate efficient audit trails, improve risk controls and enhance market monitoring in the financial markets regulated by the Reserve

Bank. Market participants have submitted their views and comments, which are being examined by the Reserve Bank. Based on the evaluation of the feedback, final guidelines will be issued.

V.13 To enhance participation in the G-Sec market, it is proposed to widen the eligible participants' base and relax the position limits in the short sale and 'when issued' segment of the G-Sec market, as announced in the statement on developmental and regulatory policies of June 06, 2018.

V.14 The regulatory regime for FPIs' debt investments was reviewed during the year to provide FPIs greater latitude in managing their portfolios in terms of increased investment limits, eligible instruments, tenor and duration management, *etc.* The limits for FPI investment in debts have been linked to the outstanding stock - 5.5 per cent for central government securities, 2 per cent for SDLs and 9 per cent for corporate bonds for 2018-19. Investment in corporate bonds has been rationalised by discontinuing its various sub-categories and prescribing a single limit for FPI investment in all types of corporate bonds. The cap on aggregate FPI investments in any central government security has been revised upward from 20 per cent to 30 per cent of the outstanding stock of that security. The minimum residual maturity requirement of three years for investment in debt has been withdrawn, subject to certain conditions. Other macro-prudential measures put in place include: concentration limits for FPI investment as a percentage of overall investment limit in each debt category, short-term investment limits, and single as well as group investor-wise limit in corporate bonds.

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V.15 The department would endeavour to develop derivatives markets in order to promote better risk management by banks and other market players. It would take steps aimed at rationalising access to foreign currency hedging instruments and simplifying such procedures. Ensuring the integrity of the financial markets and eradication of market abuse continue to be high on the agenda of the department. In line with the global best practices, the department plans to frame regulations on market abuse for the markets regulated by the Reserve Bank, as announced in the statement on developmental and regulatory policies of June 06, 2018.

FINANCIAL MARKETS OPERATIONS DEPARTMENT (FMOD)

V.16 FMOD is entrusted with the responsibility of conducting liquidity management operations for maintaining appropriate level of liquidity in the financial system for monetary transmission. It also works towards ensuring that orderly conditions are maintained in the forex market through operations in the spot, forward and futures segments.

Agenda 2017-18: Implementation Status

Money Market and Liquidity Management

V.17 Surplus liquidity conditions in the banking system, which resulted from the withdrawal of Specified Banknotes (SBNs) in November 2016, continued during the year. The department pursued with its efforts to absorb the surplus liquidity with a view to aligning money market rates with the policy rate for more efficient transmission of monetary policy signals. Various liquidity management tools were used such as fixed/variable rate reverse repos under the

liquidity adjustment facility (LAF) and outright open market operations (OMOs) to mop up the surplus liquidity. Further, T-Bills issued under the market stabilisation scheme (MSS) in April-May 2017, which matured in March 2018, served as an additional tool for managing the surfeit of liquidity.

V.18 The extent of surplus liquidity due to SBNs came down by March 2018 on account of the usual year-end fund requirement of banks, including tax payments. This was managed by multi-tenor variable rate repo operations to the tune of ₹1.7 trillion in addition to the regular 14-day variable rate repo operations.

V.19 During the year, the department also adopted new tools to handle situations of excess liquidity. A securities borrowing and lending arrangement (SBLA) scheme was put in place to be used in exceptional circumstances, in case the Bank runs short of securities (to be used as collateral) for absorbing excess system liquidity. Under the SBLA scheme, the Reserve Bank can borrow securities from large institutions to conduct reverse repo operations. With the recent amendment to the RBI Act, 1934 *vide* Finance Bill, 2018, the standing deposit facility (SDF) has been made available for adoption. The SDF would be an unlimited, uncollateralised deposit facility, which once operationalised, would enable the Reserve Bank to absorb unlimited liquidity without any constraint of securities.

V.20 The margin system for LAF/MSF (*i.e.,* marginal standing facility) did not differentiate between the securities on the basis of duration as similar margin requirement was prescribed for securities regardless of their residual maturities. Therefore, it was decided to align margin requirements for LAF/MSF with residual maturities of the securities from August 01, 2018. The initial margin requirement for central government securities (including T-Bills) would be in the range of 0.5 per cent to 4 per cent for five different buckets of residual maturity. The initial margin requirement in case of SDLs would be in the range of 2.5 per cent to 6.0 per cent for the same maturity buckets. Further, with a view to incentivising the state governments to obtain public rating for their issuances, it has also been decided that the margin requirement for rated SDLs shall be 1 per cent lower than that of unrated SDLs for the same maturity bucket.

Foreign Exchange Market

V.21 Orderly conditions were maintained in the forex market during the year through operations in the OTC and ETCD segments. The liquidity impact was also managed by appropriately timing the OMO operations.

V.22 A new FX Global Code has been formulated by the Bank for International Settlements (BIS) to strengthen the standards and practices in the global foreign exchange (FX) market. The code was launched on May 25, 2017 in London and is being implemented globally by the Global FX Committee (GFXC) in co-ordination with the Local FX Committee (LFXC) in each jurisdiction. The Reserve Bank is a founding member of the GFXC and in India, a LFXC has been set up in coordination with the Foreign Exchange Dealers' Association of India (FEDAI) to take forward the implementation of and adherence to the FX Global Code.

V.23 As announced in the sixth bi-monthly monetary policy statement for 2017-18, the computation and dissemination of the daily reference rate for spot US$/INR and other major currencies against the INR, which was being done by the Reserve Bank, has been taken over by Financial Benchmarks India Private Limited.

V.24 The department has taken up a number of research studies on market movements/ behaviour over the year, which have helped in shaping both policy and operational framework.

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V.25 The department aims to carry out liquidity management operations effectively in line with the stance of monetary policy, by absorbing excess liquidity and supplying durable/temporary liquidity over the year. The department will continue to closely monitor the evolving liquidity conditions and will modulate the operations to ensure alignment of the weighted average call rate with the policy rate. It will continue to conduct foreign exchange operations, including interventions, in an effective manner to curb undue volatility in the exchange rate. The department also proposes to continue policy-oriented research on financial markets.

FOREIGN EXCHANGE DEPARTMENT (FED)

V.26 FED strives to facilitate trade and payments while enhancing ease of doing business. New processes and technologies are adopted while continuing with the basic principles for effective monitoring of all cross-border transactions. In continuation of the mission to streamline the FEMA in alignment with current business and economic scenario, a few more regulations were rationalised during the year. In the process, there has been greater clarity and consolidation of the regulations.

Agenda 2017-18: Implementation Status

Easing of Foreign Investment Regime

V.27 A notification (No. FEMA 20(R)) dealing with Foreign Direct Investment (FDI), *viz*., Foreign Exchange Management (Transfer or issue of security by a person resident outside India) Regulations, 2017 was issued on November 7, 2017, subsuming 2 original and 91 amendment notifications while keeping the instructions as principle-based as possible. The highlights of the notification (including subsequent revisions) are as follows:

(i) While simplifying the instructions, the policy on foreign investment was oriented towards facilitating inflow of capital in a move to make the country a favoured destination for foreign investment.

(ii) Foreign investment limits for scheduled air transport service/ domestic scheduled passenger airline and regional air transport service were increased from 49 per cent to 100 per cent with investment over 49 per cent requiring prior government approval. In addition, foreign investment up to 49 per cent has been permitted in M/s Air India Ltd., with the condition that substantial ownership and effective control of M/s Air India Ltd., shall continue to be vested in Indian nationals. Foreign investment limit in single brand product retail trading has been increased.

(iii) Conversion of a company with foreign investment into a limited liability partnership and *vice versa* was permitted under the automatic route subject to certain conditions.

(iv) FDI and FPI have been defined in line with the recommendations of the Committee on Rationalising the FDI/FII Definition (Chairman: Dr. Arvind Mayaram). In addition, the time period for issue of capital instruments has been brought down from 180 days to 60 days to align the same with the Companies Act, 2013.

(v) A concept of late submission fee for reporting delays has been introduced.

(vi) Transfer of shares from non-resident Indians (NRIs)/ overseas citizens of India (OCIs) to persons resident outside India was brought under the automatic route.

(vii) In order to enable listed Indian companies to ensure compliance with various foreign investment limits, the Reserve Bank, in consultation with Securities and Exchange Board of India (SEBI), has put in place a new system for monitoring foreign investment limits. Necessary infrastructure and systems for operationalising the monitoring mechanism would be made available by depositories. Further, following its implementation, all authorised dealer (AD) banks would be required to provide the details of investment made by their respective NRI clients to depositories. Reporting to the Reserve Bank by FPIs on stock exchange transactions in the existing system, would continue.

Cross-Border Mergers and Acquisitions

V.28 With a view to promoting ease of doing business, a need was felt to lay down a clear and transparent framework for cross-border mergers, covering merger, amalgamation and arrangement between Indian companies and foreign companies. Accordingly, regulations have been laid down for granting in-principle approval to all cross-border merger proposals from the FEMA angle as well as other perspectives. The regulations also prescribe the transactions under FEMA, 1999, which need to be adhered to consequent to a cross-border merger.

Acquisition and Transfer of Immovable Property in India

V.29 The status of an NRI and an OCI has been redefined in the regulation on acquisition and transfer of immovable property. Joint acquisition of immovable property by the spouse of an NRI or an OCI has been permitted. A person being a citizen of Afghanistan, Bangladesh or Pakistan belonging to minority communities, *viz*., Hindus, Sikhs, Jains, Buddhists, Parsis and Christians, who is residing in India and has been granted a long term visa (LTV) by the government has been permitted to purchase only one residential immovable property in India as dwelling unit for self-occupation and only one immovable property for self-employment, subject to certain conditions. The other stipulations pertaining to acquisition, transfer of immovable properties, and repatriation of sales proceeds, have been modified appropriately.

Revision in Framework for External Commercial Borrowings (ECBs)

V.30 Rupee denominated bonds (RDBs) issued overseas by Indian entities were excluded from the FPI investment limit in corporate bonds.

Refinancing of ECBs

V.31 As per the statement on developmental and regulatory policies issued along with the fifth bi-monthly monetary policy for 2017-18, overseas branches/subsidiaries of Indian banks were permitted to refinance ECBs of highly rated (AAA) corporates as well as *Navratna* and *Maharatna* public sector undertakings, while keeping all other aspects of the ECB policy unchanged: (i) outstanding maturity of the original borrowing is not reduced; and (ii) all-in-cost of fresh ECB is lower than the existing ECB.

Partial refinance of the existing ECBs was also permitted, subject to the same conditions.

Discontinuance of Letters of Undertaking (LoUs) and Letters of Comfort (LoCs) for Trade Credits

V.32 The practice of issuance of LoUs/ LoCs for trade credits for imports into India by AD category-I banks in favour of overseas supplier, bank or financial institution up to US$ 20 million per import transaction for a maximum period up to one year in case of import of non-capital goods and a maximum period of three years for import of capital goods, was discontinued from March 13, 2018. However, letters of credit (LCs) and bank guarantees for trade credits for imports into India continue to be allowed, subject to the prescribed norms.

Rationalisation and Liberalisation of ECBs

V.33 Towards further rationalisation and liberalisation of the ECB guidelines, a uniform all-in-cost ceiling of 450 basis points (bps) over the benchmark rate was stipulated. The benchmark rate was defined as 6 month US$ LIBOR (or applicable benchmark for respective currency) for track I and track II, and prevailing yield of the Government of India securities of corresponding maturity for track III (Rupee ECBs) and RDBs. The ECB liability to equity ratio for ECB raised from direct foreign equity holder under the automatic route was increased to 7:1 for the total of all ECBs raised by an entity for amounts exceeding US$ 5 million or equivalent. The eligibility of raising ECBs was extended to housing finance companies, regulated by the National Housing Bank, port trusts constituted under the Major Port Trusts Act, 1963 or Indian Ports Act, 1908 and to companies engaged in the business of maintenance, repair and overhaul, and freight forwarding. The practice of having a separate positive end-use list and a negative end-use list depending on the category of borrowers (tracks I, II and III) has been discontinued, and it has been decided to have only a negative list for all tracks.

Facilitating Outward Remittance Services by Non-bank Entities

V.34 With a view to facilitating the customers, the system of outward remittance services was further liberalised by extending the operating framework to non-bank entities, provided the remittances were routed through AD-category I banks and such banks should ensure compliance to KYC/AML (*i.e.,* Know your customer/Anti money laundering) standards prescribed by the Reserve Bank.

Data Collection on the Liberalised Remittance Scheme (LRS)

V.35 As per the extant practice, transactions under LRS are permitted by AD banks, based on the declaration made by the remitter. In order to improve monitoring as also to ensure compliance with the LRS limits, a system has been put in place for daily reporting by AD banks of transactions undertaken by individuals under the LRS, which would be accessible to all ADs to ensure verification.

Issuance of Electronic Bank Realisation Certificate (eBRC)

V.36 With a view to having uniformity and consistency of data to enable seamless flow of data as also to reduce documentation, AD category-I banks have been directed to update the Export Data Processing and Monitoring System (EDPMS) with data of export proceeds on 'as and when realised basis' and generate eBRC only from the data available in EDPMS. Integration of EDPMS with eBRC would make

export regularisation simpler and disbursement of duty drawback and incentive process online.

Export Declaration Form Waiver

V.37 Following amendments to the Foreign Trade Policy 2015-20 by the Directorate General of Foreign Trade (DGFT), the annual limit for grant of export declaration form (EDF) waiver to exporters for export items (excluding gems and jewellery, articles of gold and precious metals) on free of cost basis has been revised and reflected in the Master Direction. Such free of cost supplies would not be entitled to duty drawback or any other export incentive under any export promotion scheme. Further, export of goods not involving any foreign exchange transaction directly or indirectly will continue to require the waiver of EDF procedure from the Reserve Bank.

Delegation to Authorised Dealers (ADs)

V.38 The operational powers delegated to AD banks for ratification of delayed reporting of certain routine overseas direct investment (ODI) transactions were extended during the year.

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Rationalisation of Remaining Regulations

V.39 The department has so far rationalised and consolidated 18 original notifications and 193 amendments in consultation with the government. The rationalisation of notifications pertaining to regulations on foreign investments in India, and acquisition and transfer of immovable property in India by person resident outside India was the highlight of the year 2017-18. The remaining notifications pertaining to borrowing and lending between residents and non-residents as well as ODI are being finalised in consultation with the government.

Enhancing Ease of Doing Business by Leveraging Data for Better Policy Making

V.40 During 2017-18, the department has transited to a technology-based compilation with greater reliance on technology for collection of information. The availability and accessibility of almost near time data will enhance operational efficiency and overall functioning of the department.

VI REGULATION, SUPERVISION AND FINANCIAL STABILITY

During 2017-18, the banking sector continued to grapple with the problems of deteriorating asset quality and declining profitability. In order to align the resolution process with the Insolvency and Bankruptcy Code (IBC), 2016, the framework for resolution of stressed assets was revised and the previous schemes were withdrawn. Customer rights were strengthened by limiting liability of customers in unauthorised electronic banking transactions. Further, given the increasing popularity of digital payments medium, data protection and cyber security norms were strengthened. For effective and timely redressal of grievances of customers of Non-Banking Financial Companies (NBFCs), an Ombudsman Scheme for deposit taking NBFCs was initiated. Regulatory policies for cooperative banks were further harmonised with those of scheduled commercial banks (SCBs). In order to bring about ownership-neutral regulations, government-owned NBFCs will be required to adhere to the Bank's prudential regulations in a phased manner.

VI.1 The Indian banking sector continued to experience deterioration in asset quality, which had a significant impact on their profitability and their capacity to support credit growth. In response to mounting delinquent loans of banks, and in order to align the resolution process with the Insolvency and Bankruptcy Code (IBC), 2016, the framework for resolution of stressed assets was revised, and the previous schemes were withdrawn. Further, the various processes and input constraints that were embedded in earlier regulatory schemes for restructuring were removed. In order to keep a close watch on financial stability risks, network analysis for the financial conglomerates in various market segments is proposed to be carried out to assess the systemic risks posed by these institutions. Given the increasing popularity of digital payments, data protection and cyber security norms were strengthened. Know Your Customer (KYC) norms were modulated further to make them more effective.

VI.2 Furthermore, for effective and timely redressal of grievances of customers of NBFCs, an Ombudsman Scheme for deposit taking NBFCs was initiated. Though implementation of Indian Accounting Standards (Ind AS) in case of SCBs has been postponed for one year due to lack of necessary legislative amendments, NBFCs with net worth of ₹5 billion and above are required to implement Ind AS from April 1, 2018. In order to bring about ownership-neutral regulations, government-owned NBFCs will now be required to adhere to the Bank's prudential regulations in a phased manner. In order to further harmonise regulatory policies for cooperative banks, the regulatory process for opening current account with the Reserve Bank was simplified for these banks. Fine-tuning of the regulatory and supervisory policies is expected to further strengthen the resilience and robustness of the banking system.

FINANCIAL STABILITY UNIT (FSU)

VI.3 The mandate of FSU is to monitor stability related matters with the objective of strengthening the financial system. FSU implements this mandate by examining the risks to financial stability, undertaking macro-prudential surveillance through systemic stress tests and other tools as well as disseminating information on status of and challenges to financial stability

through the Financial Stability Report (FSR). It also functions as a secretariat to the Sub-Committee of the Financial Stability and Development Council (FSDC), a co-ordination council of regulators for maintaining financial stability and monitoring macro-prudential regulation in the country.

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VI.4 As planned, FSR was published in June 2017 and December 2017. With a view to strengthening the stress testing framework, the methodology for estimating sectoral probability of defaults was reinforced further while the methodology for projecting capital to risk-weighted asset ratio (CRAR) was revised by estimating risk weighted assets dynamically using the internal ratings based formula. The results based on these methodologies were published in FSR. Further, contagion (network) analysis was expanded to urban cooperative banks as well.

VI.5 The FSDC Sub-Committee held two meetings in 2017-18 and reviewed various issues including the establishment of National Centre for Financial Education (NCFE), operationalisation of information utilities registered by the Insolvency and Bankruptcy Board of India (IBBI), sharing of data among regulators, implementation status of Legal Entity Identifier (LEI), framework for systemically important financial institutions (SIFIs), implementation of common stewardship code for the Indian financial sector, single entity undertaking multiple activities and review of Central KYC Registry (CKYCR). The Sub-Committee also reviewed the status of corporate insolvency resolution process, activities of its various technical groups and the functioning of State Level Coordination Committees (SLCCs) in various states/UTs. The recommendations of the Working Group on FinTech and Digital Banking, Shadow Banking Implementation Group, credit cycles and financial stability, Investor Education and Protection Fund (IEPF), action taken on shell companies, legal framework for cross-border insolvency and issues regarding acceptance of deposits under the Companies Act were the other issues discussed.

VI.6 Inter-Regulatory Technical Group (IRTG), which is a sub-group of the FSDC Sub-Committee, held two meetings during the year and discussed issues relating to the KYC process due to amendments in the Prevention of Money Laundering (PML) rules, implementation of the risk based supervision in the National Pension Scheme (NPS) Architecture, implementation status of LEI, data sharing among regulators and technical specifications for account aggregators.

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VI.7 In the year ahead, FSU will continue to conduct macro-prudential surveillance, publish the FSR and conduct meetings of the FSDC Sub-Committee and IRTG. In addition, the current stress testing framework / methodology will be strengthened so as to eventually migrate to the stressed scenario-based supervisory capital requirement for banks. In addition, the contagion analysis will be extended to NBFCs.

REGULATION OF FINANCIAL INTERMEDIARIES

Commercial Banks: Department of Banking Regulation (DBR)

VI.8 DBR is the nodal department for regulation of SCBs. Apart from financial stability, it focuses on developing an inclusive and competitive banking structure through appropriate regulatory measures. The regulatory framework is fine-tuned as per the requirements of the Indian economy while suitably adapting to the international best practices.

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Introduction of Legal Entity Identifier (LEI) for Large Corporate Borrowers

VI.9 Banks were directed to advise their existing large corporate borrowers (*i.e.,* those having total exposure of ₹500 million and above) to obtain LEI during March 31, 2018 to December 31, 2019. Borrowers in this category, who do not obtain LEI are not to be granted renewal / enhancement of credit facilities. Banks should encourage large borrowers to obtain LEI for their parent as well as all subsidiaries and associates.

Withdrawal of Previous Schemes for Resolution of Stressed Assets

VI.10 The Reserve Bank had to introduce various schemes such as the Strategic Debt Restructuring (SDR) scheme, Scheme for Sustainable Structuring of Stressed Assets (S4A), Corporate Debt Restructuring (CDR) scheme and Joint Lenders' Forum (JLF) that aimed at structured resolution of stressed assets as there was no comprehensive insolvency and bankruptcy law in the country then. The schemes were designed to emulate the desirable attributes of a bankruptcy law, as identified in the related literature, with built-in incentives for the lenders to encourage adoption and consequent resolution. In view of the enactment of the Insolvency and Bankruptcy Code (IBC), 2016, the need for such specific schemes/guidelines was obviated and consequently, the previous schemes/ guidelines such as SDR, S4A, CDR and JLF stood withdrawn from February 12, 2018. These have now been substituted with a harmonized and simplified framework for resolution of stressed assets (Box VI.1).

Box VI.1
Resolution of Stressed Assets – Revised Framework

Studies have shown that reducing the levels of non-performing loans has a positive medium term impact on an economy. On the other hand, when the problem is ignored, economic performance would suffer; specifically, it has been estimated that the growth foregone due to an overhang of non-performing loans can be in excess of two percentage points annually till the problem is resolved (Balova *et al*., 2016). The experience of Japan in the early 1990s shows that economic stagnation can cause new non-performing loans to emerge rapidly, and deplete bank capital. On the contrary, a quick and efficient resolution of banking crises prevents the possibility of strong negative economic effects, and the related structural policy reforms might even result in favourable economic effects, as was demonstrated in the Nordic experience (Steigum 2010). While there are many strategies for resolution of bad loans, a hybrid approach involving out of court restructuring and a formal insolvency process in the judicial system is a recommended tool for resolution (BIS 2017).

For a long time, India did not have a bankruptcy law in place, and hence the Reserve Bank had to introduce various restructuring frameworks which were designed to emulate the desirable attributes of a bankruptcy law. These were interspersed with incentives for the lenders to adopt the schemes and effect an early resolution. However, these schemes were generally applied by banks to avail of asset classification benefits, with very little efforts towards resolution of the underlying stress.

It has been argued in the context of the experience of Japan in the 1990s and the OECD countries (McGowan *et al.*, 2017) in the 2000s that forbearance in lending props up inefficient firms and encourages them not to undertake corrective efforts, thus leading to sustenance of zombie firms in an economy. The latter study has also documented the adverse effects that prevalence of zombie companies can have on the growth in investment

(Contd...)

and employment, and ease of entry to young firms and their ability to upscale. Acharya *et al.* (2016) has documented the effects of zombie congestion emanating from the credit misallocation due to windfall gains enjoyed by weakly capitalized banks from the Outright Monetary Transactions (OMT) programme of the European Central Bank, on the investment and employment growth of non-zombie firms in the European context. Breaking the vicious circle of forbearance in lending and perverse adoption of resolution schemes, which feed on each other, requires a strong presence of bankruptcy laws in a country.

The enactment of the Insolvency and Bankruptcy Code, 2016 (IBC) and the amendment to the Banking Regulation Act, 1949 empowering the Reserve Bank to leverage the IBC mechanism for resolving specific stressed accounts, have provided a real opportunity to address the above challenges. The Reserve Bank has taken certain steps over the last few months in this direction with a focus on certain large value stressed accounts. The 'revised framework for resolution of stressed assets', issued by the Reserve Bank on February 12, 2018 must be seen as a step towards laying down a steady-state approach for ensuring early resolution of stressed assets in a transparent and time-bound manner so that the maximum value could be realized by the lenders. The revised framework, while leaving the definition of a non-performing asset unchanged, lays down broad principles that should be followed while undertaking the resolution of stressed assets, with bright line tests for ensuring credible outcomes.

The underlying theme of the revised framework is to provide as much flexibility as possible to the lenders and the stressed borrowers but, at the same time ensure that the resolution plan is implemented within a timeframe and that the resolution plan is credible. If lenders and the large stressed borrowers are unable to put in place a credible resolution plan within the timelines, they would be required to go through the structured insolvency resolution process under the IBC.

The revised framework also attempts to instil the requisite discipline mechanism for a one-day default in the context of bank loans, akin to the market discipline to which the borrowers raising money through debt markets are subject. With defaults being reported to a central database, which is accessible to all banks, the credit discipline is expected to improve significantly. Nevertheless, default in payment is a lagging indicator of financial stress of a borrower and therefore, lenders need to be proactive in credit monitoring to identify financial stress at an early stage rather than wait for a borrower to default. Early identification of stress would provide sufficient time for lenders to put in place the required resolution plan.

Another major change that has been introduced is that resolution plans can now be implemented individually or jointly by lenders. Complete discretion and flexibility has been given to the banks to formulate their own ground rules in dealing with the borrowers who have exposures with multiple banks. Under the revised framework, the lenders can implement differential resolution plans that are tailored to their internal policies and risk appetite. To ensure that only credible resolution plans are implemented, a framework of independent affirmation has been introduced through the requirement of independent credit opinions on the proposed plan by empaneled credit rating agencies.

Taken as a whole, the revised framework attempts to improve the credit culture in the country and the trust between counterparties in a transaction. This will be critical in ensuring sufficient incentives for the banks to effectively carry out their role as delegated monitors of loans.

References:

1. Acharya, V.V., T. Eisert, C. Eufinger, and C.W. Hirsch (2016), 'Whatever it takes: The real effects of unconventional monetary policy', Working Paper, *New York University Stern School of Business*.
2. Balova, M., Nies, M., and Plekhanov, A (2016), "The Economic Impact of reducing non- performing loans", *European Bank for Reconstruction and Development*, Working Paper No. 193.
3. BIS (2017), "Resolution of non-performing loans – policy options", FSI Insights on policy implements No. 3.
4. McGowan, M. A., Andrews, D., Millot, V. (2017), The Walking Dead? Zombie Firms and Productivity Performance in OECD Countries, *OECD Economics Department Working Paper* No. 1372.
5. Steigum, E. (2010), "The Norwegian Banking Crisis in the 1990s: Effects and Lessons", Norwegian School of Management, Norway.

Mechanism to Extend Banking Facility for Senior Citizens and Differently Abled Persons

VI.11 Banks were advised in November 2017 to put in place appropriate mechanisms to extend banking facilities to senior citizens and differently abled persons.

Limiting Liability of Customers in Unauthorised Electronic Banking Transactions

VI.12 The Annual Conference of Banking Ombudsmen, 2014 had suggested that banks and Indian Bankers' Association (IBA) should formulate a policy on zero liability of customers in electronic banking transactions, in cases where the bank was unable to establish customer level negligence. The final circular providing the framework for limiting the customer's liability in unauthorised/fraudulent electronic transactions was issued on July 6, 2017 after taking into consideration the comments received from banks and the public (Box VI.2).

Basel III Framework on Liquidity Standards

VI.13 Following an amendment to the guidelines on Liquidity Coverage Ratio (LCR), banks incorporated in India are now permitted to recognise cash reserves held with foreign central banks in excess of the reserve requirements as Level 1 High Quality Liquid Assets (HQLA), in cases where a foreign sovereign has been assigned a zero per cent risk weight by an international rating agency. In cases where a foreign sovereign has been assigned a non-zero per cent risk weight by an international rating agency, but a zero per cent risk weight has been assigned at national discretion under Basel II framework, reserves held with such foreign central banks in excess of the reserve requirement would be allowed to be treated as Level 1 HQLA, to the extent that these balances cover the bank's stressed net cash outflows in that specific currency. As per the existing roadmap, SCBs have to reach the minimum LCR of 100 per cent

Box VI.2
The Framework on Limiting Liability of Customers in Unauthorised Electronic Banking Transactions

The salient features of the framework on limiting liability of customers in unauthorised electronic banking transactions are as follows:

Zero Liability: A customer need not bear any loss if the deficiency is on the part of the bank and in cases where the fault lies neither with the bank nor with the customer but lies elsewhere in the system and the customer notifies the bank within three working days of receiving the communication from the bank about the unauthorised transaction.

Limited Liability: Where the loss is due to customer's negligence, the customer has to bear the entire loss until the unauthorised transaction is reported to the bank. In cases where the fault lies neither with the customer nor with the bank but lies elsewhere in the system and the customer reports the unauthorised transaction with a delay of four to seven working days after receiving the communication about the transaction, the maximum liability of the customer ranges from ₹5,000 to ₹25,000, depending on the type of account/instrument.

Liability as per Board approved policy: If the unauthorised transaction is reported beyond seven working days, the customer liability shall be determined as per the bank's Board approved policy.

The bank is required to credit (shadow reversal) the amount involved in the unauthorised electronic transaction to the customer's account within 10 working days from the date of notification by the customer. The bank has to resolve the complaint and establish the liability of the customer, if any, within 90 days of the receipt of the complaint. Further, banks have been mandated to require the customers to register their mobile numbers for SMS alerts and for electronic transactions.

by January 1, 2019. The assets allowed as Level 1 HQLA for the purpose of computing LCR of banks include, *inter alia*, government securities in excess of the minimum SLR requirement and, within the mandatory SLR requirement, government securities to the extent allowed by the Reserve Bank under the Marginal Standing Facility (MSF) [presently 2 per cent of the bank's net demand and time liabilities (NDTL)] and under the Facility to Avail Liquidity for Liquidity Coverage Ratio (FALLCR) (this has been increased from 9 per cent to 11 per cent of the bank's NDTL). Hence, the total carve-out from SLR available to banks is 13 per cent of their NDTL. The other prescriptions in respect of LCR remain unchanged.

VI.14 Final guidelines on Net Stable Funding Ratio (NSFR) were issued in May 2018.

Encouraging Formalisation of MSME Sector

VI.15 In February 2018, exposure of banks and NBFCs to the GST-registered Micro, Small and Medium Enterprises (MSMEs) was permitted to be classified as a standard asset, as per a 180-day past due criterion, subject to certain conditions, including a cap of ₹250 million on the aggregate exposure. On a review, the benefits have now been extended to all MSMEs with aggregate credit facilities up to the above limit, including those which are yet to register under the GST (*i.e.*, goods and services tax). Accordingly, such MSME accounts shall continue to be classified as standard by banks and NBFCs if the amounts overdue as on September 1, 2017 and payments due between September 1, 2017 and December 31, 2018 were/are paid no later than 180 days from the original due date. In view of the benefits from increasing formalisation of the economy for financial stability, the dues payable from January 1, 2019 onwards shall be aligned to the extant 90 days NPA norm in a phased manner in case of the GST-registered MSMEs. The MSMEs that are not GST-registered as on December 31, 2018 shall revert to 90 day NPA norm immediately from January 1, 2019.

Credit Information Companies to Furnish Comprehensive Report

VI.16 Some credit information companies (CICs) were following the practice of offering limited versions of credit information reports (CIRs) to credit institutions (CIs) based on credit information available in specific modules such as commercial data, consumer data or micro finance institution (MFI) data and, as a result, lenders remained unaware of the complete credit history of borrowers available across various modules that affected the quality of their credit decisions. Further, CICs were charging differential rates for such specific reports. CICs were, therefore, directed to ensure that the CIR in respect of a borrower furnished to the CI, incorporated all the credit information available in all modules in respect of the borrower.

Harmonised Definitions across Returns Released

VI.17 Based on the recommendations of the Inter-Departmental Task Force constituted in December 2014, definitions of 189 data elements reported to the Reserve Bank across multiple banking and regulatory returns were harmonised.

Aligning Prudential Norms for Category I and II Alternative Investment Funds (AIFs)[1]

VI.18 Banks had general permission to invest up to 10 per cent of unit capital of an AIF-I, beyond

[1] Category I AIFs invest in start-up or early stage ventures / social ventures / SMEs / infrastructure or other sectors which the government or regulators consider as socially or economically desirable. Category II AIFs are mostly real estate funds and PE funds which invest in unlisted securities. Category III AIFs (mainly hedge funds) employ leverage and diverse/risky trading strategies in listed/unlisted derivatives.

which they needed prior approval of the Reserve Bank. Investments in AIF-II were approved on a case to case basis. As AIFs-I and AIFs-II do not undertake leverage or borrowing other than to meet day-to-day operational requirements, it was decided in September 2017 to align the norms for banks' investment in AIF-I and AIF-II, allowing banks to invest up to 10 per cent of the unit capital of an AIF-I/AIF-II beyond which they will require prior approval of the Reserve Bank.

Prohibiting Investment in Category III AIFs

VI.19 Investments by banks in AIFs-III have been specifically prohibited. Further, with a view to restricting indirect exposure of banks, a ceiling has been prescribed on investment by banks' subsidiaries in AIFs-III, *i.e.,* up to the regulatory minima prescribed by the Securities and Exchange Board of India (SEBI) on sponsor/ manager commitment (5 per cent of the corpus or ₹100 million, whichever is less).

Capital towards Reputational Risk

VI.20 Banks have been advised in September 2017 to ascertain the reputational risk owing to association of name of the bank with AIFs/ Infrastructure Debt Funds (IDFs) within the Internal Capital Adequacy Assessment Process (ICAAP) framework and determine the additional capital required, which will be subject to supervisory examination as part of the supervisory review and evaluation process.

Alignment with BASEL III Capital Requirements

VI.21 In September 2017, the minimum capital requirement for banks' to invest in financial services companies and other specified investments/activities was increased from CRAR of 10 per cent to the minimum CRAR *plus* the capital conservation buffer (CCB), thus aligning the minimum CRAR requirement with the CCB requirement under the Basel III framework.

Banks to Act as Professional Clearing Member of Commodities Derivative Market

VI.22 In September 2017, banks were allowed to become professional clearing members of commodity derivatives segment of SEBI registered exchanges, subject to their compliance with the extant prudential parameters for membership of stock exchanges [minimum net worth of ₹5 billion, maintenance of minimum prescribed capital (including Capital Conservation Buffer), net NPA ratio of not more than 3 per cent and profitability in last three years]. However, they cannot take proprietary positions in commodity derivatives.

Banks' Subsidiaries to Undertake Broking in Commodities Derivative Market

VI.23 As banks' broking subsidiaries bring a lot of value by their operation in the stock market, especially in enabling retail participation in the capital markets, allowing banks' broking subsidiaries in commodity derivatives segment would help them reach out to the retail participants and untapped customer segments. Accordingly, banks' subsidiaries have been allowed to offer broking services in the commodity derivatives segment of the exchanges subject to not undertaking proprietary positions in this segment.

FinTech and Regulatory Initiatives

VI.24 The Reserve Bank had set up an inter-regulatory Working Group on FinTech and Digital Banking to look into the granular aspects of FinTech and its implications so as to review and reorient appropriately the regulatory framework and respond to the dynamics of the rapidly evolving FinTech scenario. The report of the Working Group was released on February 08, 2018 for public comments. One of the key recommendations of the Working Group was to introduce a framework for "regulatory sandbox/

Box VI.3
FinTech Regulatory Sandbox- Objectives, Principles, Benefits and Risks

The highlights of the FinTech Regulatory Sandbox are as follows:

i. **The regulatory sandbox–need and purpose**

A regulatory sandbox refers to live testing of new products or services in a controlled/test regulatory environment. Regulatory and supervisory authorities may have an active role to play in sandbox arrangements as they may permit certain regulatory/supervisory relaxations to the entities testing their products in the sandbox.

ii. **Benefits of regulatory sandbox**

Users of a sandbox can test the product's viability without the need for a larger and more expensive roll out. The sandbox could lead to better outcomes for consumers through an increased range of products and services, reduced costs, and improved access to financial services.

iii. **Risk and limitations**

The major challenges of the regulatory sandbox are the issues arising out of customer and data protection.

Design aspects of regulatory sandboxes

When considering establishing a sandbox, regulators may look into the following key design features:

1. ***Number of FinTech entities to be part of a cohort***: The sandbox may run a few cohorts (end to end sandboxing process) of which each cohort may accept a limited number of entities for testing their products during a specific period.
2. ***Eligibility conditions for sandbox:*** The applicants for the sandbox may include existing financial institutions and FinTech firms.
3. ***Boundary conditions:*** The boundary conditions for the sandbox may include start and end date of the sandbox; target customer type; limit on the number of customers involved; other quantifiable limits such as transaction thresholds or cash holding limits, where applicable; and volume of business.
4. ***Exit plan:*** An acceptable exit and transition strategy should be clearly defined in the event of discontinuation of the proposed financial service or can proceed to be deployed on a broader scale after exiting the sandbox.
5. ***Criteria for joining the sandbox:*** The technological innovation in financial services that brings benefits to consumers is the main criteria for joining the sandbox.
6. ***Criteria for evaluation:*** The proposed financial service should be innovative and should have the intention and ability to deploy the proposed financial service in India.
7. ***Consumer protection:*** The sandbox entity should ensure that any existing obligation (including data privacy) to its customers is fully addressed before exiting the sandbox.

innovation hub" within a well-defined space and duration where the financial sector regulator would provide the requisite regulatory guidance, so as to increase efficiency, manage risks and create new opportunities for the consumers in the Indian context similar to other regulatory jurisdictions (Box VI.3).

Submission of Financial Information to Information Utilities

VI.25 According to Section 215 of the IBC, 2016, a financial creditor shall submit financial information and information relating to assets in relation to which any security interest has been created, to an information utility (IU) in such form and manner as may be specified in Chapter V of the IBBI (Information Utilities) Regulations, 2017. In December 2017, all financial creditors regulated by the Reserve Bank were advised to adhere to the relevant provisions of IBC, 2016 and IBBI (IUs) Regulations, 2017 and immediately put in place appropriate systems and procedures to ensure compliance with these provisions.

Prohibition on Dealing in Virtual Currencies

VI.26 The Reserve Bank, through its public notices, has repeatedly cautioned users, holders and traders of virtual currencies (VCs), including *bitcoins*, regarding the risks associated with

dealing with such currencies. In view of the associated risks, the Reserve Bank mandated in April 2018 that the entities regulated by it should not deal in VCs or provide services for facilitating any person or entity in dealing with or settling VCs. Further, regulated entities which already provide such services should exit the relationship within three months.

Update on KYC Direction, 2016

VI.27 To align with the amendments in the Prevention of Money Laundering (PML) Rules by the government, amendments to the Master Direction on KYC have been issued. Aadhaar Number has been made mandatory (for those individuals who are eligible to be enrolled for Aadhaar) along with PAN/Form 60 for all account based relationships. Enrolment number for Aadhaar is admissible if not older than 6 months; however, the Aadhaar Number has to be provided within the next 6 months. Definition of Officially Valid Documents (OVDs) has been amended. With the designation of Aadhaar number and PAN number as mandatory documents, the OVDs are (i) passport, (ii) driving licence, (iii) voter's identity card, (iv) NREGA job card duly signed by an officer of the state government and (v) letter issued by the National Population Register containing details of name and address. Aadhaar number will have to be authenticated by the reporting entities using e-KYC authentication [biometric or One Time Password (OTP) based] or yes/no authentication. The above instructions are subject to the final judgment of the Hon'ble Supreme Court in the case of Justice K.S. Puttaswamy (Retd.) & Anr. V. Union of India, W.P. (Civil) 494/2012 *etc.* (Aadhaar cases).

VI.28 Where current address is not available in Aadhaar card, an OVD has to be furnished giving the current address. To address immediate concerns, a time window of 3 months has been provided within which alternate documents like utility bills not older than 2 months, can be temporarily used as a proof of current address. Further, the process of certification has been codified, requiring comparing of the copy of OVD so produced by the client with the original and recording the same on the copy by the authorised officer of the reporting entity.

Agenda for 2018-19

VI.29 The Reserve Bank will continue to focus on those action points pertaining to 2017-18, which remain work-in-progress, *viz.,* Ind AS implementation, issuance of final guidelines on variation margin requirements, revised framework for securitization and guidelines on corporate governance in line with the evolving Basel Committee on Banking Supervision (BCBS) standards. BCBS has deferred the implementation of the revised market framework to January 1, 2022. Accordingly, the work on minimum capital requirements for market risk will not be pursued during 2018-19.

VI.30 The Reserve Bank will issue revised prudential regulations, covering instructions on exposure norms, investment norms, risk management framework and select elements of Basel III capital framework to the All India Financial Institutions (AIFIs).

VI.31 There are significant differences in the corporate structure permissible to banks for setting up financial services entities, depending upon the timing of their licensing. It is, therefore, proposed to harmonise these differences under a common set of guidelines.

VI.32 With a view to promoting innovation in financial services, it is proposed to enter into collaborative arrangements with other leading regulators in this area.

VI.33 For the purpose of fostering competition and re-orienting the banking structure in India, the policy on subsidiarisation of foreign banks and the Marginal Cost of Funds Based Lending Rate (MCLR) guidelines will be reviewed.

VI.34 The regulatory guidelines for regional rural banks (RRBs) *vis-à-vis* SCBs will be reviewed.

Cooperative Banks: Department of Cooperative Bank Regulation (DCBR)

VI.35 As cooperative banks play an important role in the Indian financial system, the Reserve Bank has always endeavoured to strengthen the regulatory and supervisory framework so that they emerge financially strong and have sound governance. In this context, DCBR, in charge of prudential regulations of cooperative banks, took the following initiatives in 2017-18.

Agenda for 2017-18: Implementation Status

Harmonisation of Regulatory Policies

VI.36 The harmonisation of regulatory policies for all cooperative banks is an ongoing process. As part of this, the regulatory process for opening of current account with the Reserve Bank has been simplified for all the cooperative banks [urban cooperative banks (UCBs), state cooperative banks (StCBs) and district central cooperative banks (DCCBs)]. The guidelines on limiting liability of customers on account of unauthorised electronic banking transactions have been extended to all cooperative banks. The guidelines on lending to priority sector have been harmonised with those of SCBs.

Revival and Licensing of Unlicensed DCCBs

VI.37 On the three unlicensed DCCBs in the state of Jammu & Kashmir, a Memorandum of Understanding (MoU) was signed by the state, the Government of India and NABARD. Accordingly, the state government has released its share of ₹2.56 billion in March 2018 and the same is held with the cooperative department of Jammu and Kashmir government for onward transmission to the three DCCBs. Issue of licences to these three DCCBs will be considered after the funds are transferred to them by the state government.

Review of Supervisory Action Framework for UCBs

VI.38 The review of supervisory action framework for urban cooperative banks is under process. The trigger points for initiating corrective action are being reviewed to help ensure that the weak UCBs are turned around well in time. This agenda is carried forward to the year 2018-19.

CBS under the Scheme of Financial Assistance to UCBs

VI.39 A scheme of financial assistance to UCBs for implementing the core banking solution (CBS) was announced on April 13, 2016 in consultation with the Institute for Development and Research in Banking Technology (IDRBT) and the Indian Financial Technology and Allied Services (IFTAS) (a subsidiary of IDRBT). Under the scheme, the initial set up-cost of ₹0.4 million has been paid by the Reserve Bank to IFTAS. During the year, 3 more UCBs implemented CBS under the scheme, taking the number of CBS-compliant UCBs to 1,453.

Formulation of Standards and Benchmarks for CBS in UCBs

VI.40 A document on functional and technical requirements for CBS in UCBs prepared by IDRBT in consultation with the Reserve Bank was released in July 2017.

Scheduling, Licensing, Mergers and Voluntary Conversions

VI.41 Six proposals for merger were received. Of these, five were granted permission, including two cases of merger of banks having negative net worth with stronger UCBs. The remaining proposal, received in June 2018, is presently under process. Two mergers took place during the year. Further, one UCB voluntarily converted itself into a (non-banking) cooperative credit society under Section 36A (2) of the Banking Regulation Act, 1949.

Agenda for 2018-19

VI.42 The agenda for 2018-19 includes issuing of licenses to the three unlicensed DCCBs in Jammu and Kashmir in pursuance of the objective that only licensed rural cooperative banks operate in the banking space. DCBR will reinforce the agenda to ensure that rural cooperative banks are adequately capitalized to meet any challenges and mitigate risks arising due to changes in the banking scenario. The supervisory action framework for UCBs, framed in 2014, will be reviewed in order to engage with the concerned banks at an early stage for corrective action. Implementation of CBS under the scheme of financial assistance to UCBs will continue during the year. The implementation of some of the recommendations of the High Powered Committee on UCBs (Chairman: Shri R Gandhi) is planned during the year. As recommended by the Committee, in order to improve governance in UCBs, it is proposed that UCBs shall constitute a Board of Management in addition to their elected Board. Draft guidelines in this regard have been issued for comments/feedback. A scheme on voluntary transition of eligible UCBs into Small Finance Banks (SFBs) as announced in the Second Bi-monthly Monetary Policy Statement for 2018-19, will also be issued during the year.

Non-Banking Financial Companies (NBFCs): Department of Non-Banking Regulation (DNBR)

VI.43 NBFCs have evolved as an important alternate source of credit in the Indian economy. The Department of Non-Banking Regulation (DNBR) is entrusted with the responsibility of regulation of NBFCs.

Agenda for 2017-18: Implementation Status

Peer to Peer Lending Platforms (NBFC-P2P)

VI.44 The Reserve Bank issued the NBFC-P2P Directions in October 2017. While the online platform itself does not undertake any financial activity, it provides a platform for credit intermediation, bringing together borrowers and lenders. Regulations have been framed to ensure customer protection, data security and orderly growth.

Outsourcing Guidelines for NBFCs

VI.45 With the objective of bringing the outsourced activities of NBFCs within the regulatory purview as well as ensuring sound and responsive risk management practices by NBFCs, the Reserve Bank issued directions to NBFCs on managing risks arising from outsourcing activities associated with financial services provided by them.

Asset Reconstruction Companies (ARCs)

VI.46 ARCs complying with corporate governance practices, have been exempted from the shareholding limit of 26 per cent of post converted equity of the borrower company if the extent of shareholding after the conversion of debt to equity does not exceed the permissible foreign direct investment (FDI) limit for the specific sector. To expand the investor base and to infuse greater depth in the Security Receipt (SR) market, the Reserve Bank has notified Alternative Investment Fund category II and III, registered with SEBI as non-institutional investors.

Prudential Regulation of Government NBFCs

VI.47 Government-NBFCs cater to various social obligations and, in the process, their over-exposure to certain sectors may have adverse financial implications depending upon the scale of operations. Further, as entities raising public funds, they have high level of interconnectedness with the formal financial sector. In order to strengthen and ensure ownership-neutral regulations, government-owned NBFCs will now be required to adhere to the Bank's prudential regulations in a phased manner (Box VI.4).

Other Initiatives

VI.48 Systemically Important Non-Deposit taking Non-Banking Financial Companies (NBFC-ND-SIs) have been allowed to undertake Point of Presence (PoP) services for National Pension Scheme (NPS), subject to certain conditions.

VI.49 In order to promote investments in infrastructure by Systemically Important Core Investment Companies (CIC-ND-SI), CIC-ND-SIs have been permitted to hold Infrastructure Investment Funds (InvIT) units only as sponsors provided such exposure does not exceed the minimum holding and tenor limits as prescribed under SEBI regulations for a sponsor. These holdings will be reckoned as investments in equity shares in group companies, for the purpose of compliance with the norms for investment in group companies applicable to CIC-ND-SI.

Agenda for 2018-19

VI.50 As per the Ministry of Corporate Affairs notification, NBFCs/Asset Reconstruction Companies (ARCs) with a net worth of ₹5 billion and above are required to implement Ind AS with effect from April 1, 2018.

VI.51 With a view to strengthening the ARCs, the Reserve Bank will issue guidelines on 'fit and proper criteria' for their sponsors.

VI.52 The Reserve Bank is planning to extend the harmonised and simplified generic framework for resolution of stressed assets put in place for banks to NBFCs as well.

Box VI.4
Regulatory Framework for Government-Owned NBFCs

There are currently 42 government-owned NBFCs registered with the Reserve Bank. Of these, 16 are owned by the central government and 26 by the state governments. Of these government NBFCs, 23 NBFCs are classified as non-deposit taking systematically important NBFCs (NBFC-ND-SI), 12 are non-deposit taking NBFCs (NBFC-ND) and 7 are deposit taking NBFCs (NBFC-D).

Government owned NBFCs have been, till now, exempted from various provisions of the RBI Act, 1934 as well as prudential norms since they cater to various social obligations. However, it is recognised that their high exposure to certain sectors may have adverse financial stability implications, especially where the scale of operations is large. Further, as entities raising public funds, they have high level of interconnectedness with the formal financial sector. Accordingly, deposit taking and systemically important government-owned NBFCs were advised in 2006 to submit a roadmap for complying with the prudential regulations applicable to other NBFCs. Although all central government NBFCs and 12 state government NBFCs submitted their road map, their implementation has been disparate. Hence, it was decided to require government-owned NBFCs *vide* notification dated May 31, 2018 to adhere to the Bank's prudential regulations, and instructions on acceptance of public deposits, corporate governance, conduct of business regulations and statutory provisions, in a phased manner. A phase-in period till 2022 has been prescribed to ensure that the withdrawal of exemptions takes place in a non-disruptive manner.

VI.53 The transition of government-NBFCs to the prudential regulations will be closely monitored.

VI.54 The Reserve Bank has been aligning its policies to the changing dynamics in FinTech sector and has already issued guidelines for two new types of IT based NBFCs, *viz.,* NBFC-Account Aggregator (NBFC-AA) and NBFC-Peer to Peer (NBFC-P2P). During the year, the Bank will examine applications from companies which propose to conduct NBFC business through virtual modes, without a brick and mortar presence.

SUPERVISION OF FINANCIAL INTERMEDIARIES

Department of Banking Supervision (DBS)

VI.55 In India's bank dominated financial system, DBS, entrusted with the responsibility of supervising SCBs (excluding RRBs), plays a central role in ensuring systemic stability. DBS also supervises Local Area Banks (LABs), Payments Banks (PBs), Small Finance Banks (SFBs), Credit Information Companies (CICs) and All India Financial Institutions (AIFIs) within the existing statutory and regulatory framework.

Agenda for 2017-18: Implementation Status

VI.56 Risk-Based Supervision (RBS) under the Supervisory Programme for Assessment of Risk and Capital (SPARC) for banks operating in India has been successfully implemented over five supervisory cycles. The development of supervisory framework for SFBs and PBs is currently underway. During the year, the RBS model was subjected to an external validation. As part of the process for sensitising the top management of banks about SPARC, interactive sessions were conducted for board members and top management of several public and private sector banks during the year. Focused workshops were also convened for skill enhancement of operational as well as senior/middle level management of these banks.

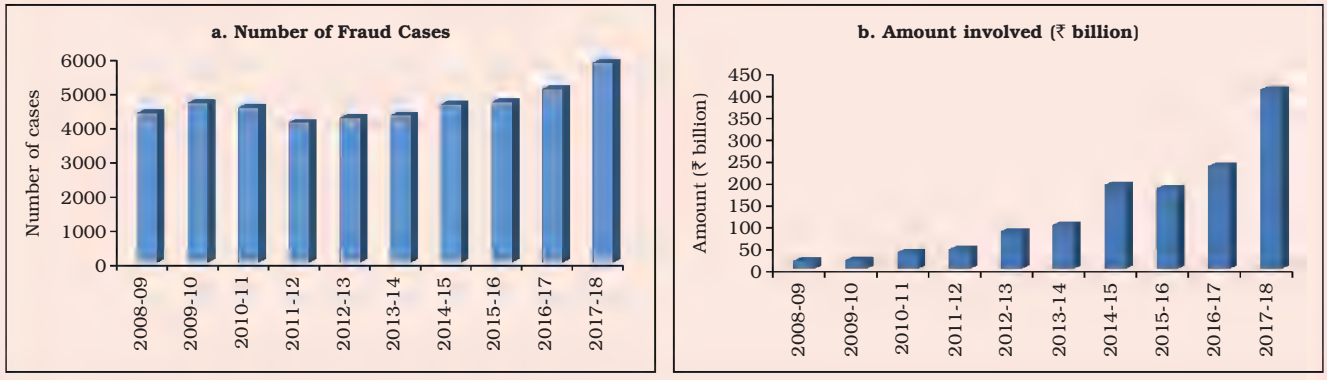
VI.57 During 2017-18, supervisory assessments of 76 SCBs, 1 LAB and 2 CICs were placed before the Board of Financial Supervision (BFS).

VI.58 Thirty five Information technology (IT) examinations covering broad spectrum of IT risk and thematic examinations of specific focus areas were carried out during the year to evaluate cyber security readiness of the banking sector. Mock cyber-drills involving hypothetical scenarios were conducted to evaluate the cyber security incident response preparedness of banks. The exercise helped banks identify and rectify deficiencies in their incident management capabilities. The Reserve Bank, in pursuance of a fraud involving Letters of Undertaking (LoU) reported by banks, had assessed the operational controls around Society for Worldwide Interbank Financial Telecommunication (SWIFT) transactions and advised banks to strengthen the same. It was observed that the action taken by banks in protecting the systems was not adequate and hence the Reserve Bank reiterated its instructions with clear timelines for implementation by banks.

Trend Analysis on Frauds

VI.59 The number of cases on frauds reported by banks were generally hovering at around 4500 in the last 10 years before their increase to 5835 in 2017-18 (Chart VI.1a). Similarly, the amount involved in frauds was increasing gradually, followed by a significant increase in 2017-18 to ₹410 billion (Chart VI.1b). The quantum jump in the amount involved in frauds during 2017-18 was on account of a large value fraud committed in gems and jewellery sector, mainly affecting one public sector bank (PSB).

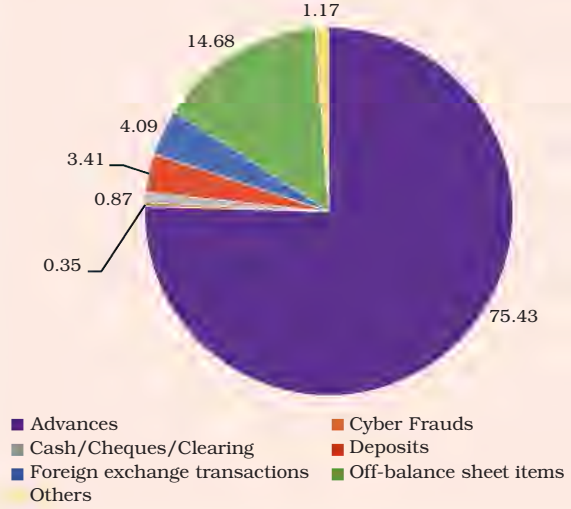
Chart VI.1: Number and Amount Involved in Fraud Cases (of ₹1 lakh and above) reported by Banks during 2008-18



Source: RBI Supervisory Returns.

VI.60 During 2017-18, PSBs accounted for 92.9 per cent of the amount involved in frauds of more than ₹0.1 million, as reported to the Reserve Bank while the private sector banks accounted for 6 per cent. As regards cumulative amount involved in frauds till March 31, 2018, PSBs accounted for around 85 per cent, while the private sector banks accounted for a little over 10 per cent. At the system level, frauds in loans, by amount, accounted for more than 75 per cent of frauds involving amounts of ₹0.1 million and above while frauds in deposit accounts were at just over 3 per cent (Chart VI.2). Within the loan category of frauds, PSBs accounted for a major share (87 per cent) followed by the private sector banks (11 per cent). The share of PSBs in frauds relating to 'off-balance sheet items' such as Letter of Credit (LCs), LoU, and Letter of Acceptance was even higher at 96 per cent. New private sector banks accounted for more than 20 per cent of the frauds related to 'cash/cheques/clearing' and 'foreign exchange transactions'. New private sector and foreign banks accounted for 36 per cent each of all cyber frauds reported in debit, credit and ATM cards, among others. Out of the seven classifications of frauds in alignment with the Indian Penal Code, 'cheating and forgery' was the major component followed by 'misappropriation and criminal breach of trust'. In 'cheating and forgery' cases, the most common *modus operandi* was multiple mortgage and forged documents. Mumbai (Greater Mumbai), Kolkata and Delhi were the top three cities in reporting of bank frauds through 'cheating and forgery'. In respect of staff involvement in frauds, banks reported that it was prominent in the categories 'cash' and 'deposits', which had a much smaller share in the overall number of fraud incidents and the amount involved. One of the major initiatives in recent

Chart VI.2: Composition of Outstanding Banking Frauds



Source: RBI Supervisory Returns.

times in fraud mitigation was the introduction of a Central Fraud Registry (CFR), a web-based online searchable database of reported frauds, for the use of banks.

Agenda for 2018-19

VI.61 In view of large divergences observed in asset classification and provisioning in the credit portfolio of banks as well as the rising incidence of frauds in the Indian banking system, an Expert Committee under the chairmanship of Shri Y.H. Malegam, a former member of the Central Board of the Reserve Bank, had been constituted to look into the reasons for high divergence observed in asset classification and provisioning by banks *vis-à-vis* the Reserve Bank's supervisory assessment, and the steps needed to prevent it; factors leading to an increasing incidence of frauds in banks and the measures (including IT interventions) needed to curb and prevent it; and the role and effectiveness of various types of audits conducted in banks in mitigating the incidence of such divergence and frauds. The recommendations of the committee will be carried forward for implementation.

VI.62 It was proposed to initiate network analysis for the financial conglomerate (FC) groups to assess the systemic risks posed by them. The analysis would cover the major entities of an FC group in each financial market segment and intra-group exposures would also be considered. The findings would be shared with the regulators and significant trends and/or concerns would be discussed in the meetings of the Inter-Regulatory Forum (IRF).

VI.63 In line with the evolution of regulatory guidelines on the implementation of International Financial Reporting Standards (IFRS)/Ind AS, the impact on quantitative and qualitative reporting by banks would be reviewed, aligned and integrated with the supervisory framework. Specific sensitisation sessions for the top management of SFBs and PBs in respect of the supervisory framework for these banks are on the agenda for 2018-19.

VI.64 In an endeavour to strengthen the cyber security posture of Indian banks, focused and theme-based IT examinations are planned during 2018-19. Targeted scrutiny, as and when required, would also be conducted for appropriate policy and supervisory intervention.

VI.65 In order to secure consistency and improve the efficiency of the offsite monitoring mechanism, an Audit Management Application portal to facilitate various supervisory functions of the Cyber Security and Information Technology Examination (CSITE) Cell and to fully automate monitoring of returns has been envisaged, which will be operationalised by March 2019. Further, there is an urgent need to strengthen the existing audit systems of banks and align them with the prevailing global best practices (Box VI.5).

Cooperative Banks: Department of Cooperative Bank Supervision (DCBS)

VI.66 The primary responsibility of DCBS is supervising primary (urban) cooperative banks (UCBs) while also ensuring the development of a safe and well-managed cooperative banking sector. Towards this objective, DCBS undertakes supervision of UCBs through periodic on-site and continuous off-site monitoring. As at end-June 2018, 1,550 UCBs were operating in the country, out of which 39 UCBs had negative net worth and 20 UCBs were under directions of the Reserve Bank.

Box VI.5
Improving Audit Systems in Banks

SCBs undertake various types of audit such as statutory audit, risk based internal audit (RBIA), concurrent audit, information systems (IS) audit and special audits. Major fraud incidents reported by banks in the recent past have highlighted the need for improvement in the audit function and its governance. In addition, an increase in divergence in asset classification and provisioning as assessed by the Reserve Bank *vis-à-vis* the audited financial statements of SCBs has been seen as a concern.

*Role of Audit Committee of Boards (ACBs)***:** ACBs are mandated to provide direction, as also oversee the operation of the total audit function in SCBs. Apart from reviewing routine items of interest, ACBs are to oversee benchmarking of banks' systems and processes on a continuous basis so as to ensure strict adherence to internal guidelines as well as various regulatory norms.

Concurrent Audit: Concurrent audit has to be carried out on a real time or near real time basis and is expected to set the tone for subsequent internal audit which happens with a time lag. Exception reports, even of a routine nature, are to be seen in detail on an ongoing basis. Audit trail should be checked for diversion of funds through round tripping and other means. Further, the auditor needs to ensure that FEMA guidelines are complied with and KYC / AML directions are implemented properly.

Internal Audit: A strong internal control system, including an independent and effective internal audit function, is a part of sound corporate governance. The quality of internal audit was adversely affected due to inadequate human resources, lack of desired skill-sets (particularly for specialised branches), non-adherence to stipulated timelines for compliance with audit findings, non-inclusion of some critical areas, *etc.*, indicating inadequate attention to sustainable compliance with the findings of earlier reports. Many instances of repetitive and similar audit findings over the years were seen. Further, internal audit could not detect many frauds, which came to light after accounts turned NPA. Fraud detection and reporting, as well as preventive steps, need to be more risk-focused so as to identify red flags at an incipient stage.

Non-adherence to Income Recognition and Asset Classification (IRAC) norms by banks is a major concern. In this respect, audit function still needs to provide desired level of assurance to all stakeholders, including the Reserve Bank. While there may be instances of information asymmetry between the supervisor and other stakeholders, NPA divergence should not arise from lack of adherence to regulatory guidelines.

Statutory Audit: Statutory auditors need to undertake root cause analysis to identify deficiencies exposed by incidents of fraud, and divergences in asset classification and provisioning. Statutory auditors could identify issues faced by banks in implementing system-based identification of NPAs as well as utilise more effectively the central database in banks for their assignments. Further, inputs provided by statutory auditors through Long Form Audit Report need to be improved, since they provide useful inputs for risk based supervision of banks.

Enforcement Action Framework for Statutory Auditors (SAs): In the interest of improving audit quality and the need to institute a transparent mechanism to examine the accountability of SAs in a consistent manner, it has been decided to put in place a graded enforcement action framework to enable appropriate action by the Reserve Bank in respect of the banks' SAs for any lapses observed in conducting a bank's statutory audit. This would cover, *inter alia*, instances of divergence identified in asset classification and provisioning during the Reserve Bank's inspection *vis-à-vis* the audited financial statements of banks above the threshold specified by the Reserve Bank in the circular issued on April 18, 2017.

Agenda for 2017-18: Implementation Status

Enhanced Focus on Capacity Building

VI.67 During the year, additional emphasis was laid on the training needs of the workforce in the UCBs including the employees, management and the auditors. As the UCBs are geographically spread across the country, the regional offices of the Reserve Bank were assigned the crucial role of closely interacting with them and nurturing them. The regional offices developed training modules to cater exclusively to the staff of UCBs. Also, in view of the importance of corporate governance and the role of efficient management,

a separate training was conducted for the chief executive officers (CEOs) and the board members of the UCBs. As the auditors are the extended arm of a supervisor, they were also periodically covered separately by means of dedicated training sessions. Apart from this, weak banks were identified based on outcome of either on-site inspection or off-site monitoring and specific hand holding programmes were arranged to focus on those areas that required improvement in the concerned banks.

Stabilisation of XBRL Platform

VI.68 The XBRL platform enables standardisation and rationalisation of elements of different returns sent by banks using the internationally recognised best practices available in electronic transmission. On rationalising the returns submitted, UCBs now submit only 22 returns that comprise of statutory, regulatory and supervisory data and information. A return on reporting the fraud data is in the final stage of submission on the XBRL platform.

Agenda for 2018-19

To Review Inspection Process with Focus on Timely Completion

VI.69 The heterogeneity of the sector coupled with the large number of UCBs poses a challenge in optimal allocation of supervisory resources. In order to overcome this challenge, innovative methodologies were adopted to achieve a proper balance between resources used and supervisory outputs. To further smoothen the process and ensure qualitative reports on an ongoing basis, the supervisory process would be further fine-tuned to enhance its efficacy and effectiveness.

NBFCs: Department of Non-Banking Supervision (DNBS)

VI.70 DNBS supervises 11,174 NBFCs of which 249 are NBFC-Non Deposit taking Systemically Important ones. During the year, NBFC sector witnessed higher asset growth. Two new types of NBFCs, *viz.,* Account Aggregators and P2P lending platforms have been allowed to operate, which added to the diversity of the sector.

Agenda for 2017-18: Implementation Status

VI.71 The 'Sachet' portal for NBFCs has been refurbished for improved user interface and functionalities. The new version will be operationalised once the translation into regional languages is complete. A supervisory rating framework for ARCs has been devised by the Bank and since been operationalised from the inspection cycle 2018-19. The Reserve Bank has initiated supervisory action against those NBFCs which are non-compliant, inactive and not meeting the minimum net owned fund (NOF) criteria, thereby tightening the supervisory regime. During the last round of inspections, the risk-focused model was tried out in parallel to the existing inspection report format and the same has been finalised and is being implemented from the current inspection cycle 2018-19. The number of supervisory returns under XBRL format has been rationalised to avoid duplication of data as also to capture granular sectoral credit data and financial aspects of interconnectedness. The modified returns being developed in XBRL are currently in testing phase. The on-site inspection and off-site surveillance framework has also been extended to government-owned NBFCs and supervisory returns with effect from the quarter ending December, 2017 are being called for.

Agenda for 2018-19

VI.72 The government-owned NBFCs will be subjected to on-site inspection from the inspection cycle 2018-19. Supervisory returns for NBFC-Account Aggregators and NBFC-P2P lending platform will be developed. An on-line

portal for reporting of cyber security incidents of NBFCs will be put in place.

Enforcement Department (EFD)

VI.73 The EFD started functioning since April 2017. The core function of the department is to enforce regulation with an objective to ensure financial system stability, greater public interest and consumer protection.

Agenda for 2017-18: Implementation Status

VI.74 During the year, an enforcement policy and framework was put in place for taking enforcement action in an objective, consistent and non-partisan manner. EFD also devised a protocol for sharing information within the Bank and initiated enforcement action with regard to commercial banks.

VI.75 During July 2017 to June 2018, EFD undertook enforcement action against 14 banks (including a PB and an SFB, and imposed an aggregate penalty of ₹1,024 million, for non-compliance/contravention of regulatory restrictions on loans and advances, violation of licensing conditions and operating guidelines for SFBs and PBs, violations of KYC norms, violations of Income Recognition and Asset Classification (IRAC) norms, delay in reporting of information security incidents as also for non compliance with norms relating to extending bill discounting and non-fund based facilities, detection and impounding of counterfeit notes and issue of bonus shares by private sector banks and for not adhering to specific directions issued on direct sale of securities from held to maturity (HTM) portfolio, among others.

Agenda for 2018-19

VI.76 Going forward, the enforcement work pertaining to UCBs and NBFCs is being brought under the EFD in a phased manner.

CONSUMER EDUCATION AND PROTECTION

Consumer Education and Protection Department (CEPD)

VI.77 The mandate of CEPD is to monitor and ensure protection of interests of consumers of the regulated entities and maintain oversight on the administration and functioning of the Banking Ombudsman (BO) scheme.

Agenda for 2017-18: Implementation Status

VI.78 The Reserve Bank implemented the Ombudsman Scheme for NBFCs with effect from February 23, 2018, which, to begin with, covered all deposit taking NBFCs. The offices of NBFC Ombudsman have started functioning from four metro centres - Chennai, Kolkata, Mumbai and New Delhi and each office handles the complaints of customers of NBFCs from the respective zone.

VI.79 The BO scheme was reviewed and updated to include mis-selling and complaints relating to internet and mobile banking as valid grounds of complaints and the modification in BO scheme came into effect from July 1, 2017. The restriction on pecuniary jurisdiction of the BO in passing an Award was removed and the amount of compensation that the BO can sanction was doubled to ₹2 million. As a measure to enhance the accountability of banks, additional compensation up to ₹0.1 million for harassment/mental agony, earlier available only for credit/debit card related complaints, has been extended to all types of complaints covered under the scheme.

VI.80 In order to assess the nature of mis-selling and the charges levied by banks for basic banking services, a study was conducted. In addition, a study on KYC compliance by banks was done with a view to enhancing the security of all genuine customers.

VI.81 Consumer education has been a continuous endeavour of the Reserve Bank and

during 2017-18, the SMS handle of the Reserve Bank, *viz.,* RBISAY was used for spreading awareness about fictitious offers and the caution with which electronic banking facilities should be used. Further, during the year, all the offices of BOs conducted awareness programmes, mainly in Tier II cities.

Agenda for 2018-19

VI.82 As part of the Reserve Bank's initiative to improve the efficacy of grievance redressal mechanism in view of the rising number of complaints, an online Complaint Management System (CMS) assumes importance. Accordingly, the process for development of an online dispute resolution mechanism for customers of banks and eligible NBFCs has started and will be completed in 2018-19.

VI.83 The increasing volume of complaints involving digital payments being received by the offices of BOs and the large number of Prepaid Payment Instruments (PPIs) issued by banks and non-bank issuers have necessitated the establishment of a separate Ombudsman for digital transactions. The Reserve Bank will formulate an Ombudsman Scheme for digital transactions and will set up offices of Ombudsman for digital transactions at select centres. It will also review the Ombudsman Scheme for NBFCs for enhancing its coverage to other eligible NBFCs during the year (Box VI.6).

Box VI.6
Ombudsman Scheme for Bank Customers – A Perspective

Ombudsman as alternative disputes resolution mechanism

Ombudsman schemes in the financial sector, particularly in banking, is seen as the mainstay of grievance redressal for customers. The organisation and funding of this alternative forum of dispute resolution varies across jurisdictions. The Financial Ombudsman Scheme of the UK as also of Australia, Banking Ombudsman scheme of New Zealand and Ombudsman for Banking Services and Investments of Canada are funded by the industry while the Financial Industry Disputes Redressal Centre of Singapore charges fee from both parties to the dispute, *i.e.,* the complainant as well as the financial institution concerned. The Consumer Financial Protection Bureau of the USA is supported by the Federal Reserve System.

Distinctive features of banking ombudsman scheme

In India, the Banking Ombudsman (BO) scheme is the flagship consumer protection initiative which functions under the aegis of the Reserve Bank and as such does not rely on customer or industry body for carrying out its operations. With the involvement of the central bank, the BO scheme provides a cost free and expeditious grievance redressal mechanism to customers of banks. The BO also plays an active role in spreading awareness and imparting education on financial transactions as well as on the avenue available for grievance redressal. In order to keep pace with the changing landscape of financial transactions, the BO scheme has been revised five times since its launch in 1995. Keeping in view the experience of running this scheme for customers of banks, the Reserve Bank in 2018 also implemented the Ombudsman Scheme for NBFCs.

Way Forward

The grievances relating to digital mode of financial transactions accounted for 19 per cent of total complaints during 2016-17. This has gone up to 28 per cent till end-June 2018, particularly with the inclusion of deficiencies in mobile banking service as a ground of complaint under the scheme with effect from July 1, 2017. Although a separate Ombudsman Scheme for complaints relating to digital financial transactions is not existing in other major jurisdictions, the growing trend and increasing complexity of such complaints along with the emergence of non-bank service providers in the digital payment space underlines the need for designing a dedicated Ombudsman Scheme for redressal of such grievances.

Deposit Insurance and Credit Guarantee Corporation (DICGC)

VI.84 The deposit insurance system as one of the important pillars of financial safety net provides confidence to depositors and thereby promotes financial stability. Deposit insurance extended by DICGC covers all commercial banks including LABs, PBs, SFBs, RRBs and cooperative banks. The number of registered insured banks as on March 31, 2018 stood at 2,109, comprising 160 commercial banks (including 56 RRBs, 3 LABs, 5 PBs and 10 SFBs) and 1,949 cooperative banks (33 StCBs, 364 DCCBs and 1,552 UCBs). With the present limit of deposit insurance in India at ₹0.1 million, the number of fully protected accounts (1,898 million) as at end-March 2018 constituted 92 per cent of the total number of accounts (2,063 million) as against the international benchmark[2] of 80 per cent. In terms of amount, the total insured deposits of ₹33,135 billion as at end-March 2018 constituted 28 per cent of assessable deposits amounting at ₹118,279 billion as against the international benchmark of 20 to 30 per cent. At the current level, the insurance cover works out to 0.9 times per capita income for 2017-18.

VI.85 DICGC builds up its Deposit Insurance Fund (DIF) through transfer of its surplus, *i.e.,* excess of income (mainly comprising premia received from insured banks, interest income from investments and cash recovery out of assets of failed banks) over expenditure (payment of claims of depositors and related expenses) each year, net of taxes. This fund is available for settlement of claims of depositors of banks taken into liquidation/amalgamation. During 2017-18, the Corporation sanctioned total claims of ₹0.4 billion as against claims aggregating ₹0.6 billion during the preceding year. The size of the DIF stood at ₹814.3 billion as on March 31, 2018, resulting in a reserve ratio (DIF/Insured Deposits) of 2.5 per cent.

VI.86 The Key Attributes (KAs) of effective resolution regimes for financial institutions issued by the Financial Stability Board (FSB) postulate that the objective of an effective resolution regime is to make feasible the resolution of financial institutions without severe systemic disruption and without exposing taxpayers to loss. The resolution regime should also protect vital economic functions through mechanisms which facilitates shareholders and unsecured and uninsured creditors to absorb losses in a manner that respects the hierarchy of claims in liquidation. The bail-in is designed as one of the tools for resolution of financial entities (Box VI.7).

National Housing Bank (NHB)

VI.87 NHB was set up on July 9, 1988, under the National Housing Bank Act, 1987, as an apex institution for housing finance. The primary function of NHB is to register, regulate and supervise the housing finance companies (HFCs). The entire capital of ₹14.5 billion of NHB is subscribed by the Reserve Bank. As on June 30, 2018, 96 HFCs were registered with NHB, out of which 18 HFCs were eligible to accept public deposits.

VI.88 NHB also provides refinance to HFCs, SCBs, RRBs and co-operative credit institutions for housing loans and also undertakes direct lending (project finance) to borrowers in the public and private sector. Over the years, NHB's focus area has been to provide financial support to the housing programmes for unserved and

[2] International Association of Deposit Insurers (2013), "Enhanced Guidance for Effective Deposit Insurance Systems: Deposit Insurance Coverage", Guidance Paper, March, available at www.iadi.org.

Box VI.7
Bail-in as a Resolution Tool of Financial Institutions: International Best Practices

In the aftermath of the global financial crisis, comprehensive measures relating to resolution of failing financial institutions were undertaken by the US and the European Union (EU). In 2010, the US established a resolution framework for systemic financial institutions under the Dodd-Frank Act. All member states in EU were required to transpose the Bank Recovery and Resolution Directive (BRRD) into their national law from January 2015. A key element of the new process is the bail-in tool, requiring banks to recapitalise and absorb losses from within, which was made mandatory as of January 1, 2016.

The objective of bail-in, as a tool to resolve failing financial entities, is to ensure that the losses are absorbed by shareholders and creditors without having recourse to tax payers' money or public funds. As per FSB's KAs (FSB 2014, 2017), bail-in refers to powers of Resolution Authorities (i) to write down in a manner that respects the hierarchy of claims in liquidation, equity or other instruments of ownership of the firm, unsecured and uninsured creditor claims to the extent necessary to absorb the losses; (ii) to convert into equity or other instruments of ownership of the firm under resolution, all or parts of unsecured and uninsured creditor claims in a manner that respects the hierarchy of claims in liquidation; (iii) convert or write-down any contingent convertible or contractual bail-in instruments whose terms had not been triggered prior to entry into resolution and treat the resulting instruments in line with (i) or (ii).

As per the European BRRD 2014, the main aim of bail-in is to stabilise a failing bank so that its essential services can continue, without the need for bail-out by public funds. The tool enables authorities to recapitalise a failing bank through the write-down of liabilities and/or their conversion into equity so that the bank can continue as a going concern. This would avoid disruption to the financial system that would otherwise occur as a result of stopping or interrupting the bank's critical services and give the authorities time to reorganise the bank or wind down parts of its business in an orderly manner; recognised as an 'open bank resolution'. In a 'closed bank resolution' the bank would be split into two, a good bank or bridge bank and a bad bank. The good bank or bridge bank is a newly created legal entity which continues to operate, while the bad bank is liquidated.

As per the Single Resolution Mechanism Regulation (SRMR) and BRRD, the scope of bail-in tool can be applied to all liabilities that are not expressly excluded from the scope of bail-in. A key exclusion is for the covered deposits. The resolution authority (RA) may wholly or partially exclude certain liabilities from the bail-in in order to avoid widespread contagion that would disrupt the functioning of financial markets, in particular, deposits held by individuals and micro, small and medium enterprises. When applying the resolution tools, the RA would ensure that no creditor is worse off in resolution than under liquidation. As per the International Association of Deposit Insurers (IADI) (2016), specialised tools like bail-in aimed at resolving systemic institutions should not be applied to small and medium sized institutions.

Since the adoption of KAs of Effective Resolution Regimes for Financial Institutions in November 2011, authorities in Crisis Management Groups constituted by FSB have been working to develop firm-specific resolution strategies and plans for global systemically important banks (G-SIBs). One of the challenges that emerged was the legal and operational complexity associated with the implementation of an effective bail-in transaction. While the KAs set out general powers that authorities should have for the purpose of bail-in within resolution, they do not consider the operational aspects. The FSB consultative document proposes a set of principles on the execution of bail-in to assist the work of authorities. The principles cover, *inter alia,* the range of actions and processes required to identify the instruments and liabilities within the scope of bail-in.

Research underscores that the bail-in framework is still evolving and even with the limited experience so far, it is recognised that the bail-in tool poses some risks for Deposit Insurance Agencies (DIAs) (IADI 2015). The risks related to the use of DIA funds for bail-in arise from a change in the ownership pattern of banks after bail-in, the inappropriate use of funds, a costly resolution strategy from the DIA's perspective, and threats to the credibility of the DIA if resolution funding and subsequent failure of the resolved institution deplete the deposit insurance fund.

References:

1. European Commission (2014), "EU Bank Recovery and Resolution Directive: Frequently Asked Questions", April.
2. Financial Stability Board (FSB) (2014), "Key Attributes of Effective Resolution Regimes for Financial Institutions", October.
3. Financial Stability Board (FSB) (2017), "Principles on Bail-in Execution", Consultative Document, November.
4. International Association of Deposit Insurers (IADI) (2015), "Deposit Insurance and Bail-in: Issues and Challenges".
5. International Association of Deposit Insurers (IADI) (2016), "A Handbook for the Assessment of Compliance with the Core Principles for Effective Deposit Insurance Systems", March.

underserved segments of the population. Out of the total disbursement of ₹249.20 billion made under refinance in 2017-18 (July 1, 2017 to June 30, 2018), 8.08 per cent (₹18.28 billion) was made under the Rural Housing Fund (RHF). As a nodal agency to implement the Credit Linked Subsidy Scheme (CLSS) under the "Housing for All by 2022" mission of the government, NHB released subsidy claims of ₹42.85 billion to 138 Primary Lending Institutions (PLIs) till June 30, 2018 (since inception), benefitting 1,96,543 households.

VI.89 NHB is managing the Credit Risk Guarantee Fund Trust for Low Income Housing with the objective of providing guarantees in respect of low-income housing loans. As of June 30, 2018, 80 PLIs have signed MoU with the Trust under the Scheme. Till June 30, 2018, the Trust issued guarantee cover for 1977 loan accounts of 14 Member Lending Institutions (MLIs) involving a total loan amount of ₹562.40 million for economically weaker section/low income group households.

VII PUBLIC DEBT MANAGEMENT

The Reserve Bank successfully achieved the objectives of the debt management by ensuring that the government's financing needs and its payment obligations were met at the lowest possible cost. Notwithstanding the multiple challenges emanating from the glide path for reduction in Held to Maturity (HTM) category of banks' investment portfolio and Statutory Liquidity Ratio (SLR), the Reserve Bank managed the borrowing requirements of the central and the state governments for 2017-18 within the overall contours of the debt management strategy of low cost, risk mitigation and market development while factoring in domestic and global economic and financial conditions. On the macroeconomic front, the tilting risks to inflation, pressure emanating from the fiscal slippages, event-specific announcements, viz., farm loan waivers coupled with global factors such as the increasing crude oil prices and the monetary policy normalisation in major economies were the pre-dominant factors that impacted the yields.

VII.1 The Internal Debt Management Department (IDMD) of the Reserve Bank manages the domestic debt of the central government by statute, *vide* Sections 20 and 21 of the RBI Act, 1934, and that of 29 state governments and the Union Territory of Puducherry in accordance with bilateral agreements as provided in Section 21A of the said Act. Further, short-term credit is provided up to three months to both central and state governments in the form of Ways and Means Advances (WMA) to bridge temporary mismatch in their cash flows, as laid down in terms of Section 17(5) of the RBI Act, 1934.

Agenda for 2017-18: Implementation Status

VII.2 The borrowing programme was conducted within the overall contour of the debt management strategy outlined by low cost, risk mitigation and market development, while also factoring in domestic and global economic conditions. Notwithstanding the challenges posed by the glide path for reduction in securities maintained in HTM category and for SLR requirements of the banks, the Reserve Bank successfully managed the market borrowing programme of the central government and state governments in 2017-18. On the macroeconomic front, the tilting risks to inflation, pressure emanating from the fiscal slippages, event-specific announcements, *viz*., farm loan waivers and global factors such as increasing crude oil prices and monetary policy normalisation of the major economies were the major factors that impacted the yields. The combined gross market borrowings of central and state governments during 2017-18 increased by 4.5 per cent over the previous year to ₹10,071 billion.

VII.3 Following the strategy of consolidation and increase in the issuance limit per security, during 2017-18, 156 out of 159 issuances of the Government of India (GoI) securities were re-issuances, whereas during 2016-17, 156 were reissued out of the total 164 issuances. In continuation of the foregoing objective, the strategy of front-loading of issuances[1] continued to be followed in 2017-18 to even out the borrowing pressures throughout the year. Active

[1] A significantly high amount of repayments combined with slow revenue inflows during H1 underlie the need for front-loading of issuances.

consolidation of debt was undertaken in the form of buyback/switches (₹415.55 billion/₹580.75 billion) that spread across 2017-18, totalling ₹996.30 billion as compared to ₹1,046.43 billion in the previous year. Further, with a view to improving flexibility in borrowing, the GoI introduced the greenshoe option of up to ₹10 billion in September 2017 within each maturity bucket such that the aggregate amount accepted in the auction does not exceed the total notified amount. The share of Floating Rate Bonds (FRBs) in total issuances during 2017-18 stood at 10.2 per cent.

VII.4 Reflecting the strategy of maturity elongation, the weighted average maturity (WAM) of primary issuance of government securities (G-sec) was at 14.13 years during 2017-18. This was, however, lower than 14.76 years for the previous year, as the government decided to borrow more in the maturity buckets of under 15 years to contain cost of borrowings in the volatile market conditions. The rollover risk for GoI dated securities continued to be low as the WAM of outstanding dated securities remained at 10.62 years in 2017-18, marginally lower than 10.65 years recorded in the previous year, reflecting higher issuances in the lower maturity buckets especially in the last quarter of 2017-18. Following the strategy of diversification of investor base for G-sec and in line with the fourth bi-monthly monetary policy statement on October 4, 2017, specified stock exchanges were permitted to act as aggregators/ facilitators for submitting retail investor bids, in non-competitive segments of G-sec and T-Bill primary auctions. In order to make the Sovereign Gold Bond (SGB) Scheme further appealing to investors, a new pattern of weekly issuances was introduced on October 6, 2017. Along with the calendar of issuances, the scheme was available for weekly subscription up to December 27, 2017. Effective management of cash flows is critical for planning the market borrowings of the states. In order to assist the states in this regard, a study on best practices was presented in the 30th State Finance Secretaries (SFS) Conference. The draft recommendations of the Working Group on Monitoring and Reporting of Contingent Liabilities (CLs) of State Governments were also deliberated in the SFS conference, covering aspects relating to better management, monitoring and reporting of CLs by state governments. Further, efforts to sensitise the state governments on cash and debt management continued with capacity building programmes held for five state governments during 2017-18.

Debt Management of the Central Government

VII.5 The Union Budget 2017-18 had estimated gross market borrowing through dated G-sec at ₹5,800 billion. The actual gross market borrowings through dated G-sec in 2017-18 amounted to ₹5,880 billion on account of additional market borrowings by the GoI in Q3. Net borrowings through dated securities amounted to ₹4,484 billion, financing 75.3 per cent of the gross fiscal deficit (GFD) as against 76.2 per cent in the previous year. The gross market borrowing through the GoI dated securities during 2017-18 increased by 1.0 per cent while the net market borrowings increased by 9.8 per cent during the same period, on account of lesser repayments during the year (₹1,395.90 billion in 2017-18 against ₹1,738.02 billion in 2016-17). The net market borrowing of the central government through dated securities and T-Bills increased by ₹1,206 billion to ₹4,989 billion in 2017-18 (Table VII.1).

Table VII.1: Net Market Borrowings of the Central Government

(₹ billion)

Item	2015-16	2016-17	2017-18	2018-19*
1	2	3	4	5
Net Borrowings	4,559	3,783	4,989	1621
i. Dated Securities	4,406	4,082	4,484	606
ii. 91-day T-Bills	39	-260	319	377
iii. 182-day T-Bills	5	76	14	455
iv. 364-day T-Bills	109	-115	172	183

*: Up to June 30, 2018.
Source: RBI.

Debt Management Operations

VII.6 Notwithstanding the volatility in the bond market conditions, the weighted average yield (WAY) for GoI dated securities issued during 2017-18 declined by 19 bps to 6.97 per cent from 7.16 per cent in 2016-17 (Chart VII.1). This helped bring down the weighted average cost of borrowings on the outstanding debt stock by 23 bps to 7.76 per cent in 2017-18. Following the decision of GoI not to borrow in the tenors above 15 years in the last quarter of the year, the WAM of issuances during 2017-18 slid to 14.13 years (14.76 years in 2016-17). Consequently, WAM on the outstanding debt decreased marginally to 10.62 years in 2017-18 from 10.65 years in 2016-17 (Table VII.2).

VII.7 Among the factors driving the G-sec yields, the domestic factors outweighed the global factors in 2017-18. During most part of H1, the G-sec yields reflected a softening trajectory mainly driven by lower inflation, sustained demand from Foreign Portfolio Investors (FPIs) and a 25 bps cut in the policy repo rate in August 2017. The G-sec yields, however, hardened in Q3, mostly led by domestic factors, *viz*., informal communication by the government on higher GFD, increase in inflation forecast by the Monetary Policy Committee (MPC) and concerns over increase in supply of government paper in the form of bank recapitalisation bonds. Further, the announcement on December 27, 2017 that the fiscal slippages would be funded by additional market borrowings led to hardening of G-sec yields. Among global factors, the rising crude oil prices and an increase in the US Fed fund rate further impacted the G-sec yields. In Q4, notwithstanding the announcement of reduction in additional borrowings by the GoI, the upward pressure on yields resumed on the back of elevated crude oil prices and spillovers

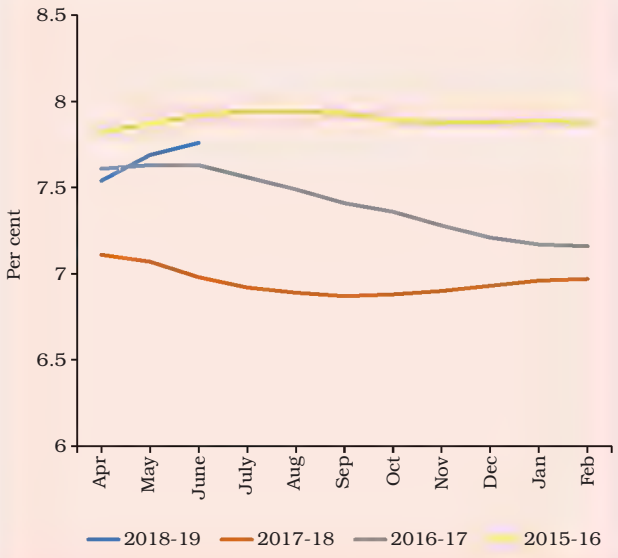
Table VII.2: Market Loans of Central Government - A Profile*

(Yield in per cent/Maturity in years)

Years	Range of YTMs in Primary Issues			Issued during the Year			Outstanding Stock	
	Under 5 years	5-10 years	Over 10 years	Weighted Average Yield	Range of Maturities@	Weighted Average Maturity	Weighted Average Maturity	Weighted Average Coupon
1	2	3	4	5	6	7	8	9
2013-14	7.22-9.00	7.16-9.40	7.36-9.40	8.41	6-30	14.23	10.00	7.98
2014-15	-	7.66-9.28	7.65-9.42	8.51	6-30	14.66	10.23	8.08
2015-16	-	7.54-8.10	7.59-8.27	7.89	6-40	16.03	10.50	8.08
2016-17	6.85-7.46	6.13-7.61	6.46-7.87	7.16	5-38	14.76	10.65	7.99
2017-18	7.23-7.27	6.42-7.48	6.68-7.67	6.97	5-38	14.13	10.62	7.76
2018-19**	6.65-8.01	6.84-8.14	7.33-8.15	7.76	2-37	15.04	10.64	7.74

*: Excluding buyback/switch in GoI securities and special securities. **: Up to June 30, 2018. @: Residual maturity of issuances.
Note: YTM: Yield To Maturity.
Source: RBI.

Chart VII.1: Weighted Average Yield of GoI Securities



Source: RBI.

from global bond sell-off, accentuated by fears of oversupply of domestic government paper. Yields, however, softened considerably by end-March 2018 due to lower inflation print for February 2018 and the decision by the GoI not to front-load its borrowings in H1 of 2018-19.

VII.8 During 2017-18, about 53.6 per cent of the market borrowings were raised through issuance of dated securities with a residual maturity of over 10 years as compared with 58.8 per cent in the previous year, which led to an increase in the share of securities with maturity under 10 years. To cater to the demand of long-term investors like insurance companies and pension funds, 29-year and 33-year tenor bonds were reissued during the year (Table VII.3).

Issuance of Special GoI Securities

VII.9 Issuance of Special GoI Securities (Non-Transferable) to the identified 20 public sector banks (PSBs) for a total amount of ₹800 billion, towards recapitalisation, was undertaken on March 27, 2018. The transaction was cash neutral, reflecting recapitalistion of PSBs and simultaneous investment by PSBs in the special securities issued to them by the GoI.

Ownership of Securities

VII.10 Commercial banks remained the largest holders of dated securities, accounting for 41.4 per cent as at end-June 2018, followed by insurance companies and provident funds holding 24.2 per cent and 5.8 per cent, respectively. The share of the Reserve Bank's holding stood at 11.6 per cent while FPIs held 3.8 per cent. The other holders included the co-operative

Table VII.3: Issuance of Government of India Dated Securities - Maturity Pattern

(Amount in ₹ billion)

Residual Maturity	2016-17		2017-18		2018-19*	
	Amount raised	Percentage to total	Amount raised	Percentage to total	Amount raised	Percentage to total
1	2	3	4	5	6	7
Less than 5 years	180	3.1	90	1.5	230	17.4
5 -9.99 years	2,220	38.1	2,640	44.9	400	30.3
10-15.99 years	1,710	29.4	1,600	27.2	280	21.2
16 -19.99 years	820	14.1	690	11.7	90	6.8
20 years & above	890	15.3	860	14.6	320	24.2
Total	**5,820**	**100**	**5,880**	**100**	**1,320**	**100**

*: Up to June 30, 2018.
Note: Figures in the columns might not add up to the total due to rounding off of numbers.
Source: RBI.

banks, mutual funds, financial institutions and corporates.

Primary Dealers and Devolvement

VII.11 The share of primary dealers (PDs) in the subscription to primary auctions of central government securities stood at 53.7 per cent in 2017-18 as compared to 47.6 per cent in 2016-17. The underwriting commission paid to PDs during 2017-18 increased to ₹0.61 billion as compared to ₹0.36 billion during the previous year, mainly on account of volatile bond market conditions. There were three instances of devolvement in four central government securities on PDs for an amount of ₹102.97 billion as compared to four instances for ₹53 billion in 2016-17. All the PDs maintained capital to risk-weighted assets ratio (CRAR) above the minimum requirement of 15 per cent. In order to facilitate the Standalone Primary Dealers (SPDs) in providing comprehensive services to their FPI clients, it has been decided in the second bi-monthly monetary policy for 2018-19 to provide the SPDs a limited foreign exchange license.

Sovereign Gold Bond Scheme

VII.12 The SGB scheme launched by the GoI in November 2015 was improved upon further in 2017-18 for ease of access of investment and to widen the investor base. A series of weekly issuance of SGBs was introduced on October 6, 2017 and the maximum subscription limit for individuals and Hindu Undivided Families (HUFs) per fiscal year was raised to 4 kg and for Trusts to 20 kg. SGBs were issued at ₹50 per gram less than the nominal value for investors applying online and paying through digital mode. The Reserve Bank, in consultation with the GoI, issued 14 tranches of SGBs for an aggregate amount of ₹18.95 billion (6.52 ton) during 2017-18 as compared to ₹34.69 billion (11.44 ton) in 2016-17, reflecting low investor appetite. A total of ₹68.96 billion (23.53 ton) has been raised through the scheme since its inception until June 30, 2018.

Debt Management Strategy

VII.13 The government's borrowing programmes are planned and executed in terms of the debt management strategy (DMS). The objective of DMS is to secure the government's funding at all times at low cost over the medium/long term while avoiding excessive risk. The DMS has been articulated for the medium-term for a period of three years and is reviewed annually and rolled over for the next three years. The government published its first DMS on December 31, 2015 and thereafter in March 2018. The current scope of the Medium-Term Debt Strategy (MTDS) under DMS[2] (2017-20) has been expanded to include other components such as external debt and small savings schemes in addition to internal marketable debt. The present debt profile is analysed with regard to cost, maturity and potential risk factors. The DMS revolves around three broad pillars, *viz*., low cost, risk mitigation and market development. The low-cost objective is attained by planned issuances and offer of appropriate instruments in the medium to long-run, taking into account market conditions and preferences of various investor segments. Low cost is also attained through improved transparency by way of a detailed issuance calendar for G-sec and T-Bills. Scenario analysis, under the MTDS has estimated the expected cost of debt based on the assumptions of future interest rates, exchange

[2] Status Paper on Government Debt, March 2018.

rates and future borrowing needs. The debt sustainability analysis has looked at indicators, such as, debt to GDP, average time to maturity and interest expense to GDP. Stress tests to ascertain debt sustainability by subjecting debt to economic and financial shocks have indicated a very low level of stress. The analysis confirms that the debt is stable and sustainable over the medium to long run.

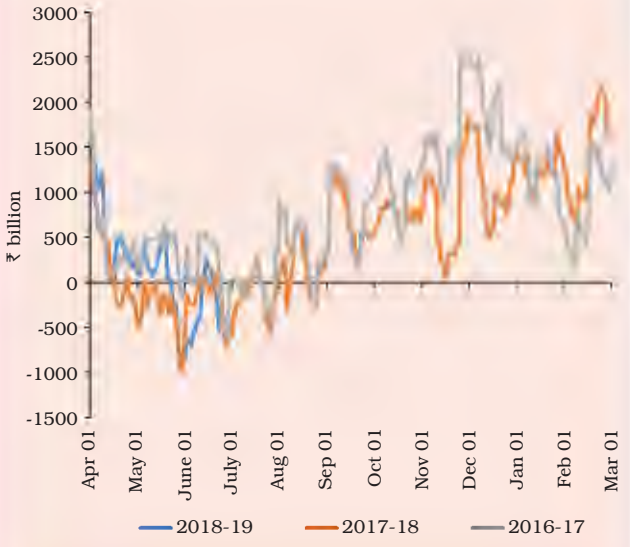
Treasury Bills

VII.14 Treasury Bills (T-Bills) were issued during the year to manage the short-term cash requirements of the government. The net short-term market borrowing of the government through T-Bills increased to ₹504.81 billion in 2017-18 as against a net repayment of ₹298.92 billion in 2016-17 due to increased issuances during H1 of 2017-18, reflecting the pressures GoI witnessed during the period. The PDs individually achieved the stipulated minimum success ratio of 40 per cent in bidding for T-Bill. The PDs' share in the T-Bill auctions during the year declined to 66.5 per cent as compared to 74.4 per cent in 2016-17, reflecting the increased demand for T-Bills from the other segments of the market.

Cash Management of the Central Government

VII.15 The government started the fiscal year 2017-18 with a cash balance of ₹1,303.50 billion. The WMA limit for the first and second quarter and second half of 2017-18 was fixed at ₹600 billion, ₹700 billion and ₹250 billion, respectively. The government's cash position remained under stress during the first half of 2017-18 mainly on account of the advancement of the presentation of the Union Budget and front-loading of expenditure. Consequently, WMA increased to 106 days in 2017-18 as against 25 days during the previous year coupled with overdraft (OD)

Chart VII.2: Cash Balance of the Central Government



Source: RBI.

for 6 days in 2017-18 *vis-à-vis* 1 day during the previous year. The highest WMA/OD recorded was ₹980.04 billion on June 3, 2017. To manage the continuous stress amidst lower and uncertain tax revenue stream on account of introduction of Goods and Services Tax (GST) during the first half, the government also issued Cash Management Bills (CMBs) for ₹1,500 billion of tenors between 15 to 80 days. The cash position improved subsequently, as tax flows stabilised and disinvestment process accelerated. The government ended the fiscal year 2017-18 with a cash balance of ₹1,675.55 billion (Chart VII.2). The WMA limit for the first quarter of 2018-19 was fixed at ₹600 billion.

Debt Management of State Governments

VII.16 States' dependence on the market borrowing programme has increased significantly over the years. As per the recommendation of the 14th Finance Commission (FC), states opted out (barring Delhi, Madhya Pradesh, Kerala and Arunachal Pradesh) of the National Small Savings Fund (NSSF) financing facility from 2016-17.

Table VII.4: Market Borrowings of States through SDLs

(Amount in ₹ billion)

Item	2015-16	2016-17	2017-18	2018-19*
1	2	3	4	5
Maturities during the year	352	393	788	105
Gross sanction under article 293(3)	3,060	4,000	4,824	3,554$
Gross amount raised during the year	2,946	3,820	4,191	766
Net amount raised during the year	2,594	3,427	3,403	661
Amount raised during the year to total Sanctions (per cent)	96	96	87	22
Outstanding liabilities (at the end period)#	16,389	20,896	24,298	24,959

$: April-December 2018.
#: Including UDAY and other special securities; *: As on June 30, 2018.
Source: RBI.

Consequently, market borrowings of states increased, also triggered by large redemption pressure from past borrowings, in the aftermath of the global financial crisis of 2008. The share of market borrowings in financing GFD increased from 64.1 per cent in 2016-17 to 66.1 per cent in 2017-18 (RE) mainly due to the termination of NSSF financing facility. This aggravated the impact on bond yields over market concerns on oversupply of sovereign paper.

VII.17 State governments raised market borrowings of ₹4,191 billion in gross and ₹3,403 billion in net during 2017-18, as compared to ₹3,820 billion and ₹3,427 billion respectively, raised in the previous year. The gross market borrowings of state governments in 2017-18 has increased by 9.7 per cent while the net borrowings declined by 0.7 per cent, due to higher repayments. There were 411 successful issuances in 2017-18, out of which 43 were re-issuances, reflecting the concerted efforts by the states towards consolidation of debt (Table VII.4).

VII.18 The weighted average yield (WAY) of State Development Loans (SDLs) issued during 2017-18 stood higher at 7.67 per cent compared to 7.48 per cent in the previous year. Despite hardening of yields across securities, the weighted average spread of SDL issuances over comparable central government securities stood at 59 bps as compared to 60 bps in 2016-17. In 2017-18, nine states and the Union Territory of Puducherry issued non-standard securities of tenors ranging from 3 to 25 years. As a strategic response to higher spreads, ten states rejected all the bids received in some of the auctions conducted. Following the policy of passive consolidation, states like Maharashtra, Odisha and Tamil Nadu undertook reissuances amounting to ₹472.62 billion during 2017-18 to improve the liquidity of their securities in the secondary market. However, the inter-state spread at 6 bps in 2017-18 was marginally lower than 7 bps in 2016-17, reflecting that the relationship between the spread on SDLs and fiscal situation of individual states remained weak during 2017-18 as well. In this context, an inter-departmental group was set up to explore various options available to move towards appropriate pricing of SDLs. Accordingly, the monetary policy statement issued in October 2017 announced the following measures for implementation, *viz.*: (i) consolidation of state government debt to improve liquidity in SDLs through reissuances and buybacks; (ii) conducting of weekly auctions of SDLs; and (iii) publishing of high frequency data relating to finances of state

governments available with the Reserve Bank. Consequently, with effect from October 2017, the data on Consolidated Sinking Fund (CSF), Guarantee Redemption Fund (GRF), held by the states, investments in Intermediate Treasury Bills (ITBs) and Auction Treasury Bills (ATBs) as well as financial accommodation in the form of WMA/OD are being published in the RBI Bulletin. In addition, weekly auctions of SDLs have commenced with effect from October 2017.

VII.19 With a view to incentivising the state governments to get SDLs rated, it has been decided in the second bi-monthly monetary policy for 2018-19 to set the initial margin requirement for rated SDLs, submitted as collaterals in LAF Repo/MSF window, at 1.0 per cent lower than that of non-rated SDLs for the same maturity buckets, *i.e.*, in the range of 1.5 per cent to 5.0 per cent. Further, to align the value of SDLs with the prevailing market price, the state government securities held by banks in their investment portfolio will, henceforth, be valued on observed prices, *i.e.*, the price at which the securities have been traded in the market. In case of non-traded state government securities, valuation will be done based on the state-specific weighted average spread over the yield of the central government securities of equivalent maturity as observed at primary auctions.

Cash Management of State Governments

VII.20 As envisaged by the Advisory Committee on Ways and Means Advances Scheme for the State Governments, 2016 (Chairman: Shri Sumit Bose), a review of the current WMA limits was undertaken during 2017-18. Based on the trends in the utilisation of WMA facilities, it was decided to retain the existing limits (₹322.25 billion for all states together) of WMA until reviewed by the next committee (effective from 2020-21). In the year 2017-18, thirteen states resorted to WMA while seven states availed overdraft facility.

VII.21 States have been accumulating sizeable cash surplus in recent years in the form of Intermediate Treasury Bills (ITBs) and Auction Treasury Bills (ATBs). As a result, liquidity pressures were confined only to a few states in 2017-18. Though positive cash balances indicate low intra-year fiscal pressures, it involves a negative carry of interest rates for the states, warranting improvement in cash management practices by states (Box VII.1). The outstanding investments of states in ITBs as at end-March 2018 stood at ₹1,508.71 billion as against ₹1,560.58 billion in the previous year, while outstanding investments of states in ATBs stood at ₹621.08 billion as against ₹366.03 billion at end-March 2017 (Table VII.5). The 69.7 per cent jump in investments in ATBs reflect the states' efforts at reducing the negative carry.

Investments in Consolidated Sinking Fund and Guarantee Redemption Fund

VII.22 Investments in Consolidated Sinking Fund (CSF) and Guarantee Redemption Fund (GRF) are found attractive by the states as the annual incremental investments in these schemes are utilised as collateral for availing Special Drawing

Table VII.5: Investments in ITBs and ATBs by State Governments/UT

(₹ billion)

Item	Outstanding as on March 31				
	2015	2016	2017	2018	2018*
1	2	3	4	5	6
14-Day (ITBs)	842	1,206	1,561	1,509	1162
ATBs	394	383	366	621	1220
Total	1,236	1,589	1,927	2,130	2382

*: As on June 30, 2018.
Source: RBI.

Box VII.1
States' Market Borrowings and Increasing Cash Surplus

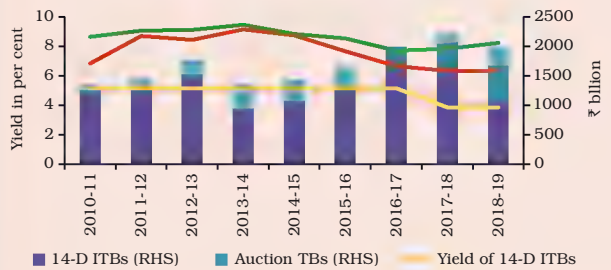
With most states opting out of National Small Saving Fund (NSSF) and other sources being often project-linked, states, reliance on market borrowings to finance their rapidly increasing gross fiscal deficits has increased considerably. Interestingly, the cash build up has also been rising with a sharp rise in gross borrowings, which has left them with large cash surplus as at end-March. The surplus, however, is generally seen to be concentrated with few states.

The cash surplus would show up when states mobilise resources in excess of their fiscal deficit requirements. Also, if expenditures ear-marked for the identified purpose or allocated to lower parastatals/agencies/schemes do not take place or are not utilised, unutilised funds would boost the surplus with the states.

While the central government issues both T-Bills and dated securities for its financing needs, state governments issue only dated securities, which makes them vulnerable at times of financial stress. For efficient cash management, it is prudent to keep a cash buffer/float to smooth expenditure/ meet any sudden unanticipated outflow. This threshold cash buffer, however, needs to be arrived at on the basis of some set criteria/historic trend, for instance, it could be a month's expenditure cover. Ending the years with large unutilised cash balances due to such factors as given above, for continuous long periods, puts unnecessary and avoidable interest burden that results from the negative carry if such surpluses have been built from borrowed sources and are invested in Intermediate Treasury Bills/ Auction Treasury Bills at lower rates (Chart 1).

While market borrowings by the centre have largely stagnated in recent times, states' increased reliance on market borrowings in the wake of a limited resource base and constrained internal fund mobilisation against rising fiscal gap, has led to an oversupply of government paper in the G-sec market pushing up the yield. In particular, large market borrowings by the states, which they do not immediately need, increase the yield for the 10-year benchmark security, as most of the state borrowings till recently have been in the 10-year maturity bucket. Besides its impact on the cost of borrowing for the central government, the rise in consolidated debt as such has implications for the market interest and the economy at large. More importantly, higher supply of SDLs *vis-à-vis* central government dated bonds to finance the consolidated GFD would tend to increase consolidated government borrowing cost due to SDL illiquidity and premia over central G-sec. In such a situation when states are using up the space vacated by centre, it is necessary to recalibrate the incentives in order to make states resort to need-based market borrowings.

Chart 1: Negative Carry of State Governments



Source: RBI.

Foremost, states need to make efforts towards better expenditure management and cash forecasting for effective cash management. Effective expenditure management post allocation of budgetary funds is central to the government's ability to control spending to deal with rising deficits and costs. This would obviate the need to keep more than prudent cash surplus which involves negative carry. Secondly, states' reliance on market borrowings may also lessen if states find more ways to mobilise resources internally, for instance, by levying appropriate user charges for services provided by them/their undertakings.

A shift from fortnightly issuances to weekly SDLs auctions, in addition to GoI providing sanction under article 293(3) of the Constitution for 9 months at a stretch at the beginning of the year, has given states the flexibility to enter the market at appropriate time and as required. In this regard, the 13th Finance Commission (FC) had recommended that 'there should be a directed effort by states with large balances towards utilising their existing cash balances before resorting to fresh borrowings'. In other words, fresh borrowing can be linked to utilisation of previous releases. The 15th FC can also deliberate on the allocated but unutilised funds, perhaps due to capacity constraints that end-up as surplus for long periods of time in the hands of states, and how these can be gainfully utilised elsewhere and thereby, reduce the extent of fresh borrowings.

Though most of the states are investing in long-term instruments by maintaining CSF/GRF, the liquidation is only for specific purposes. Other than non-marketable 14-days T-Bills that offer low returns, and Auction T-Bills that lock the funds for a longer tenor, states' avenues for investment of their surplus in short maturities are limited. The 15th FC can explore the alternate short-term investment avenues for states to park funds till their utilisation at better returns and thereby, help reduce negative carry.

The Reserve Bank is also taking steps towards consolidation of state debt through reissuances. Improving the availability of high-frequency data on state finances is a step forward towards improving market discipline which may restrain states from excessive borrowings at higher costs.

Facility (SDF) at a discounted rate. In order to further incentivise maintenance of adequate funds by state governments in CSF and GRF, and to encourage them to increase the corpus of these funds, the rate of interest on SDF against CSF/GRF has been lowered to 200 bps (as against 100 bps earlier) below the repo rate *vide* the second bi-monthly monetary policy statement of 2018-19. Outstanding investment by states in the CSF and GRF as at end-March 2018 stood at ₹992.71 billion and ₹54.38 billion, respectively. Total investment in CSF/GRF was ₹194.42 billion in 2017-18 and total disinvestment from the funds stood at ₹4.27 billion.

Agenda for 2018-19

VII.23 The Union Budget 2018-19 estimated the gross market borrowing through dated securities at ₹6,055 billion, higher by about 3 per cent as compared with ₹5,880 billion in 2017-18. Net market borrowing at ₹4,621 billion is envisaged to increase by 3 per cent during the same period. The Union Budget 2018-19 has also provided for net short-term borrowings of ₹170 billion. The net borrowing through dated securities has been estimated to fund about 74 per cent of GFD in 2018-19 (BE).

VII.24 The market borrowing programme of the central and state governments would continue to be guided by the following strategic measures within the overall objective of developing a deep and liquid market for G-sec as well as SDLs:

i. The overall liquidity in the G-sec market will be enhanced by consolidation of debt through active switches and buyback operations and the passive strategy of re-issuances.

ii. The secondary market liquidity of G-sec is proposed to be enhanced through the PDs' network in consultation with stakeholders and the existing secondary market turnover target for PDs will be reviewed.

iii. Elongation of maturity profile of the government debt will be undertaken under conducive market conditions. The features of CPI linked Inflation Indexed Bonds (IIBs) will be examined to cater to diverse investor base.

iv. Issuance of SGBs would be undertaken at greater regularity through calendar of issuances.

v. The recommendations of the inter-departmental group on the expansion of PD activities will be examined with a view to strengthening their network.

vi. Various options will be explored to reflect risk asymmetry among state governments in their cost of borrowings based on fiscal and economic parameters; capacity building programmes will be conducted for state governments and meetings between investors and state governments will be facilitated.

vii. Investor base will be broadened by working with state governments to manage their State Disaster Response Funds (SDRFs) through investment in G-sec and T-Bills and also by greater participation of foreign central banks in the G-sec market.

viii. A dashboard will be created to present information on the G-sec market covering important variables including gross and net borrowings of central and state governments.

VIII CURRENCY MANAGEMENT

Currency management during 2017-18 was geared towards managing the process of remonetisation and processing and reconciliation of specified banknotes (SBNs). The year was marked by issuance of banknotes of ₹10 and ₹50 under the new series and introduction of ₹200, a new denomination. New banknotes under the Mahatma Gandhi (New) Series highlighting the cultural heritage and scientific achievements of the country were issued. Sustained efforts were made towards indigenisation of banknotes production with sophisticated security features.

VIII.1 The focus of currency management during 2017-18 broadly remained on remonetisation, processing and reconciliation of SBNs received at the Reserve Bank from circulation. This humungous task of processing and verification of SBNs was successfully achieved with the co-ordinated efforts put in by the work force of the Issue Department of the Reserve Bank. The process involved working in two shifts under strenuous conditions, maintaining detailed records and planning effectively without compromising on other functions of currency management. Ceaseless efforts towards remonetisation continued during the year which saw issuance of banknotes of ₹10 and ₹50 under the new series and introduction of ₹200, a new denomination.

TRENDS IN CURRENCY

Banknotes in Circulation

VIII.2 The value of banknotes in circulation increased by 37.7 per cent over the year to ₹18,037 billion as at end-March 2018. The volume of banknotes, however, increased by 2.1 per cent. In value terms, the share of ₹500 and ₹2000 banknotes, which had together accounted for 72.7 per cent of the total value of banknotes in circulation at end-March 2017, increased to 80.2 per cent as at end-March 2018. The share of newly introduced ₹200 banknotes in the total value of banknotes in circulation was 2.1 per cent as at end-March 2018. In volume terms, ₹10 and ₹100 banknotes constituted 51.6 per cent of total banknotes in circulation as at end-March 2018 as compared to 62.0 per cent at end-March 2017 (Table VIII.1).

Table VIII.1: Banknotes in Circulation

Denomination (₹)	Volume (million pieces)			Value (₹ billion)		
	Mar 2016	Mar 2017	Mar 2018	Mar 2016	Mar 2017	Mar 2018
1	2	3	4	5	6	7
2 & 5	11,626	11,557	11,425	45	45	44
	(12.9)	(11.5)	(11.2)	(0.3)	(0.3)	(0.2)
10	32,015	36,929	30,645	320	369	307
	(35.5)	(36.8)	(29.9)	(1.9)	(2.8)	(1.7)
20	4,924	10,158	10,016	98	203	200
	(5.4)	(10.2)	(9.8)	(0.6)	(1.5)	(1.1)
50	3,890	7,113	7,343	194	356	367
	(4.3)	(7.1)	(7.2)	(1.2)	(2.7)	(2.0)
100	15,778	25,280	22,215	1,578	2,528	2,222
	(17.5)	(25.2)	(21.7)	(9.6)	(19.3)	(12.3)
200	-	-	1,853	-	-	371
	-	-	(1.8)	-	-	(2.1)
500	15,707	5,882	15,469	7,854	2,941	7,734
	(17.4)	(5.9)	(15.1)	(47.8)	(22.5)	(42.9)
1000	6,326	89	66	6,326	89	66
	(7.0)	(…)	(…)	(38.6)	(0.7)	(0.4)
2000	-	3,285	3,363	-	6,571	6726
	-	(3.3)	(3.3)	-	(50.2)	(37.3)
Total	**90,266**	**100,293**	**102,395**	**16,415**	**13,102**	**18,037**

-: Not Applicable. …: Negligible.
Note: Figures in parentheses represent the percentage share in total volume/value.
Source: RBI.

Coins in Circulation

VIII.3 Coins in circulation witnessed a small increase during the year compared to the position as at end-March 2017. The total value of coins in circulation increased by 2.4 per cent in 2017-18 as against 14.7 per cent last year, while the total volume of coins in circulation increased by 2.4 per cent as compared to 8.5 per cent in the previous year. As on March 31, 2018, coins of ₹1, ₹2 and ₹5 together constituted 83.3 per cent of the total volume of coins in circulation, while in value terms, these accounted for 77.7 per cent (Table VIII.2).

Currency Management Infrastructure

VIII.4 The currency management infrastructure consists of a network of 19 issue offices of the Reserve Bank, 3,975 currency chests (including sub-treasury offices and a currency chest of the Reserve Bank at Kochi) and 3,654 small coin depots of commercial, co-operative and regional rural banks spread across the country (Table VIII.3).

Table VIII.2: Coins in Circulation

Denomination (₹)	Volume (million pieces)			Value (₹ billion)		
	Mar 2016	Mar 2017	Mar 2018	Mar 2016	Mar 2017	Mar 2018
1	2	3	4	5	6	7
Small coins	14,788	14,788	14,788	7	7	7
	(13.8)	(12.7)	(12.4)	(3.2)	(2.8)	(2.7)
1	44,876	48,347	49,636	45	48	50
	(41.9)	(41.6)	(41.7)	(20.6)	(19.2)	(19.5)
2	29,632	32,059	32,855	59	64	66
	(27.7)	(27.6)	(27.6)	(27.1)	(25.6)	(25.8)
5	14,089	15,783	16,650	70	79	83
	(13.2)	(13.6)	(14.0)	(32.1)	(31.6)	(32.4)
10	3,703	5,205	5,049	37	52	50
	(3.4)	(4.5)	(4.2)	(17.0)	(20.8)	(19.5)
Total	**107,088**	**116,182**	**118,978**	**218**	**250**	**256**

Note: 1. Figures in parentheses represent the percentage share in total volume/value.
2. Figures in parentheses may not add up to 100 due to rounding off of numbers.

Source: RBI.

Table VIII.3: Currency Chests and Small Coin Depots as at end-March 2018

Category	No. of Currency Chest	No. of Small Coin Depot
1	2	3
State Bank of India	2,575	2,447
Nationalised Banks	1,206	1,022
Private Sector Banks	172	168
Co-operative Banks	5	5
Foreign Banks	4	4
Regional Rural Banks	7	7
Sub-treasury Offices	5	0
Reserve Bank of India	1	1
Total	**3,975**	**3,654**

Source: RBI.

Indent and Supply of Currency

VIII.5 On account of demonetisation, 2016-17 was an exceptional year and the after-effects continued in 2017-18 as well. Accordingly, the indent for 2017-18 was higher by 9.1 per cent as compared to last year. However, the supply of banknotes was lower than that in the previous year, but was noticeably higher compared to the pre-demonetisation year (Table VIII.4).

VIII.6 The indent and supply of coins during the year was considerably lower as compared to last year with only 5,852 million pieces of coins supplied against an indented quantity of 7,712 million pieces in 2017-18 *vis-à-vis* 9,691 million pieces supplied against an indent of 15,000 million pieces in 2016-17 (Table VIII.5).

VIII.7 Banknotes under the Mahatma Gandhi (New) Series were launched from November 2016, highlighting the cultural heritage and scientific achievements of the country. During the year, in continuation of the earlier release

Table VIII.4: Indent and Supply of Banknotes by BRBNMPL and SPMCIL (April-March)

(Million pieces)

Denomination (₹)	2015-16		2016-17		2017-18	
	Indent	Supply	Indent	Supply	Indent	Supply
1	2	3	4	5	6	7
5	0	0	0	0	0	0
10	4,000	5,857	3,000	2,785	4,237	4,313
20	5,000	3,252	6,000	4,118	2,458	2,051
50	2,050	1,908	2,125	2,700	3,784	2,793
100	5,350	4,910	5,500	5,738	8,068	3,170
200	-	-	-	-	2,694	2,832
500 (MG series)	5,600	4,291	5,725	2,013	-	-
500 (new design)	-	-	-	7,260	9,213	9,693
1000	1,900	977	2,200	925	-	-
2000	-	-	3,500	3,504	151	151
Total @	**23,900**	**21,195**	**28,050**	**29,043**	**30,605**	**25,003**

-: Not Applicable. **@:** Total excludes ₹1.
Note: BRBNMPL: Bharatiya Reserve Bank Note Mudran Private Limited.
SPMCIL: Security Printing and Minting Corporation of India Limited.
Source: RBI.

of banknotes in the denominations of ₹2000 and ₹500, banknotes of ₹200, ₹50 and ₹10 denominations of the same series were also introduced (Table VIII.6).

Disposal of Soiled Notes

VIII.8 During the year, 27.7 billion pieces of banknotes were disposed as against 12.5 billion pieces last year, mainly on account of accelerated processing of SBNs of ₹500 and ₹1000 denominations (Table VIII.7).

Trends in Counterfeit Notes Detected in the Banking System

VIII.9 During 2017-18, 522,783 pieces of counterfeit notes were detected in the banking system, of which 63.9 per cent were detected by banks other than the Reserve Bank (Table VIII.8).

Table VIII.5: Indent and Supply of Coins by Mints (April-March)

(Million pieces)

Denomination	2015-16		2016-17		2017-18	
	Indent	Supply	Indent	Supply	Indent	Supply
1	2	3	4	5	6	7
50 Paise	40	30	30	30	-	-
₹1	6,100	3,753	6,300	3,548	1,830	2,008
₹2	4,000	2,899	4,200	2,461	1,184	1,539
₹5	2,100	1,492	2,270	2,429	1,698	1,545
₹10	2,000	1,084	2,200	1,223	3,000	760
Total	**14,240**	**9,258**	**15,000**	**9,691**	**7,712**	**5,852**

-: Not Applicable.
Source: RBI.

Table VIII.6: Introduction of Banknotes under Mahatma Gandhi (New) Series

Denomination (₹)	Motif-Theme	Base colour	Dimension
1	2	3	4
200	Sanchi Stupa	Bright Yellow	66 mm × 146 mm
50	Hampi with Chariot	Fluorescent Blue	66 mm x 135 mm
10	Sun Temple, Konark	Chocolate Brown	63 mm x 123 mm

Source: RBI.

Detection of counterfeit notes was 31.4 per cent lower than the previous year. Counterfeit notes detected in SBNs decreased by 59.7 and 59.6 per cent in the denominations of ₹500 and ₹1000, respectively, as the same comprised only the residual part of SBN deposits processed during the year 2017-18. Compared to the previous year, there was an increase of 35 per cent in counterfeit notes detected in the denomination of ₹100, while there was a noticeable increase of 154.3 per cent in counterfeit notes detected in the denomination of ₹50. In the Mahatma Gandhi (New) Series of banknotes in the denominations of ₹500 and ₹2000, counterfeit notes detected during 2017-18 were 9,892 and 17,929 as against 199 and 638, respectively during the previous year (Table VIII.9). Out of the total Fake Indian Currency Notes (FICNs) detected, the share of FICNs detected at the Reserve Bank was higher at 36.1 per cent as compared to 4.3 per cent during the previous year. This was because of processing of large volume of SBNs withdrawn from circulation.

Table VIII.7: Disposal of Soiled Banknotes (April-March)

(Million pieces)

Denomination (₹)	2015-16	2016-17	2017-18
1	2	3	4
1,000	625	1,514	6,847
500	2,800	3,506	20,024
100	5,169	2,586	105
50	1,349	778	83
20	849	546	114
10	5,530	3,540	497
Up to 5	46	34	8
Total	**16,368**	**12,503**	**27,678**

Note: Figures in the column may not add up to the total due to rounding off of the numbers.
Source: RBI.

Table VIII.8 : Number of Counterfeit Notes Detected (April-March)

(No. of pieces)

Year	Detection at Reserve Bank	Banks other than the Reserve Bank	Total
1	2	3	4
2015-16	31,765	601,161	632,926
	(5.0)	(95.0)	(100.0)
2016-17	32,432	729,640	762,072
	(4.3)	(95.7)	(100.0)
2017-18	188,693	334,090	522,783
	(36.1)	(63.9)	(100.0)

Note: 1. Figures in parentheses represent the percentage share in total.
2. Does not include counterfeit notes seized by the police and other enforcement agencies.
Source: RBI.

Table VIII.9: Denomination-wise Counterfeit Notes Detected in the Banking System (April-March)

(No. of pieces)

Denomination (₹)	2015-16	2016-17	2017-18
1	2	3	4
2 and 5	2	80	1
10	134	523	287
20	96	324	437
50	6,453	9,222	23,447
100	221,447	177,195	239,182
200	-	-	79
500 (MG series)	261,695	317,567	127,918
500 (New design)	-	199	9,892
1000	143,099	256,324	103,611
2000	-	638	17,929
Total	**632,926**	**762,072**	**522,783**

-: Not Applicable.
Source: RBI.

Expenditure on Security Printing

VIII.10 The total expenditure incurred on security printing during the year (July 2017 - June 2018) stood at ₹49.12 billion as against ₹79.65 billion in 2016-17.

Agenda for 2017-18: Implementation Status

Introduction of New Security Features

VIII.11 The global Pre-Qualification Bid Notice (PQBN) notified by the Reserve Bank on June 19, 2015 was cancelled during the year and a fresh PQBN was notified on July 17, 2017 in view of the introduction of Mahatma Gandhi (New) Series of banknotes with reduced dimensions of banknotes and growing emphasis on 'Make in India' as per the Public Procurement (Preference to Make in India) Order, 2017 issued by the Government of India. The security features notified for procurement included security threads with colour shift and moving images, colour shifting inks, foil patch, security fibres, ink and paper based taggants, advanced watermark and micro-perforation.

Review of Currency Distribution and Exchange Scheme (CDES)

VIII.12 The Reserve Bank has introduced incentives for installation of various machines in addition to performance based incentives in order to encourage banks to use technology in currency operations for providing better customer service. The incentives for installation of machines were rationalised in May 2016 and installation of only Cash Recyclers and ATMs dispensing lower denomination notes, was incentivised. As the purpose of installing these machines was largely met, it was decided to withdraw the incentives with effect from March 02, 2018.

Procurement of Currency Verification and Processing System (CVPS)

VIII.13 To augment its banknote processing capacity, the Reserve Bank initiated the tendering process for replacement of 50 CVPS machines with new ones during the year.

Amendment of Note Refund Rules

VIII.14 The introduction of a new series of banknotes with different dimensions as compared to the earlier series notes and the introduction of new denominations of banknotes of ₹2000 and ₹200 necessitated an amendment to the Reserve Bank of India (Note Refund) Rules, 2009. The required changes are expected to be notified through a Gazette Notification shortly.

Introduction of Varnished Banknotes – Field Trial

VIII.15 In consultation with the Government of India, the Reserve Bank has been exploring the feasibility of increasing the life of Indian banknotes. International experience suggests that varnishing of banknotes is expected to increase their life and durability, reduce the banknote replacement requirements and thereby lower the overall security printing expenditure. It is proposed to introduce varnished banknotes on a field trial basis.

Constitution of High Level Committees

VIII.16 As announced in the fourth bi-monthly monetary policy statement on October 4, 2016, the entire gamut of security of treasure in transit was reviewed through two committees, *viz.*, the High Level Committee on Currency Storage and Movement (HLCCSM) (Chairman: Shri N. S. Vishwanathan, Deputy Governor) and the Committee on Currency Movement (CCM)

(Chairman: Shri Deepak Mohanty, Executive Director). An Expert Group (Chairman: Shri C. Krishnan, former Executive Director) was also constituted to look into the quality control processes adopted for banknote production (Box VIII.1). The recommendations of the CCM and Expert Group are in various stages of implementation.

Specified Banknotes (SBNs)

VIII.17 In terms of the Specified Banknotes (Cessation of Liabilities) Act 2017, a grace period was provided to Indian citizens who were outside India between November 9 and December 30, 2016 to deposit SBNs held by them at any of the five Reserve Bank Offices (Mumbai, New Delhi, Chennai, Kolkata, and Nagpur), subject to certain conditions. In terms of the Government of India notification, the grace period for a resident of India was available till March 31, 2017 and that for non-resident Indian citizens till June 30, 2017. Under this scheme, around 77,000 tenders were received, of which around 68 per cent were found to be eligible for payment.

VIII.18 During the year, the Government of India notified on May 12, 2017 the Specified Bank Notes (Deposit of Confiscated Notes) Rules, 2017 under which SBNs confiscated or seized by law enforcement agencies or produced before a court on or before December 30, 2016 may be tendered at any office of the Bank for deposit in a bank account or exchange of the value thereof with legal tender, subject to conditions stipulated in the said Rules. These Rules are not applicable for SBNs seized or confiscated after December 30, 2016. No cut-off date is prescribed in the

Box VIII.1
Committees on Currency Movement

Pursuant to the fourth bi-monthly monetary policy statement for the year 2016-17 issued on October 04, 2016, the Reserve Bank had constituted two committees, *viz*., the High Level Committee on Currency Storage and Movement (HLCCSM) and the Committee on Currency Movement (CCM) to review the movement of notes up to currency chest level and further downstream, respectively. The HLCCSM has submitted an interim report. Meanwhile an international expert has been appointed to assist the committee. The CCM has since submitted its report, suggesting measures to make the retail currency circulation system in India, more efficient and secure. The committee has also made recommendations relating to upgradation of currency chests and security measures for cash movement. The recommendations of the committee are in various stages of implementation.

Group of Experts for Review of Systems and Processes

Currency management is one of the core central banking functions of the Reserve Bank. The responsibility of maintaining integrity and quality of banknotes and ensuring public confidence rests with the Bank. As an issuer of banknotes, the Reserve Bank has to ensure that the quality control, systems and processes relating to printing at the presses and technology employed, both at BRBNMPL, a wholly owned subsidiary of the Bank and SPMCIL owned by the Government of India, are standardised and are at par with international standards.

With a view to examining the systems, processes and quality control mechanisms in place at the note printing presses and paper mills, an Expert Group (Chairman: Shri C. Krishnan, former Executive Director) was constituted to conduct an audit of the entire gamut of note printing and all its attendant processes. The Expert Group has submitted its report and has made recommendations for standardisation of raw material procurement, quality assurance, note printing processes, security features, *etc*., across all the presses and the paper mills.

Rule for tendering such SBNs with the Reserve Bank.

VIII.19 The Government of India has also notified on June 20, 2017 the Specified Banknotes (Deposit by Banks, Post Offices and District Central Co-operative Banks) Rules, 2017, allowing the Bank to accept within a period of 30 days from the date of notification and subject to certain conditions specified in the said Rules, SBNs from (i) any bank or Post Office that had received SBNs from its customers on or before December 30, 2016, and (ii) DCCBs that had received SBNs from their customers between November 10-14, 2016. The facility to accept eligible SBNs in terms of these Rules was made available at 19 Regional Offices of the Bank till July 19, 2017.

VIII.20 The SBNs received were verified, counted and processed in the sophisticated high speed CVPS for accuracy and genuineness and shredded and briquetted in the Shredding and Briquetting system. The processing capacity was augmented by resorting to night shifts (along with day shifts), working for 6 days a week, using 8 additional machines available with commercial banks and taking 7 machines on lease from vendors. Diversion of SBNs from Issue Circles having surplus SBNs to Issue Circles having surplus processing capacity was also effected for ensuring near simultaneous completion of processing at all the Issue Offices of the Bank. The processing of SBNs has since been completed at all centres of the Reserve Bank. The total SBNs returned from circulation is ₹15,310.73 billion.

Public Awareness Campaign

VIII.21 In order to create awareness, remove misconceptions and allay fears in the mind of the pubic regarding coins, the Reserve Bank undertook an SMS awareness campaign during the year. The legal tender character of ₹10 coins of different designs was also reiterated *vide* a press release on the Reserve Bank's website.

Agenda for 2018-19

Implementation of e-Kuber

VIII.22 At present, management of inventory relating to currency operations, reporting of currency chest transactions and accounting thereof, generation of MIS reports, *etc.*, are being carried out through an Integrated Computerised Currency Operations & Management System (ICCOMS) at the Reserve Bank and currency chests. ICCOMS is going to be replaced with a currency management module in the Bank's Core Banking Solution (e-Kuber) which will improve inventory management, facilitate near real time accounting of currency chest transactions, enable better tracking of currency in circulation and cover all related activities of currency chests, link offices and Regional Offices of the Reserve Bank.

Laboratory for Banknote Quality Assurance

VIII.23 Based on the recommendation of the Group of Experts for Review of Systems and Processes relating to banknote production (Chairman: Shri C. Krishnan), the Department of Currency Management has initiated the process of setting up a laboratory at Mumbai for banknote quality assurance.

Automation of Banknote Handling Process

VIII.24 Considering the huge volume of banknotes that is being handled/likely to be handled in future, there is an emergent need

for upgrading the infrastructure and processes for currency management in the country by inducting modern technology and automation. The Reserve Bank will explore the possibility of mechanising the processes by adopting suitable technology.

BHARATIYA RESERVE BANK NOTE MUDRAN PRIVATE LIMITED (BRBNMPL)

VIII.25 Established in 1995 as a wholly owned subsidiary of the Reserve Bank to augment the country's banknote production capacity, BRBNMPL has contributed immensely to achieving strategic objectives in the field of currency management. The achievements of the company during the year included supplying around two-thirds of the total banknotes received by the Reserve Bank, indigenously designing the Mahatma Gandhi (New) Series banknotes and continuing with extensive automation and Enterprise Resource Planning. Along with SPMCIL, BRBNMPL has set up Bank Note Paper Mill India Private Limited (BNPMIPL), an entity producing Cylinder Watermarked Bank Note (CWBN) paper required for banknote production. BRBNMPL has set up an ink factory at Mysuru, which will shortly go into mass production.

IX PAYMENT AND SETTLEMENT SYSTEMS AND INFORMATION TECHNOLOGY

The Reserve Bank's endeavour to build a less-cash society continued with the large scale adoption of digital modes of payments in the country. In an era of rising means of electronic payment systems, the Bank focused its efforts on safety and security of digital transactions. Accordingly, the Bank worked towards building up a robust and resilient technology infrastructure which ensured smooth functioning of the critical and systemically important payment and settlement systems in the country.

DEPARTMENT OF PAYMENT AND SETTLEMENT SYSTEMS (DPSS)

IX.1 The Department of Payment and Settlement Systems (DPSS) continued to work on the strategic initiatives set in the 'Payment and Settlement Systems in India: Vision 2018' document. This resulted in achievement of the expected outcomes laid out in the vision through: (i) decrease in the share of paper-based clearing instruments; (ii) consistent growth in individual segments of retail electronic payment systems, *viz.,* National Electronic Funds Transfer (NEFT), Immediate Payment Service (IMPS), card transactions and mobile banking; (iii) increase in registered customer base for mobile banking; and (iv) upscaling of the acceptance infrastructure for digital payments. Further, with the rapid adoption of digital payments across the country, aided by the introduction of innovative products in the payment space, the Bank focused on strengthening infrastructure and ensuring safety and security of digital transactions.

Growth in Payment Systems

IX.2 The payment and settlement systems recorded robust growth in 2017-18, with volume and value growing at 44.6 per cent and 11.9 per cent, respectively, on top of an increase of 56.0 per cent and 24.8 per cent, respectively, in 2016-17. The share of electronic transactions in the total volume of retail payments increased to 92.6 per cent in 2017-18, up from 88.9 per cent in the previous year with a corresponding reduction in the share of paper based clearing instruments from 11.1 per cent in 2016-17 to 7.4 per cent in 2017-18 (Table IX.1).

Electronic Payments

IX.3 Amongst the electronic modes of payments, the Real Time Gross Settlement (RTGS) system handled 124 million transactions valued at ₹1,167 trillion in 2017-18, up from 108 million transactions valued at ₹982 trillion in the previous year. At the end of March 2018, the RTGS facility was available through 1,37,924 branches of 194 banks. The NEFT system handled 1.9 billion transactions valued at around ₹172 trillion in 2017-18, up from 1.6 billion transactions valued at ₹120 trillion in the previous year, registering a growth of 20 per cent in terms of volume and 43.5 per cent in terms of value. At the end of March 2018, the NEFT facility was available through 1,40,339 branches of 192 banks, in addition to a large number of business correspondent (BC) outlets.

IX.4 During 2017-18, the number of transactions carried out through credit cards and debit cards was 1.4 billion and 3.3 billion,

Table IX.1 Payment System Indicators – Annual Turnover

Item	Volume (million)			Value (₹ billion)		
	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18
1	2	3	4	5	6	7
Systemically Important Financial Market Infrastructures (SIFMIs)						
1. RTGS	98.3	107.8	124.4	8,24,578	9,81,904	11,67,125
Total Financial Markets Clearing (2+3+4)	**3.1**	**3.7**	**3.5**	**8,07,370**	**10,56,173**	**10,74,802**
2. CBLO	0.2	0.2	0.2	1,78,335	2,29,528	2,83,308
3. Government Securities Clearing	1.0	1.5	1.1	2,69,778	4,04,389	3,70,364
4. Forex Clearing	1.9	1.9	2.2	3,59,257	4,22,256	4,21,131
Total SIFMIs (1 to 4)	**101.4**	**111.5**	**127.9**	**16,31,948**	**20,38,077**	**22,41,927**
Retail Payments						
Total Paper Clearing (5+6)	**1,096.4**	**1,206.7**	**1,170.6**	**81,861**	**80,958**	**81,893**
5. CTS	958.4	1,111.9	1,138.0	69,889	74,035	79,451
6. Non-MICR Clearing	138.0	94.8	32.6	11,972	6,923	2,442
Total Retail Electronic Clearing (7+8+9+10+11+12)	**3,141.5**	**4,222.9**	**6,382.4**	**91,408**	**1,32,324**	**1,93,112**
7. ECS DR	224.8	8.8	1.5	1,652	39	10
8. ECS CR	39.0	10.1	6.1	1,059	144	115
9. NEFT	1,252.9	1,622.1	1,946.4	83,273	1,20,040	1,72,229
10. IMPS	220.8	506.7	1,009.8	1,622	4,116	8,925
11. Unified Payment Interface	-	17.9	915.2	-	69	1,098
12. National Automated Clearing House (NACH)	1,404.1	2,057.3	2,503.3	3,802	7,916	10,736
Total Card Payments (13+14+15)	**2,707.3**	**5,450.1**	**8,207.6**	**4,483**	**7,421**	**10,607**
13. Credit Cards	785.7	1,087.1	1,405.2	2,407	3,284	4,590
14. Debit Cards	1,173.6	2,399.3	3,343.4	1,589	3,299	4,601
15. Prepaid Payment Instruments (PPIs)	748.0	1,963.7	3,459.0	488	838	1,416
Total Retail Payments (5 to 15)	**6,945.2**	**10,879.7**	**15,760.6**	**1,77,752**	**2,20,703**	**2,85,612**
Grand Total (1 to 15)	**7,046.6**	**10,991.2**	**15,888.5**	**18,09,701**	**22,58,780**	**25,27,539**

Note: 1. Real Time Gross Settlement (RTGS) system includes customer and inter-bank transactions only.
2. Settlement of Collateralised Borrowing and Lending Obligation (CBLO), government securities clearing and forex transactions are through the Clearing Corporation of India Ltd. (CCIL). Government Securities include outright trades and both legs of repo transactions.
3. The figures for cards are for transactions at point of sale (POS) terminals only, which include online transactions.
4. Figures in the columns might not add up to the total due to rounding off of numbers.
5. ECS DR: Electronic Clearing System Debit, ECS CR: Electronic Clearing System Credit.

Source : RBI.

respectively. Prepaid payment instruments (PPIs) recorded a volume of about 3.5 billion transactions, valued at ₹1,416 billion. Mobile banking services witnessed a growth of 92 per cent and 13 per cent in volume and value terms, respectively, while the number of registered customers rose by 54 per cent to 251 million at end-March 2018 from 163 million at end-March 2017.

IX.5 The acceptance infrastructure also witnessed substantial growth with the number of Point of Sale (POS) terminals deployed increasing by 24 per cent from 2.53 million in 2016-17 to 3.14 million in 2017-18. However, during the same period, the ATMs deployed witnessed a marginal decline from 2,22,475 to 2,22,247.

Authorisation of Payment Systems

IX.6 Digital mode of payments was facilitated through 84 authorised payment system operators (PSOs) as against 87 in June 2017, comprising

PPI issuers, cross-border money transfer service providers-in bound, White Label ATM Operators (WLAOs), Trade Receivables Discounting System (TReDS) operators, ATM networks, instant money transfer service providers, card payment networks and Bharat Bill Payment Operating Units (BBPOUs), besides the Clearing Corporation of India Limited (CCIL) and the National Payments Corporation of India (NPCI). The number of non-bank entities authorised for operating PPIs decreased to 49 from 55 in the previous year due to the merger/conversion of some entities into payment banks and voluntary surrender of license by the entities. While 58 banks were granted approval to issue PPIs, 430 banks were permitted to provide mobile banking services up to end-June 2018.

Agenda for 2017-18: Implementation Status

IX.7 In the 'Payment and Settlement Systems in India: Vision 2018', the Department had identified four strategic pillars for achieving its vision. The developments in each of the areas are detailed below.

Responsive Regulation

Policy Framework for CCPs

IX.8 The Central Counterparties (CCPs) are critical components of Financial Market Infrastructures (FMIs). By providing guaranteed settlement services in the markets, the CCPs protect the participants from losses due to counterparty defaults, replacement-cost risk, and principal risk. In order to ensure efficient functioning of the CCPs, the Reserve Bank is in the process of issuing directions on (i) governance, (ii) net worth requirement and (iii) regulation of foreign CCPs.

Review of WLA Guidelines

IX.9 Guidelines for setting up and operating white label ATMs (WLA) in India were first issued in June 2012. Based on experience and industry representations, the guidelines have been amended from time to time. To further facilitate the utilisation of WLAs, WLAOs have been permitted to source cash from retail outlets. Notwithstanding this, the WLAOs have not been able to meet the targets prescribed under the respective schemes. In view of this, a complete review of WLA guidelines would be undertaken in 2018-19 from the perspective of entry point norms of WLA, deployment targets/ entry of new players, *etc*.

Review of PPI Guidelines

IX.10 The Reserve Bank released the 'Master Direction on Issuance and Operation of Prepaid Payment Instruments (PPIs)' on October 11, 2017. The major modifications made in the Master Direction relate to changes in entry point norms, KYC requirements, consolidation of various categories of PPIs, safety and security of transactions as well as systems, customer protection and grievance redressal mechanism, fraud prevention and risk management framework. In addition, the Master Direction prescribes a path for implementation of interoperability amongst PPIs issued by banks and authorised non-banks.

Robust Infrastructure

Rationalisation of MDR for Debit Card Transactions

IX.11 In order to achieve the twin objectives of promoting debit card acceptance by a wider set of merchants (especially the small merchants) and ensuring sustainability of the business for the entities involved, the Merchant Discount Rate (MDR) framework was rationalised effective January 1, 2018. The revised framework categorises merchants on the basis of turnover, adopts a differentiated MDR for quick response (QR)-code based transactions and specifies a ceiling on the maximum permissible MDR for both 'card present' and 'card not present' transactions.

Migration to CTS-2010 Standards

IX.12 Banks are required to withdraw non-Cheque Truncation System (CTS) - 2010 Standard cheques in circulation by creating awareness among customers. The share of non-CTS-2010 cheques in total cheque volume has been brought down from 4 per cent in 2014 to below 0.25 per cent in 2018. In view of the declining trend in the volume of such instruments presented in clearing, the frequency of separate sessions for clearing of non-CTS-2010 cheques in the three CTS grid centres has been reduced to once a fortnight from July 1, 2018 (every alternate Wednesday beginning July 4, 2018). Banks have been advised to convert the existing post-dated cheques (debit mandates) to National Automated Clearing House (NACH) and not to accept additional post-dated cheques.

Effective Supervision

Oversight Framework for Authorised Payment Systems

IX.13 To realise the stated goals in the 'Payment and Settlement Systems in India: Vision 2018' document under the changing payments ecosystem in the country, a review of the policy framework for oversight of payment systems was undertaken. The draft oversight framework for existing and new payment systems prescribing the intensity of oversight proportionate to systemic risks or system-wide risks posed by the participants of the payment system is being finalised.

Data Reporting by PSOs in XBRL Format

IX.14 As part of the off-site surveillance process, the PSOs periodically submit returns on the issuance and usage of payment instruments issued by them. The periodic returns are being migrated to the eXtensible Business Reporting Language (XBRL) system to facilitate automated reporting from entities and provide better quality of information for decision-making.

Onsite Inspection

IX.15 During 2017-18, onsite inspection of 21 entities, *viz*., CCIL, NPCI, 18 PPI issuers and 1 WLA operator was carried out by the Bank. In the NPCI inspection, special emphasis was laid on assessing the various risks (*i.e.*, legal, operational, settlement and reputation) and steps/measures are being put in place by NPCI for mitigating the same. Issues related to governance and human resources were also covered during the inspection.

IX.16 Inspection of CCIL was undertaken in September 2017. CCIL was assessed for its performance as a central counterparty and trade repository against the 24 principles for financial market infrastructures (PFMIs) using the 'Committee on Payments and Market Infrastructures - International Organization of Securities Commissions (CPMI-IOSCO) - Assessment Methodology'. As a measure of enhanced transparency, CCIL continued to disclose its self-assessment in compliance with the PFMIs on an annual basis, as per the 'Disclosure Framework and Assessment Methodology', prescribed in the PFMIs. CCIL also published its quantitative disclosures on a quarterly basis as per the public disclosure standards for CCPs.

IX.17 In view of the increased threat of wholesale payments fraud, the CPMI established a task force to look into the security of wholesale payments and develop a strategy with the aim to encourage and help focus industry efforts to reduce the risk of wholesale payments fraud and support financial stability. A gist of the elements of the strategy to reduce risks in wholesale payments relating to endpoint security is provided in (Box IX.1).

Box IX.1
Endpoint Security in RTGS

An endpoint in the wholesale payment ecosystem is defined to be a point in place and time at which payment instruction information is exchanged between two parties in the ecosystem. Endpoint security aims to adequately secure every endpoint connecting to a network to block access attempts and other risky activity at these points of entry. The CPMI has released a report titled, 'Reducing the Risk of Wholesale Payments Fraud Related to Endpoint Security' in which it has stressed the need for a holistic approach to counter the risk of frauds. The report highlighted the requirement for a coordinated effort to ensure the safety of wholesale payments that was essential due to the interconnectedness of the financial networks.

The elements of the strategy to reduce risks in wholesale payments fraud relating to endpoint security were identified as under:

- Element 1: Identify and understand the range of risks related to endpoint security that are faced by the participants individually and collectively.
- Element 2: Establish endpoint security requirements for its participants for fraud prevention, detection and response.
- Element 3: Promote adherence to the respective endpoint security requirements.
- Element 4: Provide and use information and tools to improve fraud prevention and detection.
- Element 5: Procedures and practices should be in place to respond to actual or suspected fraud in a timely manner.
- Element 6: Support ongoing education, awareness and information-sharing.
- Element 7: Monitor evolving endpoint security risks and risk controls, review and update the endpoint security requirements, procedures, practices and resources.

Customer Centricity

Harmonisation of Customer Grievance Redressal Mechanism (CGRM)

IX.18 The Bank held discussions with various stakeholders in the payments ecosphere to harmonise the CGRM across various products. The proposed harmonisation will bring uniformity in various aspects, *viz.*, dispute redressal mechanism, cost structure, turn-around time for redressal of customer grievances and refund process for failed / rejected transactions. The inputs so received are being examined and consolidated. Meanwhile, a robust CGRM has been put in place for PPI issuers.

Disclosure Framework for PSOs

IX.19 In order to bring in further transparency in customer charges, the Bank initiated measures to ensure that the PSOs clearly disclose the fees and terms and conditions of their services to the customers.

Confirmation of Payment in NEFT

IX.20 The feature of sending positive confirmation to remitters regarding the completion of funds transfer is already live in the NEFT system and almost all banks are now sending the positive confirmation message to the remitter. As envisaged in the 'Payment and Settlement Systems in India: System Vision 2018' document, the feature is being further strengthened by continuously monitoring the bank-wise percentage of positive confirmation messages sent. The issue is also being taken up with banks having low percentage.

Data Storage

IX.21 As announced in the First Bi-Monthly Monetary Policy Statement for 2018-19, in order to ensure unrestricted supervisory access to data

of all payment systems operating in the country, all system providers were advised to ensure that the entire data relating to payment systems operated by them are stored in a system only in India. However, the data pertaining to the foreign leg of the payment transaction can be stored abroad as well.

Other Developments

FSAP Assessment

IX.22 The second comprehensive Financial Sector Assessment Program (FSAP), a joint programme of the International Monetary Fund (IMF) and the World Bank, was conducted for India in 2017. For the FMIs, the FSAP team assessed the Bank-designated qualified central counterparty, CCIL, which plays a critical role in money, G-sec, forex and derivative market transactions. The assessment against the PFMIs concluded that CCIL systems observe or broadly observe 21 out of the 24 principles, with the remaining three principles being not applicable. The report has been made public.

Unified Payments Interface (UPI) – Additional Features

IX.23 To further widen the scope and to increase digital payments, various new features have been approved in UPI. The major additional features include increasing the per transaction limit of an UPI transaction to ₹2.0 lakh from the existing limit of ₹1.0 lakh, allowing mandate with blocking of funds, overdraft account as an underlying account, processing of domestic leg of foreign inward remittance, and inclusion of State Cooperative Banks (StCBs) and District Central Cooperative Banks (DCCBs) as issuers, through sub-membership route.

Agenda for 2018-19

Responsive Regulation

Regulation of Payment Gateway Service Providers and Payment Aggregators

IX.24 The growth of electronic payments for online transactions has led to an increasing role of payment gateway service providers. The current guidelines on payment gateway operations (monitored through banks) are indirect and address only a few specific aspects of their functioning. Given the increasing role of payment gateways, the guidelines will be reviewed for the payment related activities of these entities.

Robust Infrastructure

Adoption of ISO for Messaging in NEFT

IX.25 The Bank will examine the feasibility and timeline for implementation of the International Organization for Standardization (ISO) standard for messaging in NEFT.

Effective Supervision

Framework for Testing Resilience

IX.26 With the introduction of alternate modes of electronic payments for financial markets as also for businesses and individuals, the resiliency of the payment systems has gained importance. Here, resiliency refers to the ability to continue to operate even if a system has failed completely by switching activity to a separate system or process or a combination of both. A framework to test the resilience of both retail and large value systems in the country would be formulated.

Collection of Data on Frauds in Payment Systems

IX.27 The Bank currently collects data on frauds from the PSOs. In order to further strengthen the confidence in the payment systems and minimise instances of frauds, there is a need to

monitor the types of frauds that may be taking place in various payment systems. Accordingly, a comprehensive framework for collection of data on frauds in the payment systems would be drawn up in consultation with the industry.

Customer Centricity

Customer Surveys

IX.28 The Bank will engage with the stakeholders to conduct customer surveys on specific aspects of the payments systems to ascertain customer habits with respect to payment choices. The same would help in framing regulatory framework and policies apart from empowering users through awareness intervention.

Framework to Limit Customer Liability for Non-bank Authorised PPI Issuers

IX.29 The framework for limiting liability of customers in unauthorised electronic payment transactions in PPIs issued by banks is already in place. The proposed roll-out of interoperability among bank and non-bank PPIs will further strengthen the case of having similar instructions for non-bank PPIs as well. The guidelines for enabling the same for PPIs issued by non-banks will be put in place during the year.

DEPARTMENT OF INFORMATION TECHNOLOGY (DIT)

IX.30 The main focus of the Department of Information Technology (DIT) continued to be working towards 'service with security' through the provision of robust technology infrastructure to ensure smooth functioning of the critical and systemically important payment and settlement systems in the country. With the emerging threat landscape, where organised cyber-crime and cyber warfare are gaining prominence, the Department is working towards ensuring continuous protection against the changing contours of cyber security threat.

Agenda for 2017-18: Implementation Status

e-Kuber for GST

IX.31 The Reserve Bank's e-Kuber system has been assigned the responsibility of functioning as an 'aggregator' for all-India collections under the Goods and Services Tax (GST) regime. To develop it into a one-stop source of data reporting, server-to-server integration was established with central government, all the 36 state governments and union territories, 25 agency banks and GST Network (GSTN) (Box IX.2).

e-Kuber for Government e-Receipts and e-Payments

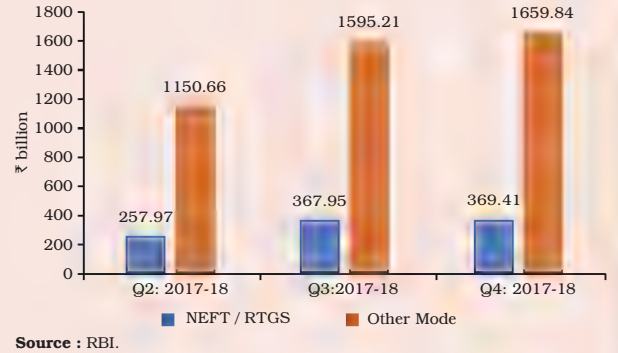
IX.32 The standardised e-receipt and e-payment models were rolled out for various states and government departments. The standardised e-payment model, based on ISO 20022 messaging formats, envisages straight-through-processing (STP) of electronic payment instructions, sent by state governments through the interface with e-Kuber. By end-March 2018, 11 state governments, *viz*., Andhra Pradesh, Assam, Bihar, Karnataka, Kerala, Odisha, Telangana, Tripura, Uttarakhand, Uttar Pradesh, and West Bengal have adopted this model to disburse payments electronically using e-Kuber. During 2017-18, an aggregate of ₹3.9 trillion was disbursed to 88.6 million beneficiaries by the state governments through e-Kuber as against ₹3.2 trillion to 74.3 million beneficiaries during 2016-17. By end-March 2018, a total of 14 state governments, *viz.*, Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Telangana, Uttarakhand and West Bengal, have adopted the e-receipt model.

Box IX.2
Role of the Reserve Bank in GST Payments Infrastructure

The Sub-Committee on GST Payment Process, set up by the Empowered Committee of State Finance Ministers had recommended in April 2015 that the Reserve Bank's e-Kuber system could be designated as an all-India aggregator for GST collections. Accordingly, the Reserve Bank commissioned and successfully implemented an end-to-end automated system for flow of taxation data, payments and reporting using ISO 20022 message formats from July 01, 2017. A Service Gateway with advanced security features has also been implemented for secured exchange of information amongst the stake-holders, *viz*., Central Board of Excise & Customs (CBEC), Government of India; all the 36 states and union territories, 25 agency banks and GSTN. The e-Kuber infrastructure has also been enhanced considerably for handling GST transactions.

As a result, the GST payers may now remit the tax directly to the government account/s maintained with the Reserve Bank, through their banks using NEFT and RTGS. Under NEFT/RTGS mode, credit of tax to the government account happens directly on the same day, whereas in other modes of GST payments, the government account is credited on T+1 basis. Further, under the earlier tax collection system, only agency banks were authorised to collect taxes on behalf of governments, whereas under the new system, GST payers can remit the tax directly to the government account/s from their account in any bank (including other than authorised agency banks). The new process is expected to facilitate improved operational efficiency, both for the tax payers and the government.

Chart 1: GST: Modes of Receipts



Source : RBI.

On an average, about 18-19 per cent of the GST collections, both in terms of value and volume, are received directly in government account through NEFT/RTGS payment modes, facilitating better cash management for the governments (Chart 1).

An online reconciliation mechanism for GST transactions, called Memorandum of Errors (MoE), has been designed in coordination with the CBEC, Government of India. This process is undergoing testing among all the stakeholders including the Reserve Bank, the GSTN, agency banks and CBEC. The MoE process would facilitate paperless processing and resolution of reconciliation issues among the stakeholders with the Reserve Bank's e-Kuber system as the fulcrum.

Multi Netted Settlement Batch (MNSB) Module in RTGS system

IX.33 The infrastructure relating to critical payment system of RTGS was augmented during the year by allowing non-RTGS members to process and settle in RTGS.

Payment and Settlement System Applications

IX.34 In order to improve customers' convenience and enhance the efficiency of the NEFT system, additional settlements at half-hour intervals were introduced, which took the total number of half hourly settlement batches to 23. The half hourly settlements had accelerated the funds transfer process and provided faster credit to the destination accounts. The change in the NEFT application software for accommodating additional settlements was carried out in all the banks simultaneously without disrupting operations.

IX.35 During 2017-18, both RTGS and NEFT hosted at the Data Centres functioned without any disruptions with record per-day processing volumes. The RTGS recorded an all-time high of 0.91 million transactions on March 31, 2018 as against 0.74 million in the previous year. The NEFT registered 15.4 million transactions on March 31, 2018 as against 12.5 million transactions last year,

followed by the highest volume of 18.8 million so far on April 3, 2018. These systems have proven to be scalable and shown the ability to handle increasing volumes.

Enhanced Security at Data Centres

IX.36 In order to ensure security of the Bank's IT infrastructure against rising cyber threats, an Information Security Operation Centre (iSOC) was made operational to monitor, detect, prevent and mitigate various types of information and cyber security risks. The establishment of iSOC and its 24×7 vigil and monitoring resulted in the detection of attempts of cyber-attacks like unauthorised login, distributed denial of service (DDoS), and traffic to/fro malicious command and control sites. Vulnerability alerts received from various agencies were appropriately dealt with.

Augmentation of IT Infrastructure

IX.37 IT infrastructure at the Bank's Data Centres was augmented to handle the increasing volumes of e-Kuber, NEFT and government transactions in a safe and secure environment. Both hardware and software systems were upgraded to provide additional layers of security for IT operations.

Security Awareness and Cyber Drills

IX.38 The department has been conducting awareness programmes across offices through awareness sessions, circulars / advisories and cyber security drills.

Agenda for 2018-19

Improvement in the Currency Management System

IX.39 The Integrated Computerised Currency Operations Management System (ICCOMS), currently in use for currency management, will be migrated to the currency module of e-Kuber. Presently, the pilot run of the currency module at the Bank's offices is underway. The enhancement to e-Kuber would enable the Bank to have a near real-time view of the balances in the currency chests and facilitate efficient management of currency with the automation of processes. The system would also have linkage with note printing presses and provision to track currency in transit.

IX.40 The next-generation currency management portal version 2.0 is under development and is expected to be launched with the currency management functionalities during 2018-19. The currency management and other services running on the existing portal will be migrated to the new portal in phases.

Resolving Reconciliation Issues in GST Transactions

IX.41 An automated reconciliation mechanism for GST transactions is being worked out to reduce reconciliation issues and pave the way for a nil reconciliation era. The Memorandum of Errors (MoE) process is currently under test phase before deployment.

Access Control Management System (ACMS)

IX.42 A new enhanced ACMS including visitor and vendor management will be implemented at all offices of the Bank by integrating the Active Directory and SAMADHAN for attendance.

Efforts towards a Better Security Culture

IX.43 The Bank will proactively initiate the process of developing a cyber-security culture, endeavour to make cyber security a responsibility and ensure confidentiality, integrity and availability of information system and resources.

X COMMUNICATION, INTERNATIONAL RELATIONS, RESEARCH AND STATISTICS

The Reserve Bank, adopting various measures, strengthened its communication efforts further during the year which was also marked by the successful completion of the Financial Sector Assessment Programme (FSAP). Efforts were sustained towards improving research and statistics – both inside and outside the Reserve Bank – as also for providing better banking services to governments. Foreign exchange reserves were managed and guided by the consideration of safety, liquidity and returns. In order to ensure a robust legal framework for the banking and financial sector, a number of financial laws/bills were introduced/amended during the year.

X.1 This chapter discusses the developments and implementation status of the annual agenda in the areas of communication, international relations, research, statistics, forex reserves management, banking services to banks and governments, and financial laws during 2017-18 as also the respective agenda set for 2018-19. The channels of communication were strengthened during the year by the launch of 'Mint Street Memos', (MSM), *i.e.*, research-based online releases on contemporary economic and financial issues and a public awareness programme through Short Message Service (SMS) followed by a 360 degree campaign. In the area of international relations, successful coordination of the FSAP was a major highlight of the year.

X.2 During the year, government banking divisions were opened in seven Regional Offices of the Bank besides integrating state governments with e-Kuber for e-receipts and e-payments. During the year, research activities were sustained by undertaking studies in the area of monetary policy transmission, nowcasting, credit and efficiency in agriculture, rural wage dynamics, macroeconomic impacts of different types of public expenditure besides releasing various statutory and flagship publications. As far as statistics and information management is concerned, the development of an employment index based on Tax Deducted at Source (TDS) data as well as salary account data and improvements in conduct of the surveys relating to monetary policy are underway apart from collection, processing and dissemination of national-level macroeconomic and financial statistics through various publications. The year also witnessed a number of amendments/introduction of several legislations/bills pertaining to the RBI Act, the Banking Regulation Act and the Insolvency and Bankruptcy Code.

COMMUNICATION PROCESSES

X.3 The Reserve Bank continues to uphold its goal of having a dynamic communication policy to enable timely responses to domestic and international developments. The Department of Communication (DoC) is the nodal department for the Bank's two-way communication with the public, which is performed mostly through announcements over the Reserve Bank's website as also by way of emails, speeches, public awareness messages, and tweets of important press releases and circulars. It not only disseminates policy developments and their rationale to various stakeholders in a transparent, timely and credible manner but also strives to obtain continuous feedback on the policies.

Agenda for 2017-18: Implementation Status

The Website

X.4 To make its website (https://www.rbi.org.in) more user-friendly, the Reserve Bank had launched a mobile application (app) version of the Bank's website with basic features in the previous year. The app has since been modified and more functionalities have been added like 'notifications', selective alerts and public awareness messages. The app available for Android as well as iOS platforms from the Play Store/App Store witnessed 1,54,423 downloads on the Play Store and 13,135 downloads on the App Store till June 2018. The Reserve Bank's Twitter account has the 5th highest number of followers among central banks across the world (over 3,47,000 followers) and its YouTube channel has 18,409 subscribers, as on June 30, 2018.

Monetary Policy Communication

X.5 Under the new Monetary Policy Framework introduced in October 2016, the Reserve Bank has been communicating the resolutions of the Monetary Policy Committee (MPC) through a press release followed by a press conference. The Governor's post-policy conference on the bi-monthly statements on monetary policy is disseminated through YouTube along with live streaming on the Reserve Bank's website and business television channels. Apart from press conference, teleconferences with researchers and analysts are also conducted. The audio and transcripts of the press conferences are uploaded on the Bank's website. The minutes of MPC meetings are also uploaded on the Bank's website on the 14th day after every meeting of the MPC as provided under Section 45ZL of the RBI Act, 1934.

Mint Street Memos

X.6 The Reserve Bank started a new series of online releases on contemporary economic and financial issues called 'Mint Street Memos' (MSM) on its website from August 11, 2017 onwards. MSM comprise documents that are in the form of brief reports and analysis, prepared by the staff of the Reserve Bank and the Centre for Advanced Financial Research and Learning (CAFRAL), or drawn from one of the recent publications of the Bank. Relevant citations, including credits and acknowledgements appear in the MSM along with salient facts, data and tables. The endeavour is to present analytical research on a contemporary topic relevant to central banking in a crisp manner that is easy to understand for various stakeholders including common persons. Each issue of MSM is published as a stand-alone release along with a press release. Twelve MSMs were published on the Reserve Bank website from its launch till June 2018 (Box X.1).

Workshops for Regional Media

X.7 During the year, DoC conducted four workshops for regional media personnel at Kochi, Guwahati, Lucknow and Chandigarh, thus, covering media personnel from various parts of the country. These workshops were structured in the form of interactive sessions on central banking functions of relevance to the media with the aim that they would be better equipped in terms of understanding the functional areas and data reference points while reporting on these topics in future. The range of topics covered in the workshop included monetary policy, regulation and supervision of banks, customer education and protection, currency management, payment and settlement systems, structure of the Reserve

Box X.1
Mint Street Memos (MSM)

The Reserve Bank has a new communication window called 'Mint Street Memos' (MSM) since August 11, 2017. A link to MSM is available on the home page of the Reserve Bank website and on navigating to the landing page of MSM, the viewer is led to documents that are in the form of brief reports on contemporary topics relevant to central banking. MSM generally covers a brief write-up on a researched, contemporary topic contributed by the Reserve Bank and CAFRAL staff. Relevant citations are given in the MSM, bringing out the significance of the study, along with salient facts, tables and figures germane to the issue at hand. Although a one-way communication, MSM write-ups present a more structured and substantive expression of staff views on the topic at hand and its relevant takeaways. The MSM have been well received by various strata of visitors to the Reserve Bank website as well as the media. MSM releases are available at the following link https://rbi.org.in/scripts/MSM_MintStreetMemos.aspx

MSMs published from August 2017 to June 2018

MSM No.1: Demonetisation and Bank Deposit Growth.

MSM No.2: Financialisation of Savings into Non-Banking Financial Intermediaries.

MSM No.3: Market Reaction to the Banking Regulation (Amendment) Ordinance, 2017.

MSM No.4: Agriculture Loan Bank Accounts - A Waiver Scenario Analysis.

MSM No.5: Farm Loan Waivers, Fiscal Deficit and Inflation.

MSM No.6: Non-Bank Funding Sources and Indian Corporates.

MSM No.7: From Cash to Non-Cash and Cheque to Digital - The Unfolding Revolution in India's Payment Systems.

MSM No.8: State Government Yield Spreads - Do Fiscal Metrics Matter?

MSM No.9: Credit Disintermediation From Banks - Has the Corporate Bond Market Come of Age?

MSM No.10: Working Capital Constraints and Exports: Evidence from the GST Rollout.

MSM No.11: Impact of Increase in House Rent Allowance on CPI Inflation.

MSM No.12: Examining Gross Domestic Product Data Revisions in India.

Bank's website, Database on Indian Economy (DBIE), foreign exchange management, press releases and media relations, and local issues of relevance to regional media. The sessions were handled by senior officials/subject experts from the Reserve Bank.

Public Awareness Campaign

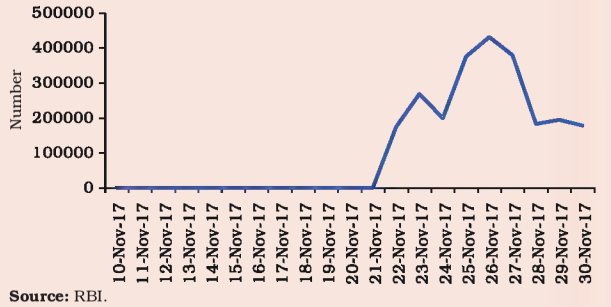
X.8 The DoC undertook a public awareness campaign during the year. The campaign started in November 2017 by way of an SMS cautioning public about fictitious offers purportedly sent out in the name of the Reserve Bank. The SMS campaign also has a missed call element resulting in the service provider calling back to provide more information on the subject of SMS through a pre-recorded Interactive Voice Response System (IVRS). The messages were well received as gauged from the significant increase in the number of complaints received on the *Sachet* website (Box X.2).

X.9 The second segment of the campaign saw the release of a television commercial during the Indian Premier League (IPL) Season 11 in April 2018. The television commercial spoke about opening of the Basic Savings Bank Deposit Accounts (BSBDA) which obviates the requirement of minimum balance in the bank account provided certain limitations on the account operation are acceptable to customers. The television commercial, which featured the Reserve Bank's six cricketer employees became quite noticeable. The message on BSBDA was also released in other media, *viz*., print, other television channels, radio, digital and hoardings during May-June 2018. An advertisement with

Box X.2
Reaching out to the Public through SMS

The Public Awareness Campaign of the Reserve Bank through SMS was launched on November 10, 2017. The first SMS regarding fictitious offers was broadcast to approximately 550 million mobile phone subscribers over a period of 12 days (Table 1). The SMS campaign also has a missed call element where the subscriber can give a missed call on the Reserve Bank's short code number 14440 to receive a call back to get more information on the subject of the SMS. The second SMS had a link to the *Sachet* website for lodging complaints against the fraudsters and was sent to approximately 590 million mobile phone subscribers, over a period of 12 days starting November 22, 2017. After the SMS about registering complaints against fraudsters was sent, hits on the Reserve Bank's *Sachet* website peaked to 4,31,508 on a single day (November 26, 2017) as against a monthly average of approximately 1,000 hits on a regular day before the campaign (Chart 1).

Chart 1: Pattern of Hits on *Sachet* Website



Source: RBI.

The next three messages were broadcast to dispel rumours regarding ₹10 coins. All these SMS were broadcast in eight regional languages apart from Hindi and English.

SMS broadcast from November 2017 to June 2018

SMS 1: Don't pay fees or charges to get large sums in return. RBI Governor/RBI/Government never sends such email/SMS/call. For more, give missed call to 8691960000.

SMS 2: If you receive offer of lottery winnings or cheap funds from RBI/Government body, complain on https://sachet.rbi.org.in/Complaints/Add.

SMS 3: Coins are available in different designs due to their long life. Accept them without fear. Give missed call to 14440 for more information.

SMS 4: ₹10 coins have been issued both with rupee symbol and without it. Both are valid. Accept them without fear. To know more, give missed call to RBI at 14440.

SMS 5: ₹10 coins have been issued both with 10 and 15 radiating lines. Both are valid. Accept them without fear. Give missed call to 14440 for more information.

SMS 6: Don't want to keep minimum balance in your account and won't have more than four debits in a month? Open BSBD A/c. To know more, give missed call to 14440.

SMS 7: Fraudulent transactions in your bank account? Limit your loss. Notify your bank immediately. For more details, give a missed call to 14440.

Table 1: SMS Campaign – The Reach

(in millions)

Details	SMS 1 (November 10, 2017 to November 21, 2017)	SMS 2 (November 22, 2017 to December 3, 2017)	SMS 3 (January 23, 2018 to January 24, 2018)	SMS 4 (January 31, 2018 to February 13, 2018)	SMS 5 (February 14, 2018 to February 27, 2018)	SMS 6 (May 21, 2018 to June 4, 2018)	SMS 7 (June 14, 2018 to June 30, 2018)	Total
Total Messages Sent	834.26	849.55	66.37	825.13	799.54	813.43	363.05	4551.33
Total Messages Delivered	552.74	592.44	54.43	558.56	544.63	542.82	281.80	3127.42
Total Missed Calls Received	8.53	1.74	0.76	4.62	3.18	5.04	3.70	27.57
Total Successful Call Backs through IVRS	6.43	1.39	0.57	3.29	2.24	3.81	2.70	20.43

Source: RBI.

a message on customer's liability in case of fraudulent transactions in one's bank account was aired during the FIFA World Cup matches. The advertisements were released in print media and are also being released in other media, *viz;* other television channels, radio, digital and hoardings. A separate link titled *RBI Kehta Hai* has been enabled on the RBI website for people

who want to know more about the messages being broadcast on various media.

Agenda for 2018-19

X.10 The DoC will continue to hold workshops for regional media on important regulatory and banking related issues. In the ensuing year, such media workshops will be conducted in a few other regional centres which have not been covered in the current year.

X.11 Certain features of the Reserve Bank website would be remodelled/modified and some new ones would be added on during the year, to make the website more robust and easy to navigate.

X.12 The RBI Museum is coming up at 8, Council House Street, Kolkata, the building from where the Reserve Bank started its journey on April 01, 1935. It is expected to complete the first phase of the Museum comprising ground and mezzanine floors during 2018-19. The Museum will offer visitors an opportunity to learn the fascinating story of money, gold, the Indian financial system and its genesis, and the role and functions of the Reserve Bank, narrated through artefacts and interactive exhibits.

X.13 The public awareness campaign is expected to gather steam during 2018-19 with around seven messages already lined up for release. As part of the public awareness campaign, a separate weblink is planned, which will have basic information on the Reserve Bank regulations useful to the common man.

STRATEGIC RESEARCH UNIT

X.14 Established in February 2016, the Strategic Research Unit (SRU) is a nodal point which is mandated to undertake research and analysis on topical issues that are relevant across various verticals within the Reserve Bank. Broadly, in terms of deliverables, the Unit's work involves short-term policy and operations, relevant research, and medium to long-term cutting-edge research projects with an aim to publish in top journals.

Agenda for 2017-18: Implementation Status

X.15 Short-term policy related work mainly involves providing inputs for the MPC meetings. SRU closely monitors different sectors of the economy – both real and financial. In this regard, it has initiated several studies in varied areas including the real sector, financial markets, capital formation, fiscal position and the external sector, which have been regularly presented in the MPC meetings.

X.16 Medium-term research involves preparing research-based policy notes and briefs. Besides the regular surveillance and market intelligence related work, SRU also conducted a number of research studies that looked into issues relating to the Union Budget, spending quality of central and state governments, statutory liquidity ratio (SLR) requirements, limiting the exposure of foreign investment in Indian G-Secs, impact of goods and services tax (GST) on working capital constraints of firms, external vulnerability, investment in gold, the impact of minimum support prices on inflation, and impact of demonetisation on automated teller machine (ATM) and point of sale (POS) transactions. These research studies were presented to the top management.

X.17 In addition, SRU is involved in long-term research relating to the heterogeneous effects of demonetisation on households, skill development and employment, fiscal austerity, bank recapitalisation in a dynamic stochastic general equilibrium (DSGE) framework, trade

and networks, and inflation dynamics. Some of these studies have been presented in research conferences organised by both national and international institutions and published in academic journals. SRU is also currently collaborating with CAFRAL and some external academic experts to build a customised DSGE model for India.

X.18 In the vein of future capacity building, SRU collaborates with other departments and CAFRAL for several research projects, inter-departmental research groups, some of which are also presented in the MPC meetings. The unit also organises seminars regularly, jointly with CAFRAL, where eminent economists, professors, and experts in the fields of finance and economics are invited to present their research. In addition, SRU and CAFRAL also organise brown-bag seminars, and lecture series, to encourage research projects.

Agenda for 2018-19

X.19 With increasing emphasis on research, the Unit is expanding its domain of work with specialised economics and finance professionals and aims to create a cohort of well-trained employees with PhDs. This will facilitate and encourage research in areas which are now defining the frontiers in economics and finance, with a broad objective of bridging the gap between core academic and policy research. The Unit will broadly continue with the existing structure with an emphasis on research and knowledge dissemination.

INTERNATIONAL RELATIONS

X.20 During 2017-18, the Reserve Bank intensified its international relations and financial diplomacy with international organisations and multilateral bodies. It was also engaged in several bilateral and multilateral dialogues, focusing on central bank to central bank cooperation. The International Department of the Bank played a key role in these activities including the coordination and completion of the Financial Sector Assessment Programme (FSAP), undertaken once in five years.

Agenda 2017-18: Implementation Status

G20 and its Working Groups

X.21 The department coordinated with the government and participated in the meetings of various working groups of the G20, such as the International Financial Architecture (IFA), the Framework Working Group (FWG) and the Infrastructure Working Group (IWG). It also provided inputs for taking positions on the agenda before the G20 Deputies and the Finance Ministers and Central Bank Governors (FMCBG) meetings. These meetings culminated in the G20 Hamburg Action Plan (HAP) under the German Presidency with a focus on using all policy tools – monetary, fiscal and structural – to achieve the goal of strong, sustainable, balanced and inclusive growth. India's overall growth strategy, finalised by the government in collaboration with the Reserve Bank, was broadly endorsed in the G20-led International Monetary Fund's (IMF's) first pilot report on Strong, Sustainable, and Balanced Growth (SSBG) in October 2017. At the G20 Deputies and FMCBG meetings, the Reserve Bank brought to the fore issues such as completion of the remaining elements of Basel III, unintended consequences of financial sector reforms, cyber security and Financial Technology (FinTech).

X.22 Another notable achievement was that the HAP stayed clear of the mandatory adherence to the OECD Code of liberalisation of capital movements. Also, a fruitful reference was made to

the IMF's 'institutional view' that allows flexibility in capital account management by the EMEs. With Argentina assuming the G20 Presidency on December 1, 2017, the department continued to work in close coordination with the government in shaping the G20 agenda and its work processes. It also contributed to the survey-based G20 process reform initiative taken by the Argentina Presidency. The G20 IFA is currently working on issues such as capital flows, debt sustainability of low-income countries (LICs), balance sheet optimisation of Multilateral Development Banks (MDBs) and Global Financial Safety Net (GFSN). India through its interventions, also kept the 15th General Review of Quotas (GRQ) of the IMF on the IFA agenda. Notably, India along with some other emerging markets, advocated for greater flexibility in the OECD Code currently under revision at the OECD Advisory Task Force (ATFC) and the IFA meetings. The G20 FWG, for which India is a Co-Chair, focused on 'Future of Work' as a new initiative and developed a menu of policy options to reap opportunities from new technologies and address challenges therefrom. The G20 IWG is working on a multi-year roadmap towards developing infrastructure as an asset class by improving cross-country information availability and assessments of project rationale, appraisals, commercial viability, affordability, and deliverability. It also emphasised greater standardisation for financial contracts and products for creating pools of infrastructure assets.

X.23 The Reserve Bank also participated in Sustainable Finance Study Group as well as in two sub-groups dealing with Regulation and Standard Setting Body, and Financial Consumer Protection and Financial Literacy, under the Global Partnership for Financial Inclusion.

15th General Review of Quotas (GRQs) and Global Financial Safety Net (GFSN)

X.24 In the recent period, adequate progress has not been made on the Quota Formula Review for the 15th GRQ of the IMF. India, however, continued to pitch for progress on the 15th GRQ and its completion within the agreed timeline, including a new quota formula by the spring meetings of 2019 and no later than the annual meetings of 2019. This was strongly articulated in the Governor's statement at the International Monetary and Financial Committee (IMFC) meeting in April 2018. In order to shoulder its responsibility towards adequate availability of GFSN, the Reserve Bank signed a Note Purchase Agreement (NPA) with the IMF for US$ 10 billion as part of the 2016 borrowing agreements amounting to about SDR 316 billion (US$ 450 billion) from 40 IMF members. This arrangement effectively extends IMF's access to bilateral borrowed resources until the end of 2019-20.

Financial Sector Assessment Programme (FSAP) of the IMF-World Bank

X.25 The FSAP for India, conducted jointly by the IMF and the World Bank, was started with a scoping Mission in December 2016 and included two Mission visits - in March 2017 and in June-July 2017. Subsequently, the department coordinated the authorities' responses to the draft and the final reports. The affirmative nature of the report for India under the FSAP was the highlight of the year (Box X.3). The main report summarising the key findings was released as the Financial System Stability Assessment (FSSA) by the IMF and the Financial Sector Assessment (FSA) by the World Bank in December 2017. Two Detailed Assessment Reports (DARs) relating to (i) the Basel Core Principles (BCP) for Effective Banking

Box X.3
India - Financial Sector Assessment Programme (FSAP), 2017

FSAP is a mandatory exercise conducted every five years for 29 jurisdictions, including India, which are identified to have systematically important financial sectors based on two parameters: (i) size of the financial sector and (ii) interconnectedness of the financial sector with the rest of the world. The 2017 FSAP, the second such assessment conducted for India, observed that India has implemented almost all the recommendations of the FSAP 2011, including the oversight of overseas operations of Indian banks and large exposure limits. However, more work needs to be done on the resolution tools and arrangements to deal with a crisis.

The 2017 FSAP placed greater emphasis on interconnectedness; expanded the range of coverage; and took into account the potential for price contagion across financial sectors. The assessment of the Basel Core Principles (BCP) was done in terms of the revised BCP that raised the bar for compliance in many ways. The 2017 FSAP, nevertheless, reaffirmed India's high compliance with the international standards, testifying to a sound and vibrant financial system in India. India was judged as fully or largely compliant with all the BCP principles, except two. The material non-compliance was judged in the area of independence, accountability, resourcing and legal protection for supervisors, and on corporate governance in banks. The former was mainly on account that the regulator does not have full discretion to take supervisory actions against the public sector banks (PSBs), while the latter was due to very limited authority of the Reserve Bank to hold the PSB boards accountable and to replace weak and non-performing senior management and government-appointed board members.

Policies to address vulnerabilities

The FSSA Report recognised the Reserve Bank's intensified efforts to strengthen bank balance sheets, enhance provisioning coverage, address current fragilities and ultimately improve banking soundness; including (i) setting up of the Central Repository of Information on Large Credits (CRILC) that helps in tracking not just the NPAs, but incipient stress and inadequate recognition of bad loans; (ii) the framework for revitalising distressed assets in the economy with a special focus on addressing coordination problems in large consortium accounts under the Joint Lenders' Forums (JLFs); and (iii) using the revised prompt corrective framework to work towards needed improvements in weak banks.

The government took several legislative measures to facilitate faster recovery and resolution of stressed assets including the Insolvency and Bankruptcy Code, 2016; amendments to the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 and the Recovery of Debts Due to Banks and Financial Institutions Act, among others.

The Report recommended the recapitalisation and restructuring, consolidation, divestment and privatisation of the PSBs, and the need to improve their governance and financial operations. The FSAP's stress tests suggested that capital needs of the PSBs were manageable aggregating between 0.75 per cent of GDP in the baseline and 1.5 per cent in the severe adverse scenario. The findings of the FSAP stress tests were in line with the Reserve Bank's own stress tests. The authorities have not only been frequently assessing the capital needs but have clearly laid out plans for recapitalisation that are incentive compatible for reforms. The government on October 24, 2017 announced a PSB recapitalisation plan of ₹2.11 trillion (about US$32 billion) to be implemented over the next two years that include budgetary provisions of ₹181.39 billion, recapitalisation bonds of ₹1,350 billion and the balance through raising of capital by banks from the market while diluting government equity. This effectively will address the capital gap assessed in the FSAP exercise. Already, recapitalisation bonds of ₹800 billion have been issued. However, there is pressing need to link the recapitalisation to first putting in place governance reforms, especially for the banks under the prompt corrective action (PCA).

Financial sector oversight framework

The financial sector oversight framework was assessed in terms of system-wide oversight and macro-prudential policies; supervision and regulation of banking sector, insurance sector and security markets; financial markets infrastructure oversight; crisis management framework; and market integrity.

As observed by the FSSA, inter-agency cooperation and information sharing on financial stability matters have improved markedly, since the establishment of the Financial Stability and Development Council (FSDC) in 2010 and the adoption of an inter-agency Memorandum of Understanding among the regulatory authorities in 2013. The Reserve Bank made substantial progress in strengthening banking supervision, especially with the introduction in 2013 of a

(Contd...)

risk-based supervision through a comprehensive and forward-looking Supervisory Programme for Assessment of Risk and Capital (SPARC). In April 2017, the Reserve Bank established a new Enforcement Department with a view to speeding up regulatory compliance and revised its prompt corrective action framework to incorporate more prudent risk-tolerance thresholds.

On the banking sector, the FSAP recommended a review of loan classification and provisioning rules in the context of the International Financial Reporting Standards (IFRS), and with respect to special loan categories. The Reserve Bank is in the process of such a review in conjunction with the IFRS-9, wherein expected loss framework forms the basis for provisions and all loans are covered by provisioning. This framework will capture past loss data and recovery of non-performing loans. At the same time, it needs to be recognised that in the Indian context, special category loans, which comprise loans primarily to agriculture, do not necessarily violate the prudence principles and, instead, reflect the inclusion criteria. Moreover, the Basel Committee on Banking Supervision (BCBS) guidelines issued in 2016 on prudential treatment of problem assets, provide for supervisory deviation from the 90-day norm and prescribe up to a 180-day norm in case of retail and public sector entities exposure if this is considered appropriate for local conditions.

To enable the Reserve Bank to be fully effective in exercising its supervisory mandate, the FSAP suggested that the legal framework should be amended to strengthen the Reserve Bank's powers over PSBs and its *de jure* independence. The legal provisions to terminate tenures of the top functionaries or to supersede decisions of the Bank are just enabling provisions for extra-ordinary situations. Regarding the recommendation on avoiding duplication of supervisory powers between the Reserve Bank and the Resolution Corporation (RC), the matter is being looked at so that adequacy of inspection/supervisory powers with the RC is appropriately balanced with supervisory powers of the regulator without affecting the ability of RC to adequately prepare to resolve the financial service provider efficiently while at the same time ensuring that the regulator has adequate supervisory powers for the concern, enabling it to turn it around, *inter-alia*, through prompt corrective action.

The FSAP has called for improvement in the frameworks for emergency liquidity assistance (ELA), deposit insurance, and crisis preparedness. While there is no technical obstacle to extending ELA, the Reserve Bank has in place a carefully drafted Board-approved policy on ELA that incorporates constructive ambiguity and flexibility, and as such does not prefer more clarity than is necessary as it could engender moral hazard.

The Reserve Bank's regulation and oversight of the securities and derivatives clearing and settlement systems are broadly effective, according to the FSAP, with the Clearing Corporation of India Limited (CCIL) playing a critical role in all money market segments and acting as a Central Counterparty (CCP) for government securities, repo and secondary markets. As for the Trade Repository (TR), the operating regulations for TR services have since received the Bank's regulatory approval and the CCIL has notified the regulations, complying with the principle.

As for the FSAP view on transfer of ownership of the National Housing Bank to the government and regulation of housing finance companies to the Reserve Bank, it is already under consideration of the government.

Market development

The FSSA Report has called for progressively reducing the statutory liquidity ratio (SLR) to help deepen markets and encourage lending. The Report of the Expert Committee to Revise and Strengthen the Monetary Policy Framework in January 2014 had, *inter-alia*, recommended that SLR be brought down in consonance with the requirements of the Liquidity Coverage Ratio (LCR) under the Basel III framework. Accordingly, the SLR has been brought down in a consistent but gradual manner, and now stands at 19.5 per cent down from 23 per cent in January 2014. Furthermore, a total carve-out from SLR of 13 per cent of their NDTL is available to banks. However, the authorities' view is that a pre-announced calendar of reduction would preclude a consideration for market conditions, as is being currently undertaken.

On the Priority Sector Lending (PSL) norms, the FSAP has recommended a cost-benefit and gap diagnostic including a plan to reduce its scope and ensure its targets for underserved segments. It is reiterated that the PSL programme plays an important role in providing credit to sectors which do not get easy access to formal finance and so facilitates inclusion, employment and growth.

References:

1. IMF (2017), "India's 2017 Financial System Stability Assessment", IMF Country Report No. 17/390, December.
2. IMF (2017), "Detailed Assessment Observance of Clearing Corporation of India Limited (CCIL) and Trade Repository (TR)", October.
3. IMF (2018), "Detailed Assessment of Observance of the Basel Core Principles for Effective Banking Supervision", IMF Country Report No. 18/4, January.

Supervision and (ii) the CPMI-IOSCO[1] Principles for Financial Market Infrastructures were also released in January 2018 by the IMF and the World Bank, respectively. The latter provides an assessment of the Clearing Corporation of India Limited (CCIL) as a Central Counterparty (CCP) and Trade Repository (TR).

OTC Derivatives Reforms

X.26 Following the global financial crisis of 2007-08, reform of the Over-the-Counter (OTC) derivatives market has been an important part of the global policy agenda driven by the G20, largely in conjunction with the Financial Stability Board (FSB), which periodically assesses the progress in the implementation of such reforms across countries. In this regard, the department followed up and coordinated the work related to the implementation and impact of reforms in the OTC derivatives market in India.

Financial Stability Issues

X.27 The department prepared inputs for formulating India's stance on the issues deliberated in FSB meetings and conference calls which included assessment of macro-financial vulnerabilities, particularly emanating from weak domestic investment demand, shadow banking, cyber-risks and FinTech. The department also contributed to the BCBS task force on financial technology innovations from the perspective of banks' business models and the role of supervisors. It provided inputs to several FSB surveys that included those on crypto assets and their financial stability implications, cyber security, regulatory and supervisory practices and the ongoing FSB work on reducing misconduct risks in the financial sector.

X.28 On the implementation of the Financial Action Task Force (FATF) and BCBS guidance clarifying regulatory expectations around the Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT), it was conveyed that the Reserve Bank's guidelines were in compliance with the FATF recommendation on correspondent banking. Further, in the context of correspondent banking relationships (CBRs) being under pressure globally, it was conveyed that in India, de-risking issues, leading to a decline in CBR services, were not observed significantly.

X.29 The Reserve Bank contributed to the FSB's annual shadow banking monitoring exercise and provided data/inputs for its 2017 report, in coordination with other regulators. The exercise showed that the Monitoring Universe of Non-Bank Financial Intermediation (MUNFI) grew in 2016 at a marginally faster rate than in 2015 to an aggregate US$160 trillion (*i.e.,* for 21 jurisdictions and the euro area as a whole). MUNFI's share within the global financial assets increased for the fifth consecutive year to 48 per cent.

X.30 The Reserve Bank continued its engagement with the various Bank for International Settlements (BIS) working groups during the year and deliberations were held on a multitude of topical issues such as globalisation, Big Data, central bank digital currency, snapbacks from the unwinding of the Fed balance sheet and risk weight on sovereign assets. The adoption of various Basel III standards has been achieved in India within the BCBS agreed timelines.

X.31 The Reserve Bank is also represented on the Committee on the Global Financial System

[1] The Committee on Payments and Market Infrastructures (CPMI) and the Board of the International Organization of Securities Commissions (IOSCO).

(CGFS), which has set up various working groups on issues such as structural changes in the banking sector post the global financial crisis, implications of a prolonged period of low interest rates and establishing viable capital markets. The Reserve Bank is represented on these working groups as well.

BRICS

X.32 The BRICS FMCBG meeting at Shanghai in June 2017 and the Xiamen Summit in September 2017, agreed to establish a BRICS Bond Fund (BBF) with the main objective of promoting local currency bond markets in the BRICS countries to improve market infrastructure, reduce barriers to bond investment, provide a low-cost bond portfolio for investors and motivate the participation of international investors in the BRICS local currency bond markets. The department is overseeing the initial preparations for setting up of the BBF. Furthermore, it has been working to keep the BRICS Contingent Reserve Arrangement (CRA) in operational readiness and building upon a system of macroeconomic exchange of information amongst CRA members covering 60 economic and financial indicators that was developed by the Reserve Bank as part of surveillance under the BRICS CRA.

South Asian Association for Regional Cooperation (SAARC)

X.33 The fourth seminar on SAARCFINANCE database and the second meeting of the working group on SAARCFINANCE database were organised during March 22-23, 2018 at the Jaipur Office of the Reserve Bank, with a view to standardising and enhancing the coverage of data in the SAARCFINANCE database, maintained by the Reserve Bank. Under the SAARCFINANCE roadmap of cooperation, technical support and exposure were provided to member central banks on areas of supervision, monetary policy, currency management, banking regulation, financial markets, financial inclusion and library management. These apart, liquidity support was provided to some central banks under the SAARC swap arrangement. The extension framework of the swap arrangement for the SAARC countries was also finalised during the year with some modifications in order to avoid repeated recourse to swaps in keeping with the spirit of a backstop liquidity to meet temporary balance of payment needs. The scheme is now extended for a period of two years till March 16, 2019.

X.34 The Joint Technical Coordination Committee (JTCC) is a forum of the Reserve Bank and the Nepal Rastra Bank to resolve matters of mutual concern. During the year, a major achievement due to the Reserve Bank's intervention was the decision to remit pension to Nepalese pensioners, residing in Nepal, following the Employees Provident Fund Organisation's (EPFO) concurrence in consultation with select PSBs that have subsidiaries in Nepal.

Other Activities

X.35 Six Inter-Departmental Working Groups (IDWGs) were constituted in August 2017 to deal with the regulatory issues under negotiations in various global fora which were coordinated by the department. These groups worked on issues such as: (i) Basel III implementation in India and finalisation of remaining elements thereof; (ii) FinTech and digital innovation and their financial stability implications (including virtual currencies) with special reference to India; (iii) resolution and deposit insurance framework for financial firms in India (as envisaged in terms of the Financial Resolution and Deposit Insurance Bill) with the

objective of benchmarking against the FSB's key Attributes of Effective Resolution Regimes; (iv) effects of the post-crisis global financial regulatory reforms (as implemented by the FSB for more resilient financial system) and their intended and unintended consequences in India; (v) elements of Global OTC Derivative Reforms since the global financial crisis, regulatory compliance and their broader effects on OTC derivative market in India in terms of parameters like legal barriers to reporting and accessing trade data, margining requirements, *etc.* and (vi) institutionalising macro-prudential framework in India for securing financial stability. The groups have worked on the positions that India may take on these issues with respect to the agenda of the international organisations.

X.36 Technical assistance programmes and staff exchange visits were organised for various SAARC central banks in several areas. In addition, during 2017-18, the department organised 41 exposure visits including attachments for capacity building for foreign central banks/regulatory authorities/ ministries and foreign universities of repute. Talks by national and international experts were also organised under *Mimamsa* - the department's discussion forum. The Reserve Bank continued its support towards South Asia Regional Training and Technical Assistance Center (SARTTAC) and international groupings such as G24 and G30.

Agenda for 2018-19

X.37 The department will continue to follow up and maintain India's stance on international issues in coordination with the government. It will continue to pitch for completion of the 15th GRQ in a timely manner with realignment of quota shares of the emerging market and developing economies whose under-representation has been increasing. It will also work towards successful completion of the IMF's Article IV 2018 Mission that visited India during May 2018.

X.38 Stabilising and further expansion of the SAARCFINANCE database initiative will be undertaken through the next seminar and meeting of the working group on the SAARCFINANCE database. The agenda under the SAARCFINANCE roadmap will be furthered with capacity building, technical support, collaborative studies and database initiatives.

X.39 During the year, the department will be working towards the establishment of the BBF that is expected to be operationalised by 2019. It will also be working towards strengthening the macroeconomic exchange of information to enhance the surveillance capacity of BRICS CRA. Also, BRICS CRA test runs will be conducted during the year to check the operational readiness of the CRA arrangements. The department will continue to provide reliable, thorough and research-based policy briefs, notes and interventions on issues being discussed at various international fora.

GOVERNMENT AND BANK ACCOUNTS

X.40 The Department of Government and Bank Accounts (DGBA) oversees the functions of the Reserve Bank as banker to banks and banker to government, besides formulating internal accounting policies of the Bank.

Agenda for 2017-18: Implementation status

X.41 The department monitored the implementation of the GST framework, which was successfully stabilised during the year. Mumbai Regional Office was designated as the nodal office to attend to GST related issues. On the issue of integration of state governments with the Reserve Bank's e-Kuber, 14 state governments

for e-receipts and 11 state governments for e-payments have been integrated so far with e-Kuber. Further, government banking divisions have been opened in seven Regional Offices which will help integrate the state government treasury systems with the Reserve Bank's e-Kuber for e-receipts and e-payments besides addressing specific needs of the state governments (Box X.4). At the same time, various other state governments are in different levels of technological preparedness. The Bank has been pursuing with the remaining state governments through scheduled meetings, conferences, *etc.* for integration with e-Kuber, by extending to the state governments necessary technical and non-technical support. With the introduction of Cheque Truncation System (CTS), the need for physical movement of cheques from the presenting bank to the paying bank has been eliminated, as cheques are paid on the basis of cheque images. However, banks are still required to obtain the physical cheque issued by state governments from the presenting bank and submit the same to the concerned state government authorities. The process put in place for such exchange of physical cheques is called P2F (Paper to Follow). In case of central government cheques, the P2F process has been discontinued, effective February 2016. As all state governments are yet to give their consent for discontinuation of P2F arrangement in cheque clearing, efforts are underway to identify technical solution for discontinuation of P2F for specific state governments.

Agenda for 2018-19

X.42 During 2018-19, integration of remaining state governments with Reserve Bank's e-Kuber will be taken up so as to facilitate improved conduct of government business. Discontinuation of P2F arrangements for cheque clearing, in phases for state governments, will be taken up through technological solutions. The department would examine the feasibility of the implementation of the recommendations of the Committee on Cost of Government Banking (Chairman: Shri S. Ganesh Kumar), 2018 and the Working Group on Business Process Re-engineering of Government Banking (Chairman: Shri G. Sreekumar), 2017.

Box X.4
Opening of Government Banking Divisions in Seven Regional Offices

The Reserve Bank is acting as the principal banker to various state governments as per the provisions of Section 21A of the RBI Act, 1934. Accordingly, Government Banking Divisions (GBDs) at 18 Reserve Bank Offices had been rendering the function as banker to the state governments. In furtherance of this objective and also for providing better service to the needs of state governments at the local level, it was decided to open GBDs at the Reserve Bank Offices in state capitals not having GBDs. These GBDs also facilitate meeting the specific needs of state governments due to proximity by being in the state capitals. Further, these GBDs also play a crucial role in integrating the state government treasury systems with the Reserve Bank's e-Kuber for e-receipts and e-payments. With this, there are 25 GBDs operational at present.

The details of the new GBDs that have commenced operations during 2017-18 are as under:

Sr. No.	New GBDs	Date of Commencement of Operations	Jurisdiction of GBD
1	Ranchi	August 1, 2017	Jharkhand
2	Shimla	September 15, 2017	Himachal Pradesh
3	Dehradun	October 3, 2017	Uttarakhand
4	Raipur	November 13, 2017	Chhattisgarh
5	Panaji	December 5, 2017	Goa
6	Shillong	February 2, 2018	Meghalaya
7	Agartala	March 5, 2018	Tripura

Source: RBI.

MANAGING FOREIGN EXCHANGE RESERVES

X.43 The Department of External Investments and Operations (DEIO) manages the country's Foreign Exchange Reserves (FER), with focus on safety, liquidity and returns. During the year under review, FER increased by 5.0 per cent by June 2018 over June 2017, as compared to 6.3 per cent witnessed in the corresponding period of the previous year.

Agenda for 2017-18: Implementation Status

X.44 Diversification of India's Foreign Currency Assets (FCA) continued during the year with attention being ascribed to risk management, including cyber security risk. The gold portfolio has also been activated. A comprehensive review of the credit risk policy was carried out during the year and the credit risk monitoring mechanism was strengthened. Enhancements to the IT system have been implemented to take care of the new requirements. A number of proactive and preventive measures were taken to ensure the efficacy of the extant IT security system. The backup mechanism was tested periodically and the gaps were suitably fixed.

Agenda for 2018-19

X.45 The agenda for 2018-19 includes taking effective steps to further enhance the levels of protection against cyber risks, system development for undertaking interest rate futures transactions and entering into repo transactions to enhance returns.

ECONOMIC AND POLICY RESEARCH

X.46 A knowledge centre for macroeconomic policy oriented research, the Department of Economic and Policy Research (DEPR) of the Reserve Bank is entrusted with the task of providing research inputs and management information system services for policy-related decision making. The department's contributions are multi-dimensional. Apart from being a source of important primary national level data, DEPR is also responsible for the Reserve Bank's statutory reports and frontline research publications, as also the Bank's collaboration with external experts on policy-oriented research.

Agenda for 2017-18: Implementation Status

X.47 During the year, the department brought out the flagship publications of the Reserve Bank, *viz*., the *Annual Report*, *Report on Trend and Progress of Banking in India*, *Reserve Bank of India Bulletin*, and the third edition of the *Handbook of Statistics on Indian States*. The department also published the *RBI Occasional Papers* and 4 working papers. The department compiled and disseminated primary statistics on monetary aggregates, balance of payments, external debt, combined government finances, household financial savings and flow of funds.

X.48 During 2017-18, thirty one research papers/articles were completed, of which 12 were published outside the Bank in domestic and foreign journals. The research areas included: monetary policy transmission and impact of global spillovers, monetary policy and asset quality, credit potential in Manipur, non-banking financial companies (NBFCs) in India's financial landscape, credit and efficiency in Indian agriculture, and rural wage dynamics and inflation. Two Development Research Group (DRG) studies, *viz*., Some Macroeconomic Impacts of Different Types of Public Expenditure in India - Analysis using a Computable General Equilibrium Model; and Role of Financial Frictions in Monetary Policy Transmission in India, were completed during the year.

X.49 The department organised a number of events during the year. The 15th L. K. Jha Memorial Lecture was delivered by Professor Vijay Joshi, Emeritus Fellow, Merton College, Oxford on December 11, 2017. Eminent speakers delivered

talks during the year including Dr. Maurice Obstfeld, Economic Counsellor and Director of Research, IMF on 'macrofinancial shocks and the trilemma'; Dr. Hyun Song Shin, Economic Adviser and Head of Research, BIS on 'global liquidity and monetary policy spillovers'; and Dr. Pravin Krishna, Chung Ju Yung Distinguished Professor of International Economics and Business, Johns Hopkins University, Washington DC on 'effects of GST on internal and external trade flows in India'.

X.50 The DEPR Study Circle, an in-house research discussion forum, organised 40 various seminars and presentations on diverse themes. Besides, external experts, *viz*., Prof. Sumru Altug, Professor of Economics, Koç University and Research Fellow, CEPR, Istanbul, and Dr. Robert Beyer, Economist, World Bank were invited to make presentations. The annual research conference of the department was held in the College of Agricultural Banking, Pune during May 2018, which included a keynote address by Dr. Rathin Roy, Director, National Institute of Public Finance and Policy (NIPFP) on 'the political economy of Indian fiscal rules' and a panel discussion on 'fiscal risk and monetary policy' by academic and policy experts (Dr. Ravindra Dholakia, Member, MPC; Dr. Partha Ray, Professor, IIM Calcutta; Dr. Pinaki Chakraborty, Professor, NIPFP; and Dr. Samiran Chakraborty, Managing Director and Chief Economist, Citigroup) apart from staff deliberations on the evolving organisational issues. The third edition of the *Handbook of Statistics on Indian States*, that provides a wealth of data on the regional economy was also released at the conference.

Agenda for 2018-19

X.51 Going forward, apart from the usual statutory and non-statutory publications, and compilation and dissemination of data, some policy-oriented macroeconomic and monetary policy issues have been identified for focused analysis and research during 2018-19. They include: transmission of monetary policy, credit growth and banking sector health, impact of loan loss provisions on bank credit, non-banking financial institution's financial performance, changing dynamics in monetary aggregates, fiscal policy and financial markets, relationship between implied volatility indices (VIX) and stock price indices, global liquidity and FII flows, impact of farm credit on investment and performance of priority sector lending, big-data study based on night-time luminosity as a supplementary measure of economic activities in India, effectiveness of trade policy measures in managing food inflation in India, minimum support prices and food inflation, impact of demographic changes on the macroeconomic outlook of India, and crypto currency and its challenges for central banks. Furthermore, in keeping with the frequency of release of many other macroeconomic statistics as also the practices in advanced economies, generation of quarterly estimates of household financial savings and flow of funds will be attempted. The department will continue to organise a number of seminars and lectures during 2018-19. The *History of the Reserve Bank Volume-V* would cover 15 chapters on diverse areas spanning the period of 1997-2008 and will be completed by the History Cell by December 2018.

STATISTICS AND INFORMATION MANAGEMENT

X.52 The Department of Statistics and Information Management (DSIM) is driven by two overarching goals, *viz.,* to collect, process and disseminate national-level macroeconomic and financial statistics of the highest quality, with a focus on banking, monetary, corporate and

external sectors; and to provide statistical and analytical support to all functions of the Reserve Bank through forward looking surveys, data management and applied statistical research. In pursuit of these objectives, DSIM maintains a centralised database for the Reserve Bank, manages the centralised submission of returns through the eXtensible Business Reporting Language (XBRL) system and provides a range of information management related support services.

Agenda for 2017-18: Implementation Status

X.53 During the year, the department brought out its regular publications, *viz., Handbook of Statistics on the Indian Economy, 2016-17*; *Statistical Tables Relating to Banks in India 2016-17; Basic Statistical Returns of SCBs in India: March 2017; Composition and Ownership Pattern of Deposits: March 2017; Quarterly BSR-1: Outstanding Credit of SCBs upto December 2017* and *Quarterly Statistics on Deposits and Credit of SCBs (BSR-7) upto March 2018*. The Weekly Statistical Supplement (WSS) and the 'Current Statistics' portion of the RBI Bulletin were generated from the Database on Indian Economy (DBIE), as per the prescribed frequency. Under the guidance of the Technical Advisory Committee on Surveys (TACS), several improvements were considered in the conduct of surveys relating to monetary policy. Important among them were extending the coverage of the Consumer Confidence Survey (CCS) to seven more cities, finalising probability based sampling design for the Inflation Expectation Survey of Households (IESH) and revising the method for estimation of Capacity Utilisation (CU) for the manufacturing sector based on the Order Books, Inventories and Capacity Utilisation Survey (OBICUS) data. Unit level data of the IESH and CCS were released in the public domain to promote research. Besides the payment systems data, data on Tax Deducted at Source (TDS), based on returns filed by the employers to income tax authorities, and salary account data of banks are also being explored for development of an employment index. During the year, the risk profile of the listed non-government non-financial companies was analysed based on suitably chosen stress scenarios.

X.54 An Expert Group (Chairman: Prof. G. Sivakumar, IIT, Bombay) was constituted to initiate the project on revamping the data warehouse system. The Group has provided a blue print for the proposed Centralised Information Management System (CIMS). Based on the same, a Technical Advisory Group (TAG) with three sub groups, *viz.,* i) Data Governance Sub-Group (DGS); ii) Subject Matter Expert (SME) Sub-Group; and iii) Data Analytics Sub-Group (DAS) have been formed for preparation of the project. The CIMS will include Big Data platform, centralised analytics with metadata repository and state of the art data visualisation tools.

X.55 The Vulnerability Assessment and Penetration Testing (VA-PT) of the Hadoop system for analysing transaction-level payment system data from National Electronic Funds Transfer (NEFT) and National Automated Clearing House (NACH) was carried out during the year. A new web-based, self-validating system for collecting and maintaining information on bank branches with the facility to validate their geographical location with boundaries of the districts has been developed. The web-based banking assets and liabilities (Nostro/Vostro) reporting system went live from the first fortnight of August 2017. Thirty one returns related to various departments including DPSS, FMRD, MPD, DBS, DNBS and FED have been developed under the XBRL system

and are expected to go live shortly. The migration of the web and application server of the XBRL system to virtual environment was completed in January 2018. Under the guidance of the Return Governance Group (RGG), an up-to-date list of all the returns prescribed by the Bank, excluding *ad hoc*/confidential supervisory information sought, along with circulars and formats was placed on the Bank's website in February 2018.

X.56 Definitions for 189 major data elements appearing in various banking returns were harmonised and provided to DBR, which released them in the public domain in two phases on March 30, 2017 and January 4, 2018. The harmonised definitions are expected to minimise data discrepancy issues across returns.

X.57 The department provided secretarial support to the High Level Task Force (HTF) on Public Credit Registry (PCR) for India, constituted by the Reserve Bank in October 2017. The HTF engaged actively with all major stakeholders to understand the state of the credit information reporting system in India and identify the gaps in the same. The HTF submitted its report to the Bank on April 04, 2018. The report presents an outline of the proposed PCR in terms of structure, governance and technological framework. The Reserve Bank considered the recommendations of the HTF and decided that a PCR would be set up by the Bank in a modular and phased manner. The report of the HTF was made available for public on the Bank's website on June 06, 2018. An Implementation Task Force (ITF) has been constituted to help design and undertake logistics for the next steps in setting up of the PCR.

X.58 The department provided secretarial support to the Committee on Financial Sector Statistics (Chairman: Prof. Ravindra H. Dholakia), constituted by the National Statistical Commission to review the existing system for collection and processing of Flow of Funds (FoF) statistics; explore the possibility of providing such estimates at the state level; recommend suitable measures to improve timelines; and revamp the system for processing and periodic audit with the aim to disseminate data consistent with international standards. The Committee in its report submitted in May 2018 made wide ranging recommendations for improving the system of FoF compilation in India in line with the prescriptions of the G20 Data Gap Initiatives.

Agenda for 2018-19

X.59 Going forward, the PCR will be set up and operationalised in phases under the guidance of the ITF. The work relating to CIMS will be taken forward by floatation of the request for proposal. The Central Information System for Banking Infrastructure (CISBI) for maintaining up-to-date information on all banking units along with their geographical location would be implemented. A prototype for a geographic information system that plots banking units on India's map will be developed for internal use. A system of detailed monitoring of housing and personal loans on quarterly basis would be established, for regular in-depth internal analysis of various aspects of credit-flow to these critical sectors. An exploratory employment index based on robust data will be constructed. During 2018-19, efforts would be made to disseminate unit level data from other qualitative surveys suppressing respondents' identities. Further, surveys on start-up companies and payment habits of individuals will be taken up. Towards promoting usage of the SAARCFINANCE database, its scope will be enhanced and web-portal for automated data submission will be developed. Further, automation

of data flow pertaining to the annual financial statements of companies from the Ministry of Corporate Affairs to the Bank has been taken up to improve the timeliness, enrich the coverage as well as to enhance the quality of corporate sector analysis. Research and policy analysis in the areas of modelling and forecasting, banking and risk modelling, corporate and external sector assessment and big data analytics will be pursued during 2018-19. Co-ordination with the proposed Data Sciences Lab announced in the Statement on Developmental and Regulatory Policies in April 2018, will be carried out as required.

LEGAL ISSUES

X.60 The Legal Department is an advisory department established for examining and advising on legal issues and for facilitating the management of litigation on behalf of the Reserve Bank. The Legal Department vets the circulars, directions, regulations and agreements for various departments of the Reserve Bank with a view to ensuring that the decisions of the Reserve Bank are legally sound. The department also extends support and advice to the Deposit Insurance and Credit Guarantee Corporation (DICGC) and other Reserve Bank-owned institutions on legal issues, litigation and court matters.

Agenda for 2017-18: Implementation Status

X.61 Several important legislations/regulations concerning the financial sector were brought in/ amended during the year. Section 17(1-A) has been inserted in the RBI Act, 1934, authorising the Reserve Bank to accept money as deposits repayable with interest from banks or any other person under the Standing Deposit Facility Scheme for the purpose of liquidity management. The Reserve Bank of India Monetary Policy Committee and Monetary Policy Process Regulations, 2016 were framed to provide for the procedure and conduct of the Monetary Policy Process and a code of conduct for the MPC members.

X.62 Two new sections authorising the Reserve Bank to issue directions to banking companies to initiate the insolvency resolution process and to issue directions with regard to stressed assets have been inserted in the Banking Regulation Act, 1949. Sub-section 2 of section 35-AB of the Banking Regulation Act, 1949 empowers the Reserve Bank to specify authorities or committees to advise banks on resolution of stressed assets. These provisions have been made applicable to public sector banks as well.

X.63 The Insolvency and Bankruptcy Code, 2016 was amended to make a provision under the code for 'persons not eligible to be resolution applicant'. The ineligible persons or entities for participation in the resolution process will include undischarged insolvent, wilful defaulter, those whose accounts have been classified as non-performing assets for more than a year, and all related entities of these firms. The amendment ordinance of 2018 aimed towards promoting resolution over liquidation, by lowering the voting thresholds in the committee of creditors, rationalises the conditions of ineligibility for participation in the resolution process.

X.64 The Reserve Bank of India has made Credit Information Companies (Amendment) Regulations, 2017 amending the Credit Information Companies Regulations to include an 'information utility' and a 'resolution professional' appointed under the Insolvency and Bankruptcy Code, 2016 as 'specified users'. The Bank has introduced 'The Ombudsman Scheme for

Non-Banking Financial Companies, 2018' from February 23, 2018 for customers of NBFCs under Section 45L of the RBI Act, 1934.

X.65 The Negotiable Instruments (Amendment) Bill, 2017 which empowers the court to direct the drawer of the cheque to pay interim compensation to the complainant, subject to certain conditions, has been introduced in the Parliament.

X.66 The High Court of Gujarat upheld the exercise of power by the Reserve Bank under the Banking Regulation Act, 1949, relating to directions to banks to initiate the insolvency resolution process.

Agenda for 2018-19

X.67 In 2018-19, the department will continue to advise various other departments of the Reserve Bank on legal matters and furnish specific legal opinions whenever sought. It will also continue its efforts at managing litigation on behalf of the Reserve Bank and function as a secretariat to the Appellate Authority under the Right to Information Act. Amendments to various Acts administered by the Reserve Bank will be pursued during the year in pursuance of international commitments and standards and to clarify relevant provisions.

XI GOVERNANCE, HUMAN RESOURCES AND ORGANISATIONAL MANAGEMENT

The year 2017-18 was marked by several initiatives in the arena of, inter alia, human resource development, Enterprise-wide Risk Management (ERM), audit management, and promotion of Rajbhasha. As part of the drive to spread knowledge among staff, structured e-learning courses were introduced. The third edition of the RBI Policy Challenge, a national level competition targeting under/post–graduate students, was successfully conducted during the year. To reduce the impact of cyclicality in the Bank's economic capital levels on the surplus transferable to the Government of India, a rule-based Staggered Surplus Distribution Policy (SSDP) has been put in place. A web-enabled audit management, risk assessment and analysis platform, viz., Audit Management and Risk Monitoring System (AMRMS), is under development which would ensure higher degree of objectivity and consistency in the risk assessment process within the Bank. Alongside, the regional offices have strived to implement the policies to achieve the enshrined goals of the Reserve Bank.

XI.1 This chapter summarises the achievements of a number of departments during 2017-18, and sets priorities/agendas for 2018-19. It takes note of governance developments and strengthening of human resources in terms of new recruitments and updating the skills and knowledge of existing staff members using several innovative channels including training in Reserve Bank establishments, training at external institutions, study leave and structured e-learning courses. These initiatives were further aided by strengthening of grievance redressal mechanism for prevention of sexual harassment of women at the workplace and creation of a portal for retired employees of the Bank.

XI.2 With a view to developing an integrated assessment and management of risk, a three-phase roll out of the ERM framework was pursued during 2017-18. Preparation of Risk Registers for each Business Area of the Bank is underway and upon its completion, the entire risk profile of the Bank shall be available. This shall be the basis for the roll out of a Risk Tolerance Framework for the Bank. The automation of the audit process has been initiated with the rolling out of the Risk Based Internal Audit (RBIA) module in Audit Management and Risk Monitoring System (AMRMS) in July 2017. The RBIA compliance module for all the auditee offices successfully went live in August 2017.

XI.3 Robust Business Continuity Plans (BCPs) have been set up as a resilient framework for efficient management of the disruptions. Necessary groundwork has been undertaken for implementation of the Electronic Documents Management System (EDMS) by monitoring through RBIA and control self-assessment audit. Besides compliance with statutory provisions of the Official Languages Act, the Rajbhasha Department also organised several trainings, conferences and seminars while the Premises Department continued with its endeavour of creating, maintaining and upgrading the Reserve Bank's infrastructure. The Regional Offices (ROs) strived to implement the policies originated in Central Office by ensuring availability of currency in circulation, supervising the Reserve Bank regulated entities and promoting financial inclusion and financial literacy.

GOVERNANCE STRUCTURE

XI.4 The Central Board of Directors, with the Governor in the Chair, is the apex body in the governance structure of the Reserve Bank. It comprises the Governor and Deputy Governors of the Reserve Bank, government officials and other Directors nominated by the Central Government. There are four Local Boards for the northern, southern, eastern and western regions of the country, which focus on local issues. The Government of India (GoI) nominates/appoints Directors to the Central Board and Members to the Local Boards in accordance with the Reserve Bank of India Act, 1934.

XI.5 The Central Board is assisted by three Committees: the Committee of the Central Board (CCB), the Board for Financial Supervision (BFS) and the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS). These Committees are headed by the Governor. In addition, the Central Board also has four sub-committees: the Audit and Risk Management Sub-Committee (ARMS), the Human Resource Management Sub-Committee (HRM-SC), the Building Sub-Committee (BSC) and the Information Technology Sub-Committee (IT-SC). These sub-committees are typically headed by an external Director.

Meetings of the Central Board and CCB

XI.6 The Central Board held six meetings during July-June 2017-18 in Kochi, Mumbai (three meetings), GIFT City (Gandhinagar), and New Delhi. The Finance Minister of India addressed the post-Budget meeting held in New Delhi on February 10, 2018.

XI.7 The CCB held 46 meetings during the year, 32 of which were held through electronic mode. The CCB attended to the current business of the Reserve Bank, including approval of its Weekly Statement of Affairs. External Directors were invited to the CCB meetings by rotation.

XI.8 Subsequent to the nomination of new members, the Eastern Area Local Board and the Western Area Local Board held four and three meetings, respectively during the year. However, no meeting of the Northern Area Local Board and Southern Area Local Board could be held due to lack of quorum.

XI.9 The Standing Committee of the Central Board was set up in 2014-15 to look into important concerns pertaining to Urban Cooperative Banks (UCBs), Non Banking Financial Companies (NBFCs), currency management, *etc.*, in the regions where Local Boards were not able to function. One meeting of the Standing Committee of Northern Area was held during the year.

Attendance of Directors

XI.10 The details of participation of the Directors/ Members in the meetings of the Central Board, its Committees and Sub-Committees are given in the Annex.

Central Board/Local Boards: Changes

XI.11 Upon completion of his term, Shri S. S. Mundra relinquished charge as Deputy Governor on the forenoon of July 31, 2017. Shri M. K. Jain assumed charge as Deputy Governor on June 22, 2018. On being appointed as the Vice Chairman of NITI Aayog, Dr Rajiv Kumar, who was nominated under Section 8(1)(c) of the RBI Act, 1934, resigned as Director of the Central Board of the Reserve Bank of India with effect from September 04, 2017.

XI.12 Dr. Nachiket M. Mor was reappointed on the Eastern Area Local Board of the Bank and re-nominated to the Central Board with effect from August 24, 2017 for a period of four years under

Section 9(1) and Section 8 (1)(b) of the RBI Act, 1934.

XI.13 Shri Subhash Chandra Garg, Secretary, Department of Economic Affairs, Ministry of Finance, Government of India was nominated as a Director under Section 8(1)(d) of the RBI Act, 1934 with effect from July 12, 2017 *vice* Shri Shaktikanta Das. Shri Rajiv Kumar, Secretary, Department of Financial Services, Ministry of Finance, Government of India, was also nominated under Section 8(1)(d) of the RBI Act, 1934 with effect from September 12, 2017 *vice* Smt. Anjuly Chib Duggal.

XI.14 Dr. Prasanna Kumar Mohanty and Shri Dilip S. Shanghvi, existing members of the Southern and the Western Area Local Boards, respectively, were nominated as Directors on the Central Board of Directors of the Reserve Bank under Section 8(1)(b) of the RBI Act, 1934 with effect from February 01, 2018. Their respective terms shall extend up to February 08, 2021 and March 10, 2021 or until further orders whichever is earlier. Shri Satish Kashinath Marathe and Shri Swaminathan Gurumurthy were nominated as Directors of the Central Board of the Reserve Bank under Section 8(1)(c) of the RBI Act, 1934 for a period of four years from August 07, 2018 or until further orders whichever is earlier.

Executive Directors - Changes

XI.15 Smt. Meena Hemchandra and Smt. Deepali Pant Joshi, Executive Directors retired at the end of November 2017 and December 2017, respectively. Smt. Uma Shankar and Shri A. K. Misra were promoted as Executive Directors with effect from December 04, 2017 and January 01, 2018, respectively against consequential vacancies. Smt. Sudha Balakrishnan was appointed as the Chief Financial Officer of the Bank on May 17, 2018. Shri K. K. Vohra and Shri A. K. Misra, Executive Directors retired on May 31, 2018 and July 31, 2018, respectively. Smt. Rosemary Sebastian and Smt. Parvathy V. Sundaram were promoted as Executive Directors with effect from August 14, 2018.

HUMAN RESOURCE INITIATIVES

XI.16 The Human Resource Management Department (HRMD) plays the role of an enabler and a facilitator. It endeavours to enhance the effectiveness of the Reserve Bank's policies as also the efficiency of the workforce in an atmosphere that encourages pursuit of individual excellence and taps synergies arising from cohesive teamwork.

Major Developments

In-house Training

XI.17 The Reserve Bank strives to impart necessary knowledge and skill upgradation for development of technical and behavioural skills of its human resource. It also helps employees to attain personal growth and improve their effectiveness at work. The training establishments of the Bank, *viz.,* RBI Academy; Reserve Bank Staff College (RBSC), Chennai; College of Agricultural Banking (CAB), Pune; and four Zonal Training Centres in Mumbai, New Delhi, Kolkata and Chennai, cater to its training requirements (Table XI.1).

Training at External Institutions

XI.18 During 2017-18, 1041 officers were deputed by the Bank to participate in training programmes, seminars and conferences organised by external institutions in India. Workmen employees were also deputed for

Table XI.1: Reserve Bank Training Establishments - Programmes Conducted

Training Establishment	2015-16 (July-June)		2016-17 (July-June)		2017-18 (July-June)	
	Number of Programmes	Number of Participants	Number of Programmes	Number of Participants	Number of Programmes	Number of Participants
1	2	3	4	5	6	7
RBI Academy	---	---	9	317 (2)*(18)#	18	620 (24)#
RBSC, Chennai	125	2,741 (50)*	129	3,346 (172)*	147	3,583 (281)*
CAB, Pune	198	7,580 (69)*	173	5,788 (56)*	184	6,448 (42)*
ZTCs (Class I)	97	2,055	101	1,934	115	2,271
ZTCs (Class III)	102	2,247	104	2,130	100	2,109
ZTCs (Class IV)	38	807	33	758	36	802

*: Figures in brackets pertain to foreign participants.
#: Figures in brackets pertain to participants from external institutions in India including CAFRAL.
---: Not applicable.
Source: RBI.

trainings in external institutions in India during the year. Further, the Bank deputed 410 officers to attend various training courses, seminars, conferences and workshops conducted by banking and financial institutions, and multilateral institutions in different countries (Table XI.2).

Study Leave Schemes and Golden Jubilee Scholarship

XI.19 Fourteen officers of the Bank availed of the schemes for pursuing higher studies overseas (other than the Bank's Golden Jubilee Scheme) during the year. A total of 428 employees pursued select part-time/distance education courses under the Bank's incentive scheme. Under the Golden Jubilee Scholarship Scheme, eight officers were selected during the year to pursue higher studies in reputed universities abroad.

Table XI.2: Number of Officers Trained in External Training Institutions in India and Abroad

Year	Trained in India (External Institutions)	Trained abroad
1	2	3
2015 - 16	905	599
2016 - 17	816	506
2017 – 18	1041	410

Source: RBI.

Other Initiatives

Structured e-learning

XI.20 The Reserve Bank has introduced structured e-learning courses targeted at larger groups of staff members. This will be an ongoing process with newer modules being prepared and hosted on the Learning Management System of the Bank. At present, 15 e-learning modules are being offered by RBSC, Chennai on the Bank's intranet. Besides this, officers are also encouraged to undertake online certificate courses such as those offered by IMF's Institute for Capacity Development.

XI.21 During the course of the year, 152 students were selected and provided internship in the Bank as part of Bank's summer internship scheme.

Grants and Endowments

XI.22 Towards promoting research, training and consultancy in the banking and financial sector,

the Reserve Bank provided financial support amounting to ₹320 million to the Indira Gandhi Institute of Development Research (IGIDR), Mumbai; ₹60 million to the Centre for Advanced Financial Research and Learning (CAFRAL), Mumbai; ₹6.8 million to the Indian Institute of Bank Management (IIBM), Guwahati; ₹15.7 million to the National Institute of Bank Management (NIBM), Pune and ₹6.95 million to the London School of Economics (LSE) India observatory and the IG Patel Chair.

Industrial Relations

XI.23 Industrial relations in the Bank remained by and large cordial during the year. The Reserve Bank continued to hold periodic meetings with recognised associations/federations of officers and employees/workmen on various matters related to service conditions and welfare measures for employees.

The RBI Policy Challenge

XI.24 The third edition of the RBI Policy Challenge, a national level competition, got underway in October 2017 and was organised in three rounds, *viz*., at Regional, Zonal and National level. The competition drew quality participation from educational institutions across the country, thereby succeeding in its aim to enhance knowledge regarding monetary policy making amongst undergraduate and post graduate students. Teams from Indian Institute of Technology, Kanpur (North Zone); Indian Institute of Management, Nagpur (West Zone); School of Economics, University of Hyderabad (South Zone); and West Bengal National University of Juridical Sciences (East Zone) qualified for the National Finals held at the Central Office, Mumbai on April 26, 2018, with the students from Indian Institute of Technology, Kanpur, emerging as the winners.

Table XI.3: Recruitments by the Reserve Bank in 2017*

Category of Recruitment	Category-wise strength						
	Total	*Of which*			Per cent of total		
		SC	ST	OBC	SC	ST	OBC
1	2	3	4	5	6	7	8
Class I	212	30	10	62	14.15	4.72	29.25
Class III	579	107	41	176	18.48	7.08	30.40
Class IV							
(a) Maintenance Attendant	0	0	0	0	0.00	0.00	0.00
(b) Others	10	0	0	2	0.00	0.00	20.00
Total	**801**	**137**	**51**	**240**	**17.10**	**6.37**	**29.96**

*: January to December 2017.
Source: RBI.

Recruitments and Staff Strength

XI.25 During 2017 (January-December), the Reserve Bank recruited 801 employees. Of these, 137 belonged to the Scheduled Castes (SCs), 51 to the Scheduled Tribes (STs) and 240 to Other Backward Classes (OBCs), constituting 53.43 per cent of the total recruitments (Table XI.3).

XI.26 The total staff strength of the Reserve Bank as on December 31, 2017 was 14,785 as compared to 15,461 a year ago. Of the total staff strength, 19.03 per cent belonged to the SC category, 6.65 per cent to the ST category and 15.66 per cent to the OBC category (Table XI.4). Total staff strength as on June 30, 2018 was 14,184.

XI.27 During 2017 (January-December), four meetings were held between the management and representatives of the All India Reserve Bank Scheduled Castes/Scheduled Tribes and the Buddhist Federation to discuss issues relating to the implementation of Reserve Bank's reservation policy. Two meetings were also held with representatives of OBC association.

XI.28 The total strength of ex-servicemen in the Reserve Bank, as at end December 2017,

Table XI.4: Staff Strength of the Reserve Bank*

Category	Total strength		Category-wise strength						Per cent to total strength		
			SC		ST		OBC		SC	ST	OBC
	2016	2017	2016	2017	2016	2017	2016	2017	2017		
1	2	3	4	5	6	7	8	9	10	11	12
Class I	6781	6955	993	1052	408	444	650	850	15.13	6.38	12.22
Class III	4017	3831	620	572	234	211	848	892	14.93	5.51	23.28
Class IV	4663	3999	1388	1190	368	328	635	573	29.76	8.20	14.33
Total	**15461**	**14785**	**3001**	**2814**	**1010**	**983**	**2133**	**2315**	**19.03**	**6.65**	**15.66**

*: End December.
Source: RBI.

stood at 900. Of these, 194 were in Class I, 201 in Class III and 505 in Class IV. The total number of employees with disabilities in Class I, Class III and Class IV cadres stood at 182, 74 and 75, respectively as on December 31, 2017 (Table XI.5). During the year, 28 ex-servicemen and 14 persons with disabilities were recruited (Table XI.6).

Prevention of Sexual Harassment of Women at the Workplace

XI.29 The formal grievance redressal mechanism for prevention of sexual harassment of women at the workplace, which has been in place since 1998, was further strengthened with the issue of a new comprehensive set of guidelines in 2014-15 in accordance with the Sexual Harassment of Women at Workplace (Prohibition, Prevention and Redressal) Act and Rules, 2013. One complaint was received and resolved during 2017.

XI.30 During the year, a number of awareness programmes were organised for employees at various ROs about the mechanisms in place at the Bank and also for sensitising the staff regarding these matters. Workshops on awareness on prevention of sexual harassment were organised for newly recruited officers and assistants. In addition, the Bank's training establishments conducted sessions that focused on gender sensitisation during the induction programme for newly recruited officers/staff. RBSC, Chennai has been conducting gender sensitisation programmes for members of complaints committees as well.

Table XI.5: Total Strength of Ex-servicemen and PWD*

Category	Total Strength	Ex-servicemen (ESM)	PWD (Persons with Disabilities)			
			Visually Impaired (VI)	Hearing Impaired (HI)	Ortho-pedically Handicap (OH)	Total
1	2	3	4	5	6	7
Class I	6955	194	28	11	143	182
Class III	3831	201	21	5	48	74
Class IV	3999	505	4	7	64	75
Total	**14785**	**900**	**53**	**23**	**255**	**331**

*: End December 2017.
Source: RBI.

Table XI.6: Recruitment of Ex-servicemen and Persons with Disabilities made during 2017

Category	Total Strength	Ex-servicemen (ESM)	PWD (Persons with Disabilities)			
			Visually Impaired (VI)	Hearing Impaired (HI)	Ortho-pedically Handicap (OH)	Total
1	2	3	4	5	6	7
Class I	13	6	4	1	2	7
Class III	19	12	4	0	3	7
Class IV	10	10	0	0	0	0
Total	**42**	**28**	**8**	**1**	**5**	**14**

Source: RBI.

A training programme for Counsellors was also organised by RBSC, Chennai.

Right to Information (RTI)

XI.31 The Bank received 15,425 requests for information and 1,383 appeals under the RTI Act during 2017-18. During the year, one training programme on RTI Act was also conducted.

Portal for Retired Employees

XI.32 A portal for retired employees of the Bank was created and operationalised from January 1, 2018 as part of the Enterprise Knowledge Portal (EKP) to help the retired employees stay in touch with developments in the Bank that might have a direct impact on them.

Appointment of Chief Financial Officer (CFO)

XI.33 The Bank has appointed a Chief Financial Officer (CFO) who will supervise the working of departments that deal with government transactions and revenue collection, formulation of budget, collecting of inputs and comparing the Bank's actual performance *vis-à-vis* budget estimates, as also developing strategies to counter/mitigate financial risks. The CFO will also be responsible for accurate and timely presentation and reporting of financial information of the Bank. In addition to the established accounting policies and procedures, the CFO will oversee compliance of financial regulations and standards.

Agenda for 2017-18: Implementation Status

XI.34 Keeping in mind the increasingly important role being played by social media, a suitable policy regarding the use of social media by staff members has been put in place.

XI.35 As part of initiatives taken to implement the vision document for sports, sportspersons in the zone of excellence were provided with mentors for guidance.

Agenda for 2018-19

XI.36 Introducing a mid-career mandatory training programme for officers in select grades is envisaged. A well-defined policy on succession planning is also being formulated.

ENTERPRISE-WIDE RISK MANAGEMENT (ERM) IN THE RESERVE BANK

XI.37 With a view to developing an integrated assessment and management of the risks faced by the Reserve Bank in accordance with its articulated risk policies, an enterprise-wide risk management (ERM) framework was adopted in February 2012, marking a move from a 'silo based' approach to a 'whole-of-business' perspective to risk management in the Reserve Bank.

Agenda for 2017-18: Implementation Status

Development of Staggered Surplus Distribution Policy of the Bank

XI.38 A historical analysis of the Reserve Bank's economic capital (EC) levels suggested a discernible cyclical trend in the Bank's EC on account of volatility in market forces. The volatility in the valuation buffers is on account of not only market dynamics but also the Bank's public policy objectives, which necessitate maintaining, *inter alia*, a very large open forex position. With a view, therefore, towards reducing the impact of cyclicality, while putting in place a rule-based methodology for determining the provisioning requirements and consequently, the available transferable surplus to the Government of India, an alternative rule based approach, *viz*., the Staggered Surplus Distribution Policy (SSDP) has been put in place (Box XI.1).

Box XI.1
Surplus Distribution Policy in Central Banks: An Overview

It is in the public interest that a central bank should continue to perform its public policy functions effectively even during times of extreme stress. A central bank, therefore, requires a minimum level of confidence regarding its financial strength and the resources at its disposal which will allow it to effectively discharge its functions even during crises. The surplus distribution policy adopted by a central bank is one of the key elements that can determine its financial strength.

Major factors determining surplus distribution

The same approach for surplus distribution cannot be applied across central banks considering the varied political and economic environment under which they operate. Other considerations which necessitate different distribution policies are the varying levels of risk exposures of the central banks as well as the availability of risk transfer mechanisms between the central banks and their stakeholders. The risk transfer mechanism may also not be effective if a particular stakeholder's finances are also under stress during a crisis.

Various approaches adopted for surplus transfer

A cross country analysis of the surplus distribution policy of central banks by scrutinising publicly available information reveals that central banks can be classified predominantly into the following categories of surplus distribution:

a) Surplus retention is based on a target level of provisions to be achieved. A few central banks also follow accelerated surplus retention based on a target level of provisions in case where the target is not met.

b) Retention of surplus is based on a numerical rule linked to the surplus of the current year.

c) Surplus smoothening wherein it is ensured that regular surplus may be transferred to the government and that the surplus transfer is not affected by the cyclicality of the provisions of the central bank.

Desirable characteristics of a Surplus Distribution Policy

The provisioning requirements of a central bank should be linked to a target level of financial resilience to be achieved/ maintained. In the case of central banks where the distribution arrangements result in continuous substantial transfers without considering the overall level of provisions and risk transfer mechanisms, the financial strength of the central bank may progressively weaken. Further, if a central bank maintains unrealised valuation gains on its balance sheet, these are predominantly taken as non-distributable. The distribution policy should also bring about smoothening of surplus transfer to the government.

Completion of Risk Registers

XI.39 The Risk Register (RR) is a comprehensive inventory of all the processes/sub-processes inherent in the functioning of a Business Area (BA) as well as all their identifiable risks. The preparation of RRs for each BA of the Reserve Bank is almost over, and upon finalisation of all of them, a composite view of the risk profile of the entire Bank would be available. This will enable the roll out of a Risk Tolerance Framework for the Reserve Bank. As RBIAs are now being conducted using the RRs through Audit Management and Risk Monitoring System (AMRMS), it has enabled greater convergence of risk assessment by the internal audit function with that of the risk monitoring function through its Risk Assessment Methodology for Operational Risk.

Agenda for 2018-19

Rollout of the Risk Tolerance Framework

XI.40 The four major components of the Risk Tolerance Framework (RTF) are: a) articulation of risk tolerance statement, b) review of risk tolerance limits, c) implementation of integrated risk reporting framework, and d) reviewing roles and responsibilities under the RTF.

XI.41 The risk philosophy of the Bank in the form of Risk Tolerance Statement has been articulated. The other three components are being implemented for creating a consistent, comprehensive and integrated risk framework.

Action Plan for Mitigating High and Significant Risks

XI.42 The department is working with other business areas on action plans for mitigating their high and significant risk in their respective RRs. The development of a computerised web-based risk monitoring software which is being taken up during the year will greatly strengthen this process.

INTERNAL AUDIT/INSPECTION IN THE RESERVE BANK

XI.43 Internal audit/inspection exercises undertaken by the Inspection Department of the Reserve Bank provide risk assurance to the top management and the Central Board. The inspections are conducted under the Risk Based Internal Audit (RBIA) framework in which internal control and governance processes are examined. The Inspection Department is also the Secretariat to the Audit and Risk Management Sub-Committee (ARMS) of the Central Board as also to the Executive Directors' Committee (EDC) overseeing the internal audit function.

Agenda for 2017-18: Implementation Status

XI.44 The automation of the audit process commenced with the roll out of the RBIA module in AMRMS in July 2017, which is running successfully across all offices of the Bank. The RBIA compliance module for all the auditee offices was also successfully implemented and went live in August 2017. The automation of the RBIA process has facilitated convergence of risk rating as per the Risk Assessment Methodology – Operational Risk (RAM-OR) and the Inspection Department's methodology to a greater extent. During the year, the user training of all auditee offices in North, South, East and Western Zone was successfully completed.

XI.45 The audit report of the Vulnerability Assessment and Penetration Testing (VA-PT)/ Technology Audit of Data Centres and CBS Application (including e-Treasury module) which was conducted in 2016 was closed and the Compliance Audit of the same was carried out to examine the sustenance of the action taken by the Business Owner Department with regard to the audit observations (Box XI.2).

Agenda for 2018-19

XI.46 After the successful roll-out of the RBIA module of AMRMS application, the other two major functionalities related to Concurrent Audit (CA) and Control Self-Assessment Audit (CSAA) would be implemented across all offices of the Bank. VA-PT/Technology Audit of select critical IT applications would also be carried out, as required.

CORPORATE STRATEGY AND BUDGET MANAGEMENT

XI.47 The Corporate Strategy and Budget Department (CSBD) coordinates and develops strategies and annual action plans for the Bank. Thereupon, completion status of action points is assessed as at the end of each quarter to ensure that the action is completed in a time-bound manner. The Department also formulates the annual budget of the Reserve Bank by adopting activity based budgeting, taking into account the annual action plans of the business units in the context of priorities and timelines. The expenditure by the business units is also reviewed every quarter to ensure budget discipline.

XI.48 The department also holds the responsibility for managing business disruptions through Business Continuity Plans (BCPs). The department has devised and set up robust BCPs with a view to creating a resilient framework for managing disruptions efficiently.

Box XI.2
Vulnerability Assessment and Penetration Testing (VA-PT) of Critical IT Infrastructure in the Bank

The Inspection Department carries two types of audits in the information systems area in the Bank to provide IT risk assurance. First, the Information Systems (IS) audit is carried out by internal resources as part of the RBIA framework to evaluate risk control measures in Information Systems as per the IS Policy of the Bank. The scope of the IS audit is limited mostly to audit observations around the IT systems and does not cover in detail the various vulnerabilities in terms of network, operating systems (OS), database or application functionalities.

Secondly, to address the latter issues the department also carries out Vulnerability Assessment and Penetration Testing (VA-PT) and Technology Audit of IT applications, operating systems, database, network resources, *etc.* to achieve a complete vulnerability analysis of these systems running in the Bank. VA-PT identifies the vulnerabilities which are present that can be exploited by the external or internal hackers to cause damage to the Bank's IT assets. Penetration tests attempt to exploit the vulnerabilities in a system to determine whether unauthorised access or other malicious activity is possible and identify flaws that pose a threat to the application. Penetration tests find exploitable flaws and measure the severity of such flaws/ breaches.

The exercise is carried out either on the directions of the Central Board/Audit and Risk Management Sub-Committee (ARMS)/Information Technology Sub Committee (ITSC)/top management or on receipt of a request from the Business Owner Departments/User Departments/Department of Information Technology (DIT), CO or as felt necessary by the department considering the criticality/importance of operations/systems.

The Bank generally outsources the conduct of VA-PT to an external audit firm from the Bank empanelled (CERT-In enlisted) list of audit firms to identify and classify vulnerabilities, which enables the IT security team of the Bank to focus on mitigating critical vulnerabilities.

The VA-PT of network resources, OS and databases at data centres were earlier carried out. The exercise assessed the overall health of the IS security at RBI in terms of network security, physical and logical access control, servers, OS and database security. Identifying and addressing the vulnerabilities of the critical applications provides IT risk assurance to the Bank.

During 2016-17, VA-PT of Video Conferencing System and NG-RTGS System were also carried out to identify and address the vulnerabilities, if any, associated with both the systems.

After the closure of the Audit Report of VA-PT/Technology Audit of Data Centres, Compliance Audit of the same was carried out during May 2018 to evaluate and get an assurance about the quality, adequacy and sustenance of the compliance.

During 2018-19, the department would continue to carry out VA-PT of important IT assets covering critical IT applications, OS, databases, network resources, *etc.* of the Bank.

Agenda for 2017-18: Implementation Status

XI.49 The department scrupulously monitored execution of activity-driven budgets of all accounting units. The department had prepared Business Continuity Management (BCM) policy of the Bank, which was approved by the Central Board. In addition, the BCPs for each of the Central Office Departments (CODs), ROs and Training Establishments (TEs) were being finalised by the department in consultation with the respective business units. The department, besides organising the meetings of the governing boards of the external funded institutions (EFIs), *viz*., IGIDR, CAFRAL, NIBM and IIBM and their sub-committees, had also actively participated in the reconstitution of the Governing Board of the NIBM. Further, the department facilitated meetings and prepared the reports of the Review Committees for IIBM, IGIDR and CAFRAL, which

were constituted to assess their performance and develop future plans. The reports of these Committees are being examined. During the year, the offices at Gangtok, Agartala and Shillong were upgraded to independent accounting units.

Agenda for 2018-19

XI.50 The department's agenda for the coming year includes establishing linkages between the strategic action points of the CODs and their budgets, developing control functions to minimise the gap between targets and their actual realisation – both in terms of action and budget. In this direction, Medium Term Vision Statement of the Bank will be prepared during the year. To strengthen the BCM in the Bank, a depository of lessons learnt from various crisis situations will be developed and the important learnings from the same will be disseminated to all the stakeholders to improve the BCM.

CORPORATE SERVICES

Agenda for 2017-18: Implementation Status

XI.51 To facilitate the implementation of the Electronic Documents Management System (EDMS) project by Department of Information Technology (DIT), necessary groundwork has been done to strengthen/reinforce compliance with the Records Management Policy (RMP) by enhanced monitoring through Risk Based Internal Audit and Control Self-Assessment Audit. Outdated records, as per the current stipulations on preservation period of records, are being weeded out. Preservation periods of records are also being reviewed. The department is coordinating with the RBI Archives to get the Records Management Policy reviewed.

Agenda for 2018-19

XI.52 With regard to the EDMS project, the policy measures pertaining to the preservation period of records as well as the records to be preserved will be enunciated.

RAJBHASHA

XI.53 The Reserve Bank continued its efforts to ensure compliance of statutory provisions of the Official Languages Act to promote the use of Hindi in its working during 2017-18.

Agenda for 2017-18: Implementation Status

XI.54 During the year, 80 staff members passed the *Pragya*[1] and 230 passed the *Parangat*[2] examination. In order to enhance use of Hindi on computers, staff members were trained to work in Hindi on computers. To increase the use of Hindi in noting and correspondence, 151 workshops were conducted across the Bank which included Hindi workshops conducted for senior officers at CODs and RO levels. 'Hindi Fortnight' was celebrated in all the ROs and CODs and several Hindi competitions were conducted.

XI.55 For learning Hindi through regional languages, teaching material was prepared in Gujarati and Marathi. Such material has already been prepared for eight other languages (Tamil, Malayalam, Kannada, Telugu, Oriya, Bangla, Assamese and Konkani) of Region 'C'. Besides, teaching material for learning regional languages (Bangla, Kannada, Oriya, Tamil, Telugu and Malayalam) through Hindi medium was also prepared for the officers on transfer to Region 'C' in order to help them communicate in local languages. A conference for Rajbhasha Officers was organised during April 13-15, 2018.

[1] The examination is conducted for those who do not have working knowledge of Hindi.
[2] The highest examination to acquire proficiency in Hindi.

Training

XI.56 Rajbhasha Officers were imparted training in Management Development Programme to enhance their skills. Apart from this, a translation workshop was conducted at the Reserve Bank Staff College, Chennai regarding translation of legal documents, financial and banking terminologies.

XI.57 A book in Hindi titled '*Banking Kal, Aaj Aur Kal'* was published during the year. The Bank's Hindi journal, *Banking Chintan Anuchintan,* received a Silver Award from the Association of Business Communicators of India (ABCI). The statutory publications of the Bank, *viz*., *Annual Report* and *Report on Trend and Progress of Banking in India,* the *Financial Stability Report*, *Weekly Statistical Supplement* and monthly *Reserve Bank of India Bulletin* were also published in bilingual form and are available on the Bank's website. *Rajbhasha Samachar*, along with its e-version, and *Annual Rajbhasha Report,* covering the progressive use of Hindi in the Bank were published.

Incentives

XI.58 An incentive scheme for academia, for writing outstanding books in Hindi on banking, with an award of ₹1.25 lakh (Rupees one lakh twenty five thousand only) is in vogue to encourage writers. During the year, an All-India Hindi essay writing competition as well as Hindi/ Bilingual House Magazine competition were held for the public sector banks and financial institutions.

Visit of Parliamentary Committee

XI.59 The Committee of Parliament on Official Language (Third Sub-Committee) visited the RO of the Reserve Bank at Jaipur on February 12, 2018 to inspect and review the status of implementation of Rajbhasha policy. The Sub-Committee has suggested further measures for promoting the usage of Hindi in the Bank and has also expressed that intensive efforts may be undertaken for the implementation of official language in all spheres of the Bank.

Agenda for 2018-19

XI.60 An annual work plan for 2018-19 has been prepared keeping in view the requirements of the Annual Programme published by the Government of India and the issues raised by the Committee of Parliament on Official Language. Apart from this, implementation of all the modules of the new *Rajbhasha Reporting System* is another agenda for 2018-19.

PREMISES DEPARTMENT

XI.61 The remit of the Premises Department encompasses creating, maintaining and upgrading the Reserve Bank's physical infrastructure. In 2017-18, significant developments have taken place in this direction including the initiation of new activities.

Agenda for 2017-18: Implementation Status

XI.62 During the year, the Premises Department completed the process of acquisition of land for construction of office buildings at two centres where the Reserve Bank was functioning from rented premises. Construction of officers' quarters along with common amenities has been taken over partly at one centre and completed at another centre. Work related to construction of infrastructural facilities for CAFRAL and residential quarters at four centres has commenced.

XI.63 Another focus area of the department has been the use of renewable energy in the form of solar power in all the premises of the Bank. Grid interactive solar power generation facilities have been installed for enhancing capacity in various premises and the total power generation capacity has reached a level of 972 kwp. For conservation of water and its efficient use, rainwater harvesting plants have been installed in various premises of the Bank.

XI.64 With a view to promoting e-governance, in line with the Central Vigilance Commission (CVC) guidelines, e-tendering which was introduced last year has since stabilised during the year. During 2017-18, the department strengthened perimeter security in the Bank by operationalising state of the art Internet Protocol based CCTV (IPCCTV) system in 20 office buildings and also completed installation of Integrated Security System (ISS) in the Central Office building, Mumbai. The ISS provides for integration of various existing and new physical security systems such as Fire Alarm System, X-Ray Baggage Scanners, Crash Rated Barrier, Lift Monitoring System and Staircase Pressurisation System with the IPCCTV system.

Agenda for 2018-19

XI.65 Land acquisition formalities for office buildings and residential purposes are ongoing at two centres. Construction of office buildings at three centres and residential colonies at another centre is expected to commence during 2018-19. Residential colonies at four other centres have also been planned. Steps have already been taken for construction of a holiday home and reconstruction of a residential colony. During 2018-19, concrete steps for further conservation of water and electricity across all premises have been envisaged as part of the green initiative.

REGIONAL OFFICES

XI.66 The ROs of the Reserve Bank serve as frontal agencies for fulfilment of various objectives that the Bank seeks to achieve. While the policy making role is mainly confined to the Bank's Central Office located in Mumbai, the ROs and the sub-offices at 31 locations across the country strive to implement these policies. A typical RO of the Bank is primarily responsible for ensuring the availability and quality of currency and coinage in circulation; conducting supervision of the assigned regulated entities such as commercial banks, UCBs and NBFCs; promoting financial inclusion and financial literacy; and managing the grievance redressal mechanism. An officer in Grade 'F' is generally placed as the in-charge of the RO and s/he is designated as the Regional Director (RD). The RD is supported by a cohort of staff across various grades. Some of the smaller ROs are headed by an officer in Grade 'E', who is designated as Officer-In-Charge.

XI.67 Since May 2015, offices of the Reserve Bank have been categorised into three tiers (Tier I – Metro cities, Tier II – Non-metro cities and Tier III – Small offices). Tier I and II offices have departments organised under four clusters: (i) Supervision, Market Intelligence and Research; (ii) Currency and Banking Services; (iii) Financial Inclusion and Customer Service; and (iv) Human Resource Management (HRM) and Infrastructure while Tier III offices have departments organised under three clusters: (i) Supervision and Market Intelligence; (ii) Financial Inclusion/Financial Literacy, Public Awareness, Customer Service, and Research; and (iii) HRM and Infrastructure. Market Intelligence Units/Cells have also been created at offices to enable identification of new trends in the financial sector as also to help the

Bank in picking up early warnings on unscrupulous practices followed by financial institutions and detecting threats that such activities may pose to the public.

XI.68 Some of the major functions of the ROs are highlighted below:

a) Department of Banking Supervision (DBS) at ROs is responsible for the conduct of onsite inspections of the head offices of the banks present in the state along with the scrutiny of bank branches. The officers of the department also regularly undertake 'incognito visits' to the branches of banks to make an independent assessment of the level of customer service provided by the banks in the areas of normal banking services, currency management, forex and government business.

b) Financial Inclusion and Development Department (FIDD) at ROs is mainly responsible for implementation and monitoring of the Lead Bank Scheme in the states. The department also monitors the implementation of various instructions and guidelines issued to banks by FIDD, Central Office.

c) Department of Non-Banking Supervision (DNBS) at ROs is responsible for the conduct of quarterly inter-agency State Level Co-ordination Committee meetings in their respective states. In addition, the department conducts investor awareness campaigns through print and electronic media and also participates in national and international trade fairs. Awareness campaigns are aimed at educating about fictitious emails and *sms* in circulation among members of the public regarding 'illegal mobilisation of deposits by unscrupulous entities', 'offers of cheap funds from abroad', *etc*. Apart from this, the department also provides faculty support to police authorities, Economic Offences Wing (EOW), *etc*., to spread financial awareness about illegal mobilisation of deposits by unauthorised entities.

d) Issue Department at ROs helps in managing availability and quality of currency in the respective issue circles. The department also takes proactive steps in its endeavour to disseminate information among common people, bankers and enforcement agencies on issues related to currency such as basic features of currency, Note Refund Rules and Fake Indian Currency Notes (FICN) by conducting training programmes or deputing resource persons to other institutions for conducting such training programmes.

e) Consumer Education and Protection Cell (CEPC) at ROs operates a Grievance Redressal Mechanism for deficiency of services provided by the Reserve Bank and the Reserve Bank's regulated entities at regional level.

f) Department of Cooperative Banking Supervision (DCBS) at ROs carries out both onsite inspections and off-site surveillance of UCBs with a view to ensuring that these banks function on sound lines in accordance with the statutory provisions and in a manner which is not detrimental to the interests of depositors. Issues pertaining to the UCBs are taken up by the ROs at the state-level Task Force for Co-operative Urban Banks (TAFCUB).

g) Foreign Exchange Department (FED) at ROs ensures that foreign exchange related transactions are carried out in accordance

with the extant instructions. It determines and levies penalties for contraventions, if any, as per provisions of the Foreign Exchange Management Act. It also conducts inspection of Authorised Dealers (Category-II) and Full Fledged Money Changers.

h) Banking Department at ROs handles obligations of the Reserve Bank as a banker to banks and to the respective State Government/s.

XI.69 Most of the ROs of the Reserve Bank also house the office of the Banking Ombudsman which operates the Banking Ombudsman Scheme (BOS) as a means to provide an expeditious and inexpensive forum to bank customers for resolution of their complaints relating to deficiency in banking services provided by commercial banks, regional rural banks and scheduled primary co-operative banks.

Annex

Table 1: Attendance in the Meeting of the Central Board of Directors during July 01, 2017-June 30, 2018

Name of the Member	Appointed/Nominated under RBI Act, 1934	No. of Meetings Held	No. of Meetings Attended
1	2	3	4
Urjit R. Patel	8(1)(a)	6	6
S. S. Mundra	8(1)(a)	1	1
N. S. Vishwanathan	8(1)(a)	6	6
Viral V. Acharya	8(1)(a)	6	6
B. P. Kanungo	8(1)(a)	6	6
M. K. Jain	8(1)(a)	NIL	NIL
Nachiket M. Mor	8(1)(b)	4	4
Prasanna Kumar Mohanty	8(1)(b)	2	2
Dilip S. Shanghvi	8(1)(b)	2	2
Natarajan Chandrasekaran	8(1)(c)	6	4
Bharat N. Doshi	8(1)(c)	6	6
Sudhir Mankad	8(1)(c)	6	6
Rajiv Kumar	8(1)(c)	2	2
Ashok Gulati	8(1)(c)	6	5
Manish Sabharwal	8(1)(c)	6	6
Shaktikanta Das	8(1)(d)	1	0
Subhash Chandra Garg	8(1)(d)	5	4
Anjuly Chib Duggal	8(1)(d)	2	0
Rajiv Kumar	8(1)(d)	4	3

Table 2: Attendance in the Meeting of the Committees of the Central Board during July 01, 2017-June 30, 2018

Name of the Member	Appointed /Nominated under RBI Act,1934	No. Meetings Held	No. of Meetings Attended
1	2	3	4
I. Committee of the Central Board (CCB)			
Urjit R. Patel	8(1)(a)	46	37
S. S. Mundra	8(1)(a)	3	3
N. S. Vishwanathan	8(1)(a)	46	29
Viral V. Acharya	8(1)(a)	46	42
B. P. Kanungo	8(1)(a)	46	40
M. K. Jain	8(1)(a)	1	1
Nachiket M. Mor	8(1)(b)	21	17
Natarajan Chandrasekaran	8(1)(c)	19	8
Bharat N. Doshi	8(1)(c)	32	29
Sudhir Mankad	8(1)(c)	22	18
Ashok Gulati	8(1)(c)	21	12
Rajiv Kumar	8(1)(c)	3	0
Manish Sabharwal	8(1)(c)	23	19
Prasanna Kumar Mohanty	8(1)(b)	6	6
Dilip S. Shanghvi	8(1)(b)	7	7
Subhash Chandra Garg	8(1)(d)	2	2
Rajiv Kumar	8(1)(d)	1	1
II. Board for Financial Supervision (BFS)			
Urjit R. Patel	Chairman	10	9
S. S. Mundra*	Vice-Chairman	NIL	NIL
N. S. Vishwanathan^	Vice-Chairman	10	10
Viral V. Acharya	Member	10	10
B. P. Kanungo	Member	10	8
M. K. Jain@	Member	1	1
Nachiket M. Mor**	Member	9	9
Bharat N. Doshi	Member	10	10
Sudhir Mankad	Member	10	7
Ashok Gulati	Member	10	8
* : Relinquished charge as Deputy Governor on the forenoon of July 31, 2017. ^ : Serving as Vice-chairman of BFS from August 30, 2017 onwards. ** : Appointed as Member of BFS from September 09, 2017 onwards. @ : Took charge as Deputy Governor from June 22, 2018.			
III. Board for Regulation and Supervision of Payment and Settlement Systems (BPSS)			
Urjit R. Patel	Chairman	3	3
B. P. Kanungo	Vice-Chairman	3	3
S. S. Mundra*	Member	1	1
N. S. Vishwanathan	Member	3	2
Viral V. Acharya	Member	3	2
M. K. Jain**	Member	NIL	NIL
Natarajan Chandrasekaran	Member	3	3
Manish Sabharwal	Member	3	2
* : Relinquished charge as Deputy Governor on the forenoon of July 31, 2017. ** : Took charge as Deputy Governor from June 22, 2018.			

Table 3: Attendance in the Meeting of the Sub-Committees of the Board during July 01, 2017-June 30, 2018

Name of the Member	Appointed/Nominated under RBI Act, 1934	No. of Meetings Held	No. of Meetings Attended
1	2	3	4
I. Audit & Risk Management Sub-Committee (ARMS)			
Bharat N. Doshi	Chairman	8	8
Sudhir Mankad	Member	8	5
Nachiket M. Mor *	Member	6	5
S. S. Mundra**	Invitee	1	0
N. S. Vishwanathan	Member	8	8
Viral V. Acharya	Invitee	8	7
B. P. Kanungo	Invitee	8	8
M. K. Jain	Invitee	1	1
* : Ceased to be a Member of ARMS on expiry of his term as Director of the Central Board on May 15, 2017 and subsequently was re-nominated to ARMS on his being re-appointed / re-nominated as Director of the Central Board on August 24, 2017. ** : Relinquished charge as Deputy Governor on the forenoon of July 31, 2017.			
II. Building Sub-Committee (BSC)			
Dilip S. Shanghvi	Chairman	1	1
Rajiv Kumar*	Chairman	NIL	NIL
B. P. Kanungo**	Member	1	1
M. K. Jain@	Member	NIL	NIL
* : Till September 3, 2017. ** : Till June 21, 2018. @ : With effect from June 22, 2018.			
III. Human Resource Management Sub-Committee (HRM-SC)			
Manish Sabharwal	Chairman	5	5
Dilip S. Shanghvi	Member	2	2
S. S. Mundra*	Member	NIL	NIL
Viral V. Acharya@	Member	5	5
* : Till the forenoon of July 31, 2017. @ : With effect from July 31, 2017.			
IV. Information Technology Sub-Committee (IT-SC)			
Manish Sabharwal@	Chairman	NIL	NIL
Natarajan Chandrasekaran*	Chairman	NIL	NIL
Rajiv Kumar**	Member	NIL	NIL
B. P. Kanungo	Member	NIL	NIL
* : Chairman till June 6, 2018. ** : Till September 3, 2017. @ : Chairman with effect from June 7, 2018.			

Table 4: Attendance in the Meeting of Standing Committee of the Central Board of Directors during July 01, 2017-June 30, 2018

Name of the Member	No. of Meetings Held	No. of Meetings Attended
1	2	3
B. P. Kanungo, Chairman	1	1
Ashok Gulati*	1	1
Prasanna Kumar Mohanty**	NIL	NIL

* : For Northern Local Area.
** : For Southern Local Area.

Table 5: Attendance in the Meetings of Local Boards during July 01, 2017-June 30, 2018

Name of the Member	Appointed/Nominated under RBI Act, 1934	No. of Meetings Held	No. of Meetings Attended
1	2	3	4
Nachiket M. Mor, EALB	Section 9(1)	4	4
Sunil Mitra, EALB	Section 9(1)	4	4
V. R. Bhanshali, WALB	Section 9(1)	3	3
Dliip S. Shanghvi, WALB	Section 9(1)	3	3

EALB: Eastern Area Local Board.
WALB: Western Area Local Board.

XII THE RESERVE BANK'S ACCOUNTS FOR 2017-18

The balance sheet size of the Reserve Bank increased by 9.49 per cent for the year ended June 30, 2018. While income for the year 2017-18 increased by 26.63 per cent, the expenditure decreased by 9.24 per cent. The year ended with an overall surplus of ₹500 billion as against ₹306.59 billion in the previous year, representing an increase of 63.08 per cent.

XII.1 The balance sheet of the Reserve Bank plays a critical role in the functioning of the country's economy largely reflecting the activities carried out in pursuance of its currency issue function as well as monetary policy and reserve management objectives. The key financial results of the Reserve Bank's operations during the year 2017-18 (July - June) are set out in the following paragraphs.

XII.2 There was an increase in the size of the Bank's balance sheet during 2017-18. The balance sheet increased by ₹3,135.00 billion, *i.e.* 9.49 per cent from ₹33,040.94 billion as on June 30, 2017 to ₹36,175.94 billion as on June 30, 2018. The increase on the asset side was mainly due to increase in foreign investments and loans and advances by 11.25 per cent and 849.55 per cent, respectively. On the liability side, the increase was due to increase in Notes issued and Other Liabilities and Provisions by 26.93 per cent and 16.95 per cent, respectively. Domestic assets constituted 23.18 per cent while the foreign currency assets and gold (including gold held in India) constituted 76.82 per cent of total assets as on June 30, 2018 as against 24.32 per cent and 75.68 per cent, respectively as on June 30, 2017.

XII.3 Provision of ₹141.90 billion was made and transferred to Contingency Fund (CF). No transfer was made to Asset Development Fund

Table XII.1: Trends in Income, Expenditure and Net Disposable Income

(₹ billion)

Item	2013-14	2014-15	2015-16	2016-17	2017-18
1	2	3	4	5	6
a) Income	646.17	792.56	808.70	618.18	782.81
b) Total Expenditure[1]	119.34	133.56[2]	149.90[3]	311.55[4]	282.77[5]
c) Net Disposable Income (a-b)	526.83	659.00	658.80	306.63	500.04
d) Transfer to funds[6]	0.04	0.04	0.04	0.04	0.04
e) Surplus transferred to the Government (c-d)	526.79	658.96	658.76	306.59	500.00

Notes: 1. Since June 30, 2015, transfers to CF and ADF are being made through provisions head in Income Statement.
2. Includes a provision of ₹10 billion towards additional capital contribution in NHB.
3. Includes a provision of ₹10 billion towards additional capital contribution in BRBNMPL.
4. Includes a provision of ₹0.50 billion towards capital contribution in RBI's subsidiary ReBIT and a provision of ₹131.40 billion towards transfer to CF.
5. Includes a provision of ₹141.90 billion towards transfer to CF.
6. An amount of ₹10 million each has been transferred to the National Industrial Credit (Long Term Operations) Fund, the National Rural Credit (Long Term Operations Fund), the National Rural Credit (Stabilisation) Fund and the National Housing Credit (Long Term Operations) Fund during each of the five years.

(ADF). A surplus of ₹500 billion was transferred to the central government. The trends in income, expenditure, net disposable income and the surplus transferred to the government are given in Table XII.1.

XII.4 The Balance Sheet and the Income Statement prepared for 2017-18 along with the schedules, statement of Significant Accounting Policies and supporting Notes to Accounts are as follows:

RESERVE BANK OF INDIA
BALANCE SHEET AS ON JUNE 30, 2018

(Amount in ₹ billion)

Liabilities	Schedule	2016-17	2017-18	Assets	Schedule	2016-17	2017-18
Capital		0.05	0.05	**Assets of Banking Department (BD)**			
Reserve Fund		65.00	65.00	Notes, Rupee Coin, Small Coin	5	0.12	0.09
Other Reserves	1	2.26	2.28	Gold Coin and Bullion	6	627.02	696.74
Deposits	2	8,963.48	6,525.97	Investments-Foreign-BD	7	9,319.94	7,983.89
Other Liabilities and Provisions	3	8,946.84	10,463.04	Investments-Domestic-BD	8	7,557.50	6,297.45
				Bills Purchased and Discounted		0.00	0.00
				Loans and Advances	9	172.56	1,638.55
				Investment in Subsidiaries	10	33.70	33.70
				Other Assets	11	266.79	405.92
Liabilities of Issue Department				**Assets of Issue Department (ID)**			
Notes issued	4	15,063.31	19,119.60	Gold Coin and Bullion (as backing for Note issue)	6	690.30	743.49
				Rupee Coin		6.12	9.26
				Investments-Foreign-ID	7	14,366.89	18,366.85
				Investments-Domestic-ID	8	0.00	0.00
				Domestic Bills of Exchange and other Commercial Papers		0.00	0.00
Total Liabilities		**33,040.94**	**36,175.94**	**Total Assets**		**33,040.94**	**36,175.94**

Nirmal Chand Chief General Manager-in-Charge	M. K. Jain Deputy Governor	B.P. Kanungo Deputy Governor	Viral V. Acharya Deputy Governor	N. S. Vishwanathan Deputy Governor	Urjit R. Patel Governor

RESERVE BANK OF INDIA
INCOME STATEMENT FOR THE YEAR ENDED JUNE 2018

(Amount in ₹ billion)

INCOME	Schedule	2016-17	2017-18
Interest	12	660.51	738.71
Other income	13	-42.33	44.10
	Total	**618.18**	**782.81**
EXPENDITURE			
Printing of Notes		79.65	49.12
Expenditure on Remittance of Currency		1.47	1.15
Agency Charges	14	40.52	39.03
Employee Cost		46.21	38.48
Interest		0.01	0.01
Postage and Telecommunication Charges		1.02	0.87
Printing and Stationery		0.36	0.23
Rent, Taxes, Insurance, Lighting, *etc.*		1.23	1.27
Repairs and Maintenance		1.02	1.03
Directors' and Local Board Members' Fees and Expenses		0.02	0.02
Auditors' Fees and Expenses		0.04	0.06
Law Charges		0.06	0.09
Miscellaneous Expenses		6.96	8.08
Depreciation		1.08	1.43
Provisions		131.90	141.90
	Total	**311.55**	**282.77**
Available Balance		**306.63**	**500.04**
Less:			
(a) Contribution to:			
i) National Industrial Credit (Long Term Operations) Fund		0.01	0.01
ii) National Housing Credit (Long Term Operations) Fund		0.01	0.01
(b) Transferable to NABARD:			
i) National Rural Credit (Long Term Operations) Fund[1]		0.01	0.01
ii) National Rural Credit (Stabilisation) Fund[1]		0.01	0.01
(c) Others Amount transferred to Central Government during the year		0.00	100.00
	Surplus payable to the Central Government	**306.59**	**400.00**

1. These funds are maintained by the National Bank for Agriculture and Rural Development (NABARD).

Nirmal Chand	M. K. Jain	B.P. Kanungo	Viral V. Acharya	N. S. Vishwanathan	Urjit R. Patel
Chief General Manager-in-Charge	Deputy Governor	Deputy Governor	Deputy Governor	Deputy Governor	Governor

SCHEDULES FORMING PART OF BALANCE SHEET AND INCOME STATEMENT

(Amount in ₹ billion)

		2016-17	2017-18
Schedule 1:	**Other Reserves**		
	(i) National Industrial Credit (Long Term Operations) Fund	0.26	0.27
	(ii) National Housing Credit (Long Term Operations) Fund	2.00	2.01
	Total	**2.26**	**2.28**
Schedule 2:	**Deposits**		
	(a) Government		
	(i) Central Government	947.74	1.01
	(ii) State Governments	0.43	0.42
	Sub total	***948.17***	***1.43***
	(b) Banks		
	(i) Scheduled Commercial Banks	4,729.90	4,744.18
	(ii) Scheduled State Co-operative Banks	36.36	35.20
	(iii) Other Scheduled Co-operative Banks	84.08	84.01
	(iv) Non-Scheduled State Co-operative Banks	15.30	19.15
	(v) Other Banks	175.86	188.41
	Sub total	***5,041.50***	***5,070.95***
	(c) Financial Institutions outside India		
	(i) Repo borrowing - Foreign	0.00	0.00
	(ii) Reverse Repo Margin - Foreign	0.00	0.00
	Sub total	***0.00***	***0.00***
	(d) Others		
	(i) Administrators of RBI Employee PF A/c	50.17	46.81
	(ii) Depositors' Education and Awareness Fund	146.97	195.67
	(iii) Balances of Foreign Central Banks	19.22	18.80
	(iv) Balances of Indian Financial Institutions	5.90	2.40
	(v) Balances of International Financial Institutions	3.05	3.20
	(vi) Mutual Fund	0.01	0.01
	(vii) Others	2,748.49	1,186.70
	Sub total	***2,973.81***	***1,453.59***
	Total	***8,963.48***	**6,525.97**
Schedule 3:	**Other Liabilities and Provisions**		
	(i) Contingency Fund (CF)	2,282.07	2,321.08
	(ii) Asset Development Fund (ADF)	228.11	228.11
	(iii) Currency and Gold Revaluation Account (CGRA)	5,299.45	6,916.41
	(iv) Investment Revaluation Account-Foreign Securities (IRA-FS)	0.00	0.00
	(v) Investment Revaluation Account-Rupee Securities (IRA-RS)	570.90	132.85
	(vi) Foreign Exchange Forward Contracts Valuation Account (FCVA)	0.00	32.62
	(vii) Provision for Forward Contracts Valuation Account (PFCVA)	29.63	0.00
	(viii) Provision for payables	39.17	27.88
	(ix) Gratuity and Superannuation Fund	172.06	175.13
	(x) Surplus Transferable to the Government of India	306.59	500.00
	(xi) Bills Payable	0.12	0.05
	(xii) Miscellaneous	18.74	128.91
	Total	**8,946.84**	**10,463.04**

		2016-17	2017-18
Schedule 4:	**Notes Issued**		
	(i) Notes held in the Banking Department	0.12	0.09
	(ii) Notes in circulation	15,063.19	19,119.51
	Total	**15,063.31**	**19,119.60**
Schedule 5:	**Notes, Rupee Coin, Small Coin (with RBI)**		
	(i) Notes	0.12	0.09
	(ii) Rupee Coin	0.00	0.00
	(iii) Small Coin	0.00	0.00
	Total	**0.12**	**0.09**
Schedule 6:	**Gold Coin and Bullion**		
	(a) Banking Department		
	(i) Gold Coin and Bullion	627.02	696.74
	(ii) Gold deposit	0.00	0.00
	Sub Total	***627.02***	***696.74***
	(b) Issue Department (as backing for Notes issued)	690.30	743.49
	Total	**1,317.32**	**1,440.23**
Schedule 7:	**Investments- Foreign**		
	(i) Investments-Foreign –BD	9,319.94	7,983.89
	(ii) Investments- Foreign-ID	14,366.89	18,366.85
	Total	**23,686.83**	**26,350.74**
Schedule 8:	**Investments- Domestic**		
	(i) Investments –Domestic -BD	7,557.50	6,297.45
	(ii) Investments-Domestic-ID	0.00	0.00
	Total	**7,557.50**	**6,297.45**
Schedule 9:	**Loans and Advances**		
	(a) Loans and Advances to :		
	(i) Central Government	25.50	554.35
	(ii) State Governments	24.18	14.93
	Sub total	***49.68***	***569.28***
	(b) Loans and Advances to:		
	(i) Scheduled Commercial Banks	80.25	1,006.90
	(ii) Scheduled State Co-operative Banks	0.00	0.00
	(iii) Other Scheduled Co-operative Banks	0.00	0.00
	(iv) Non-Scheduled State Co-operative Banks	0.00	0.00
	(v) NABARD	0.00	0.00
	(vi) Others	42.63	62.37
	Sub total	***122.88***	***1,069.27***
	(c) Loans and Advances to Financial Institutions outside India:		
	(i) Repo Lending – Foreign	0.00	0.00
	(ii) Repo Margin - Foreign	0.00	0.00
	Sub total	***0.00***	***0.00***
	Total	**172.56**	**1,638.55**
Schedule 10:	**Investment in Subsidiaries/Associates**		
	(i) Deposit Insurance and Credit Guarantee Corporation (DICGC)	0.50	0.50
	(ii) National Housing Bank (NHB)	14.50	14.50
	(iii) National Bank for Agriculture and Rural Development (NABARD)	0.20	0.20
	(iv) Bharatiya Reserve Bank Note Mudran (P) Ltd. (BRBNMPL)	18.00	18.00
	(v) Reserve Bank Information Technology (P) Ltd. (ReBIT)	0.50	0.50
	Total	**33.70**	**33.70**

		2016-17	2017-18
Schedule 11:	**Other Assets**		
	(i) Fixed Assets (net of accumulated depreciation)	4.08	4.41
	(ii) Accrued income (a + b)	232.46	232.99
	a. on loans to employees	*3.10*	*3.16*
	b. on other items	*229.36*	*229.83*
	(iii) Swap Amortisation Account	18.48	23.10
	(iv) Revaluation of Forward Contracts Account (RFCA)	0.00	32.62
	(v) Miscellaneous	11.77	112.80
	Total	**266.79**	**405.92**
Schedule 12:	**Interest**		
	(a) Domestic Sources		
	(i) Interest on holding of Rupee Securities	542.17	479.68
	(ii) Net Interest on LAF Operations	-174.26	-95.41
	(iii) Interest on MSF Operations	0.60	1.25
	(iv) Interest on Loans and Advances	6.89	7.79
	Sub total	***375.40***	***393.31***
	(b) Foreign Sources		
	(i) Interest Income from Foreign Securities	192.96	234.28
	(ii) Net Interest on Repo / Reverse Repo transaction	0.00	0.00
	(iii) Interest on Deposits	92.15	111.12
	Sub total	***285.11***	***345.40***
	Total	**660.51**	**738.71**
Schedule 13:	**Other Income**		
	(a) Domestic Sources		
	(i) Exchange	0.00	0.00
	(ii) Discount	0.00	0.00
	(iii) Commission	18.41	20.35
	(iv) Rent Realised	0.06	0.05
	(v) Profit/Loss on sale and redemption of Rupee Securities	4.62	60.36
	(vi) Depreciation on Rupee Securities inter portfolio transfer	0.00	-0.08
	(vii) Amortisation of premium/discount of Rupee Securities	35.47	31.13
	(viii) Profit / Loss on sale of Bank's property	0.03	0.01
	(ix) Provision no longer required and Miscellaneous Income	-1.67	3.67
	Sub total	***56.92***	***115.49***
	(b) Foreign Sources		
	(i) Amortisation of premium/discount of Foreign Securities	-52.92	-36.08
	(ii) Profit/Loss on sale and redemption of Foreign Securities	4.83	5.36
	(iii) Exchange gain/loss from Foreign Exchange transactions	-51.16	-40.67
	Sub total	***-99.25***	***-71.39***
	Total	**-42.33**	**44.10**
Schedule 14:	**Agency Charges**		
	(i) Agency Commission on Government Transactions	39.68	37.60
	(ii) Underwriting Commission paid to the Primary Dealers	0.53	1.13
	(iii) Sundries (Handling charges and turnover commission paid to banks for Relief / Savings Bonds subscriptions; SBLA *etc.*)	0.06	0.08
	(iv) Fees paid to the External Asset Managers, custodians, etc.	0.25	0.22
	Total	**40.52**	**39.03**

INDEPENDENT AUDITORS' REPORT

TO THE PRESIDENT OF INDIA

Report on the Financial Statements

We, the undersigned Auditors of the Reserve Bank of India (hereinafter referred to as the "Bank"), do hereby report to the Central Government upon the Balance Sheet of the Bank as at June 30, 2018 and the Income Statement for the year ended on that date (hereinafter referred to as "financial statements"), which have been audited by us.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation of these financial statements that give a true and correct view of the state of affairs and results of operations of the Bank in accordance with the requirements of the provisions of the Reserve Bank of India Act, 1934 and Regulations framed thereunder and the accounting policies and practices followed by the Bank. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the financial statements that give a true and correct view and are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we comply with ethical requirements, plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the Bank's preparation and correct presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bank's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion and to the best of our information and according to explanations given to us and as shown by the books of account of the Bank, the Balance Sheet read with Significant Accounting Policies is a full and fair Balance Sheet containing all necessary particulars and is properly drawn up in accordance with the requirements of the provisions of the Reserve Bank of India Act, 1934 and Regulations framed there under so as to exhibit true and correct view of the state of affairs of the Bank.

Other Matters

We report that we have called for information and explanations from the Bank considered necessary for the purpose of our audit and such information and explanations have been given to our satisfaction.

We also report that the financial statements include the accounts of twenty-two accounting units of the Bank which have been audited by Statutory Branch Auditors and we have relied on their report in this regard.

For Chhajed & Doshi
Chartered Accountants
(ICAI Firm Registration No. 101794W)

Nitesh Jain
Partner
Membership No. 136169

For G. P. Kapadia & Co.
Chartered Accountants
(ICAI Firm Registration No. 104768W)

Nimesh Bhimani
Partner
Membership No. 30547

Place: Mumbai
Date: August 08, 2018

STATEMENT OF SIGNIFICANT ACCOUNTING POLICIES FOR THE YEAR ENDED JUNE 30, 2018

(a) General

1.1 The Reserve Bank of India was established under the Reserve Bank of India Act, 1934 (the Act) "to regulate the issue of Bank notes and the keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage".

1.2 The main functions of the Bank are:-

a) Issue of Bank notes.

b) Management of the monetary system.

c) Regulation and supervision of banks and Non-Banking Financial Companies (NBFCs).

d) Acting as the lender of last resort.

e) Regulation and supervision of the payment and settlement systems.

f) Maintaining and managing the country's foreign exchange reserves.

g) Acting as the banker to banks and the governments.

h) Acting as the debt manager of the governments.

i) Regulation and development of foreign exchange market.

j) Developmental functions including the areas of rural credit and financial inclusion.

1.3 The Act requires that the issue of Bank notes should be conducted by the Bank in an Issue Department which shall be separate and kept wholly distinct from the Banking Department, and the assets of the Issue Department shall not be subject to any liability other than the liabilities of the Issue Department. The Act requires that the assets of the Issue Department shall consist of gold coins, gold bullion, foreign securities, rupee coins and rupee securities to such aggregate amount as is not less than the total of the liabilities of the Issue Department. The Act requires that the liabilities of the Issue Department shall be an amount equal to the total of the amount of the currency notes of the Government of India and Bank notes for the time being in circulation.

(b) Significant Accounting Policies

2.1 Convention

The financial statements are prepared in accordance with the Reserve Bank of India Act, 1934 and the notifications issued thereunder and in the form prescribed by the Reserve Bank of India General Regulations, 1949. These are based on historical cost except where it is modified to reflect revaluation. The accounting policies followed in preparing the financial statements are consistent with those followed in the previous year unless otherwise stated.

2.2 Revenue Recognition

(a) Income and expenditure are recognised on accrual basis except penal interest charged from the banks which is accounted for only when there is certainty of realisation. Dividend income on shares is recognised on accrual basis when the right to receive the same is established.

(b) Balances unclaimed and outstanding for more than three clear consecutive accounting years in certain transit accounts

including Drafts Payable Account, Payment Orders Account, Sundry Deposits Account except those pertaining to legal/litigation cases, Remittance Clearance Account and Earnest Money Deposit Account are reviewed and written back to income. Claims, if any, are considered and charged against income in the year of payment.

(c) Income and expenditure in foreign currency are recorded at the exchange rates prevailing on the last business day of the week/month/year as applicable.

2.3 Gold & Foreign Currency Assets and Liabilities

Transactions in gold and foreign currency assets and liabilities are accounted for on settlement date basis.

a) Gold

Gold, including the Gold Deposits placed abroad, is revalued on the last business day of the month at 90 per cent of the average of the gold price, quoted daily by the London Bullion Market Association for the month. The rupee equivalent is determined on the basis of the exchange rate prevailing on the last business day of the month. Unrealised gains/losses are credited/debited to the Currency and Gold Revaluation Account (CGRA).

b) Foreign Currency Assets and Liabilities

All foreign currency assets and liabilities (excluding foreign currency received under the swaps that are in the nature of repos and contracts where the rates are fixed contractually) are translated at the exchange rates prevailing on the last business day of the week/month/year as applicable. Unrealised gains and losses arising from such translation of foreign currency assets and liabilities are accounted for in CGRA.

Foreign securities, other than Treasury Bills, Commercial Papers and certain "held to maturity" securities (such as investments in notes issued by the International Monetary Fund and bonds issued by India Infrastructure Finance Company (IIFC), UK which are valued at cost) are marked to market (MTM) as on the last business day of each month. Unrealised gains/losses on revaluation are recorded in the Investment Revaluation Account-Foreign Securities (IRA-FS). Credit balance in IRA-FS is carried forward to the subsequent year. Debit balance, if any, at the end of the year in IRA-FS is charged to the Contingency Fund and the same is reversed on the first working day of the following financial year.

Foreign treasury bills and commercial papers are carried at cost as adjusted by amortisation of discount/premium. Premium or discount on foreign securities is amortised daily. Profit/loss on sale of foreign currency assets is recognised with respect to the book value. On sale/redemption of foreign dated securities, valuation gain/loss in relation to the securities sold, lying in IRA-FS, is transferred to Income Account.

c) Forward/Swap Contracts

Forward contracts entered into by the Bank as part of its intervention operations are revalued on a yearly basis on June 30. While mark to market gain is credited to the 'Foreign Exchange Forward Contracts Valuation Account' (FCVA) with contra debit to 'Revaluation of Forward Contracts

Account' (RFCA), mark to market loss is debited to FCVA with contra credit to the 'Provision for Forward Contracts Valuation Account' (PFCVA). Debit balance in FCVA, if any, on June 30, is required to be charged to the Contingency Fund and reversed on the first working day of the following year. On maturity of the contract, the actual gain or loss is required to be recognised in the Income Account and the unrealised gains/ losses previously recorded in the FCVA, RFCA and PFCVA would be reversed. The balance in the RFCA and PFCVA represent the net unrealised gains and losses respectively on valuation of such forward contracts.

In the case of swaps at off-market rates that are in the nature of repo, the difference between the future contract rate and the rate at which the contract is entered into is amortised over the period of the contract and recorded in the Income account with contra in 'Swap Amortisation Account' (SAA). The amounts recorded in the SAA are reversed on maturity of the underlying contracts. Further, the amounts received under these swaps are not subject to periodic revaluation.

While FCVA and PFCVA form part of 'Other Liabilities', RFCA and SAA form part of 'Other Assets'.

2.4 Transactions in Exchange Traded Currency Derivatives (ETCD)

The ETCD transactions undertaken by the Bank as part of its intervention operations are marked to market on daily basis and the resultant gain/ loss is booked in income account.

2.5 Domestic Investments

(a) Rupee securities and oil bonds except those mentioned below in (d) are marked to market as on the last business day of each month. The unrealised gains/losses on revaluation is booked in Investment Revaluation Account - Rupee Securities (IRA-RS). Credit balance in IRA-RS is carried forward to the following financial year. Debit balance, if any, at the end of the year in IRA-RS is charged to the Contingency Fund and the same is reversed on the first working day of the following financial year. On sale/redemption of rupee securities/oil bonds, valuation gain/loss, in respect of rupee securities/oil bonds sold/ redeemed, lying in IRA-RS, is transferred to income account. Rupee securities and oil bonds are subjected to daily amortisation.

(b) Treasury Bills are valued at cost.

(c) Investments in shares of subsidiaries are valued at cost.

(d) Oil bonds and rupee securities earmarked for various staff funds like Gratuity and Superannuation, Provident Fund, Leave Encashment, Medical Assistance Fund and Depositors Education and Awareness Fund (DEA Fund) are treated as 'Held to Maturity' and are held at amortised cost.

(e) Transactions in domestic investment are accounted for on settlement date basis.

2.6 Liquidity Adjustment Facility (LAF) Repo/ Reverse Repo and Marginal Standing Facility (MSF)

Repo transactions under LAF and MSF are treated as lending and accordingly being shown under 'Loans and Advances' whereas

Reverse Repo transactions under LAF are being treated as deposits and shown under 'Deposit-Others'.

2.7 Fixed Assets

(a) Fixed Assets are stated at cost less depreciation except art and paintings which are held at cost.

(b) Depreciation on Fixed Assets, other than land and buildings, acquired and capitalised during the year (from July 01 to June 30) would be reckoned on a monthly pro-rata basis from the month of capitalisation, and effected on an annual basis at prescribed rates depending upon the useful life of the assets applied.

(c) Depreciation on the following fixed assets (costing more than ₹0.10 million) is provided on a straight-line basis depending on the useful life of an asset in the following manner:

Asset Category	Useful life (Rate of Depreciation)
Electrical installations, UPS, Motor vehicles, furniture, fixture, CVPS/ SBS Machines, *etc.*	5 years (20 per cent)
Computers, Servers, Micro-processors, Printers, Software, Laptops, e-book reader/ i-Pad, *etc.*	3 years (33.33 per cent)

(d) Fixed Assets, costing up to ₹0.10 million (except easily portable electronic assets like Laptop/e-book reader) are charged to income in the year of acquisition. Easily portable electronic assets, such as, laptops, *etc.* costing more than ₹10,000 are capitalised and depreciation is calculated on monthly pro-rata basis at the applicable rate.

(e) Individual items of computer software costing ₹0.10 million and above are capitalised and depreciation is calculated on monthly pro-rata basis at the applicable rate.

(f) Depreciation is provided on year-end balances of the Fixed Assets on monthly pro-rata basis. In case of additions/deletions of assets other than land and building, depreciation is provided for on monthly pro-rata basis including the month of addition/ deletion of such assets.

(g) Depreciation on subsequent expenditure:

i. Subsequent expenditure incurred on an existing fixed asset which has not been fully depreciated in the books of account, is depreciated over the remaining useful life of the principal asset;

ii. Subsequent expenditure incurred on modernisation/addition/overhauling of an existing fixed asset, which has already been fully depreciated in the books of accounts, is first capitalised and thereafter depreciated fully in the year in which the expenditure is incurred.

(h) Land and building: The accounting treatment in respect of land and building is as follows:

Land

i. Land acquired on leasehold basis for a period of more than 99 years is treated as if it is on a perpetual lease basis. Such leases are considered as freehold properties and accordingly not subjected to amortization.

ii. Land acquired on lease up to 99 years is amortised over the period of the lease.

iii. Land acquired on a freehold basis is not subject to any amortisation.

Buildings

i. The life of all buildings is assumed as thirty years and depreciation is charged on a 'straight-line' basis over a period of thirty years. In respect of buildings constructed on lease hold land (where the lease period is less than 30 years) depreciation is charged on a 'straight-line' basis over the lease period of the land.

ii. Impairment of buildings: For assessment of impairment, buildings are classified into two categories, as under:

   a. Buildings which are in use but have been identified for demolition in future or will be discarded in future: The value in use of such buildings is the aggregate of depreciation for the future period up to the date it is expected to be discarded/demolished. The difference between the book value and aggregate of depreciation so arrived at is charged as depreciation.

   b. Buildings which have been discarded/ vacated: These buildings are shown at realisable value (net selling price-if the asset is likely to be sold in future) or scrap value less demolition cost (if it is to be demolished). If the resultant amount is negative, then the carrying value of such buildings is shown at ₹1. The difference between the book value and realisable value (net selling price)/scrap value less demolition cost is charged as depreciation.

2.8 Employee Benefits

The liability on account of long term employee benefits is provided based on an actuarial valuation under the 'Projected Unit Credit' method.

NOTES TO ACCOUNTS

XII.5 LIABILITIES AND ASSETS OF THE BANK

XII.5.1 LIABILITIES OF BANKING DEPARTMENT

i) Capital

The Reserve Bank was constituted as a private shareholders' bank in 1935 with an initial paid-up capital of ₹0.05 billion. The Bank was nationalised with effect from January 1, 1949 and its entire ownership remains vested with the Government of India. The paid-up capital continues to be ₹0.05 billion as per section 4 of the RBI Act, 1934.

ii) Reserve Fund

The original Reserve Fund of ₹0.05 billion was created in terms of section 46 of the RBI Act, 1934 as contribution from the Central Government for the currency liability of the then sovereign government taken over by the Reserve Bank. Thereafter, an amount of ₹64.95 billion was credited to this fund from out of gains on periodic revaluation of gold up to October 1990, taking it to ₹65 billion. The fund has been static since then as the unrealised gain/loss on account of valuation of gold and foreign currency is since being booked in the Currency and Gold Revaluation Account (CGRA) which appears under 'Other Liabilities and Provisions'.

iii) Other Reserves

This includes National Industrial Credit (Long Term Operations) Fund and National Housing Credit (Long Term Operations) Fund.

a) *National Industrial Credit (Long Term Operations) Fund*

This fund was created in July 1964, under section 46C of the RBI Act, 1934 with an initial corpus of ₹100

million. The fund witnessed annual contributions from the Reserve Bank for financial assistance to eligible financial institutions. Since 1992-93, a token amount of ₹10 million is being contributed each year to the Fund from the Bank's income. The balance in the fund stood at ₹0.27 billion as on June 30, 2018.

b) *National Housing Credit (Long Term Operations) Fund*

This fund was set up in January 1989 under section 46D of the RBI Act, 1934 for extending financial accommodation to the National Housing Bank. The initial corpus of ₹500 million has been enhanced by annual contributions from the Reserve Bank thereafter. From 1992-93, only a token amount of ₹10 million is being contributed each year from the Bank's income. The balance in the fund stood at ₹2.01 billion as on June 30, 2018.

Note: Contribution to other Funds

There are two other Funds constituted under section 46A of the RBI Act, 1934 *viz*., National Rural Credit (Long Term Operations) Fund and National Rural Credit (Stabilisation) Fund which are maintained by National Bank for Agriculture and Rural Development (NABARD) for which a token amount of ₹10 million each is set aside and transferred to NABARD every year.

iv) Deposits

These represent the balances maintained with the Reserve Bank, by banks, the Central and State Governments, All India Financial Institutions, such as, Export Import Bank (EXIM Bank), NABARD *etc*., Foreign Central Banks, International Financial Institutions, balances in Employees' Provident Fund, Depositor Education and Awareness Fund (DEA Fund), amount outstanding against Reverse Repo, Medical Assistance Fund (MAF) *etc*.

Total deposits decreased by 27.19 per cent from ₹8,963.48 billion as on June 30, 2017 to ₹6,525.97 billion as on June 30, 2018.

a. *Deposits – Government*

The Reserve Bank acts as banker to the Central Government in terms of sections 20 and 21 and as banker to the State Governments by mutual agreement in terms of section 21A of the RBI Act, 1934. Accordingly, the Central and the State Governments maintain deposits with the Reserve Bank. The balances held by the Central and State Governments was ₹1.01 billion and ₹0.42 billion respectively as on June 30, 2018, totalling ₹1.43 billion as compared to ₹947.74 billion and ₹0.43 billion respectively and totalling to ₹948.17 billion as on June 30, 2017. The decrease in Central Government deposit is on account of redemption of Market Stabilisation Scheme (MSS) securities.

b. *Deposits – Banks*

Banks maintain balances in their current accounts with the Reserve Bank to provide for the Cash Reserve Ratio (CRR) requirements and for working funds to meet payment and settlement obligations. The deposits held by banks

was ₹5,070.95 billion as on June 30, 2018 as compared to ₹5,041.50 billion as on June 30, 2017.

c. *Deposits - Others*

'Deposits-Others' consists of balances of Administrator of RBI Employees Provident Fund, balance in DEA Fund, balances of foreign central banks, Indian and International Financial Institutions, MAF, amount outstanding under Reverse Repo *etc.* DEA Fund was created in the year 2013-14 for promotion of depositors' interest and for such other related purposes. The balance in the DEA Fund was ₹195.67 billion as on June 30, 2018. The amount under Deposits-Others decreased by 51.12 per cent from ₹2,973.81 billion as on June 30, 2017 to ₹1,453.59 billion as on June 30, 2018 primarily due to decrease in reverse repo deposits.

v) Other Liabilities and Provisions

The major components of 'Other Liabilities and Provisions' are provisions and valuation heads. While Contingency Fund (CF) and Asset Development Fund (ADF) represent provisions made for unforeseen contingencies and amount set aside for investment in subsidiaries and internal capital expenditure respectively, the remaining components of 'Other Liabilities and Provisions', such as, Currency and Gold Revaluation Account (CGRA), Investment Revaluation Account (IRA) and Foreign Exchange Forward Contracts Valuation Account (FCVA), represent unrealised marked to market gains/losses. 'Other Liabilities and Provisions' increased by 16.95 per cent from ₹8,946.84 billion as on June 30, 2017 to ₹10,463.04 billion as on June 30, 2018, primarily due to increase in CGRA.

a. *Contingency Fund (CF)*

Contingency Fund represents the provision made by the Bank on year-to-year basis. This is specific provision meant for meeting unexpected and unforeseen contingencies, including depreciation in the value of securities, risks arising out of monetary/exchange rate policy operations, systemic risks and any risk arising on account of the special responsibilities enjoined upon the Bank. As on June 30, 2018, a provision of ₹141.90 billion was made and transferred to CF and an amount of ₹168.74 billion was also charged to CF on account of debit balance of IRA-FS. The charge to CF is reversed on the first working day of the following year.

Based on the above, the balance in CF as on June 30, 2018 was ₹2,321.08 billion as compared to ₹2,282.07 billion as on June 30, 2017 (Table XII.2).

b. *Asset Development Fund (ADF)*

The Asset Development Fund was created in 1997-98. It represents provision specifically made to make investments in subsidiaries and associate institutions and meet internal capital expenditure. No provision was made for transferring to ADF in the year 2017-18. The balance in ADF remains as ₹228.11 billion as on June 30, 2018.

Table XII.2: Balances in Contingency Fund (CF) and Asset Development Fund (ADF)

(₹ billion)

As on June 30	Balance in CF	Balance in ADF	Total	CF and ADF as percentage to total assets
1	2	3	4=(2+3)	5
2014	2,216.52	207.61	2,424.13	9.2
2015	2,216.14*	217.61	2,433.75	8.4
2016	2,201.83*	227.61	2,429.44	7.5
2017	2,282.07#	228.11	2,510.18	7.6
2018	2,321.08@	228.11	2,549.19	7.05

*: The decline in the CF is due to charging of the debit balance in the Forward Contract Valuation Account on account of MTM loss on forward contract as on June 30, 2015 and 2016.

#: Increase in CF is the net impact of provision of ₹131.40 billion and charging of the debit balance of IRS and FCVA amounting to ₹65.85 billion as on June 30, 2017.

@: Increase in CF is the net impact of provision of ₹141.90 billion and charging of the debit balance of IRA-FS amounting to ₹168.74 billion as on June 30, 2018.

c. *Currency and Gold Revaluation Account (CGRA)*

The major sources of market risk faced by the Reserve Bank are currency risk, interest rate risk and movement in gold prices. Unrealised gains/losses on valuation of Foreign Currency Assets (FCA) and Gold are not taken to the Income Account but instead recorded in the CGRA. Net balance in CGRA, therefore, varies with the size of the asset base, its valuation, and movement in the exchange rate and price of gold. CGRA provides a buffer against exchange rate/gold price fluctuations. It can come under pressure if there is an appreciation of the rupee *vis-a-vis* major currencies or a fall in the price of gold. When CGRA is not sufficient to fully meet exchange losses, it is replenished from the contingency fund. During 2017-18, the balance in CGRA increased by 30.51 per cent from ₹5,299.45 billion as on June 30, 2017 to ₹6,916.41 billon as on June 30, 2018 mainly due to depreciation of rupee against US dollar and rise in the international price of Gold.

d. *Investment Revaluation Account-Foreign securities (IRA-FS)*

The foreign dated securities are marked to market on the last business day of each month and the unrealised gains/losses arising therefrom are transferred to the IRA-FS. As per the extant policy, the debit balance of ₹168.74 billion as on June 30, 2018 in IRA-FS was adjusted against the Contingency Fund on June 30, 2018 which was reversed on the first working day of the following year. Accordingly, the balance in IRA-FS is NIL as on June 30, 2018.

e. *Investment Revaluation Account–Rupee Securities (IRA-RS)*

Rupee securities and oil bonds (with exception as mentioned under Significant Accounting Policy) held as assets of the Banking Department are marked to market as on the last business day of each month and the unrealised gains/losses arising therefrom are booked in the Investment Revaluation Account– Rupee Securities (IRA-RS). The balance in IRA-RS decreased by 76.73 per cent from ₹570.90 billion as on June 30, 2017 to ₹132.85 billion as on June 30, 2018 due to increase in yields on Government of

Table XII.3: Balances in Currency and Gold Revaluation Account (CGRA), Foreign Exchange Forward Contracts Valuation Account (FCVA), Provision for Forward Contracts Valuation Account (PFCVA), Investment Revaluation Account-Foreign Securities (IRA-FS) and Investment Revaluation Account-Rupee Securities (IRA-RS)

(₹ billion)

As on June 30	CGRA	FCVA	PFCVA	IRA-FS	IRA-RS
1	2	3	4	5	6
2014	5,721.63	42.98	0.00	37.91	0.00
2015	5,591.93	0.00	0.39	32.14	0.00
2016	6,374.78	0.00	14.69	132.66	391.46
2017	5,299.45	0.00	29.63	0.00	570.90
2018	6,916.41	32.62	0.00	0.00	132.85

India securities held by the Bank during the year.

f. *Foreign Exchange Forward Contracts Valuation Account (FCVA) & Provision for Forward Contracts Valuation Account (PFCVA)*

Marking to market of outstanding forward contracts as on June 30, 2018 resulted in a net gain of ₹32.62 billion, which was credited to the FCVA with contra debit to the Revaluation of Forward Contracts Account (RFCA). As per the extant policy, the amounts recorded in these accounts will be reversed on the maturity of the contracts. The balance in FCVA as on June 30, 2018 was ₹32.62 billion.

The balances in CGRA, FCVA, PFCVA, IRA-FS and IRA-RS for the last five years is given in Table XII.3.

g. *Provision for payables*

This represents the year end provisions made for expenditure incurred but not defrayed and income received in advance/payable, if any. Provision for payables decreased by 28.82 per cent from ₹39.17 billion in 2016-17 to ₹27.88 billion in 2017-18.

h. *Surplus transferable to the Government of India*

Under Section 47 of the Reserve Bank of India Act, 1934 after making provisions for bad and doubtful debts, depreciation in assets, contribution to staff and superannuation funds and for all matters for which provisions are to be made by or under the Act or that are usually provided by bankers, the balance of the profits of the Bank is required to be paid to the Central Government. Under Section 48 of the RBI Act, 1934, the Bank is not liable to pay income tax or super tax on any of its income, profits or gains. Accordingly, after adjusting the expenditure, provision for CF and contribution of ₹0.04 billion to the statutory funds, the surplus transferable to the Government of India for the year 2017-18 amounted to ₹500 billion (including ₹8.49 billion as against ₹9.93 billion in the previous year payable towards the difference in interest expenditure borne by the Government, consequent on conversion of special securities into marketable securities). Out of ₹500 billion, an amount of ₹100 billion was transferred to Central Government during the year.

i. *Bills Payable*

The Reserve Bank provides remittance facilities for its constituents through

issue of Demand Drafts (DDs) and Payment Orders (POs) (besides electronic payment mechanism). The balance under this head represents the unclaimed DDs/POs. The amount outstanding under this head decreased from ₹0.12 billion as on June 30, 2017 to ₹0.05 billion as on June 30, 2018.

j. *Miscellaneous*

This is a residual head representing items such as interest earned on earmarked securities, amounts payable on account of leave encashment, medical provisions for employees, global provision *etc.* The balance under this head increased by 587.89 per cent from ₹18.74 billion as on June 30, 2017 to ₹128.91 billion as on June 30, 2018. The increase was mainly on account of transfer of ₹107.20 billion to 'Other Liabilities and Provisions' representing the value of Specified Bank Notes (SBNs) which have not been paid and were part of liability head 'Notes issued'.

XII.5.2 Liabilities of Issue Department- Notes Issued

(i) The liabilities of Issue Department reflect the quantum of currency notes in circulation. Section 34 (1) of the RBI Act, 1934 requires that all bank notes issued by the Reserve Bank since April 1, 1935 and the currency notes issued by the Government of India before the commencement of operations of the Reserve Bank, be part of the liabilities of the Issue Department. The notes issued increased by 26.93 per cent from ₹15,063.31 billion as on June 30, 2017 to ₹19,119.60 billion as on June 30, 2018. The increase is on account of continued efforts of Reserve Bank to supply adequate quantity of banknotes to meet the transactional needs of the public.

(ii) The legal tender character of banknotes in the denominations of ₹500 and ₹1,000, referred to as SBNs, was withdrawn by Government of India vide Gazette Notification No. 3407 (E) of November 8, 2016. An ordinance on Specified Bank Notes (Cessation of Liabilities) was promulgated on December 30, 2016 [subsequently repealed by SBN (Cessation of Liabilities) Act, 2017] stipulating that SBNs shall cease to be liabilities of Reserve Bank under Section 34 of RBI Act and shall cease to have the guarantee of Central Government under subsection (1) of Section 26 of the Act with effect from December 31, 2016. A grace period was provided to Indian citizens who were outside India between November 9 and December 30, 2016 to deposit SBNs held by them at any of the five Reserve Bank offices (Mumbai, New Delhi, Chennai, Kolkata and Nagpur), subject to certain conditions.

SBNs were received by the Reserve Bank either directly or from bank branches/ post offices through the currency chest mechanism. Verification and processing of the SBNs has been completed. The total value of SBNs in circulation as on November 08, 2016, post verification and reconciliation, was ₹15,417.93 billion. The total value of SBNs returned from circulation is ₹15,310.73 billion. However, in terms of a Gazette Notification issued by Government of India on May 12, 2017, SBNs confiscated

or seized by law enforcement agencies or produced before a court on or before December 30, 2016 can be tendered at any office of RBI for deposit to a bank account or exchange of value thereof with legal tender subject to the order of the court and satisfaction of conditions stipulated in the said Notification. Further, matter relating to exchange of SBNs held by certain District Central Cooperative Banks (DCCBs), which could not be accepted by RBI under extant legal provisions, is pending before the Hon'ble Court. Payment of the value of such SBNs is subject to the orders of the Hon'ble Court. In the meantime, an amount of ₹107.20 billion, representing the value of SBNs which has not been paid on June 30, 2018 and was forming part of liability head 'Notes issued', has been removed from balance of 'Notes issued' and transferred to specific head created for the purpose under 'Other Liabilities and Provisions'. All future payments of exchange value of SBNs to eligible tenderers under the Rules framed by the Government of India will be made out of the specific head.

XII.6 ASSETS

XII.6.1 ASSETS OF BANKING DEPARTMENT

i) Notes, Rupee Coin and Small Coin

This head represents the balances of banknotes, one rupee notes, rupee coins of ₹1, 2, 5 and 10 and small coins kept in the vaults of the Banking Department to meet the day to day requirements of the banking functions conducted by the Reserve Bank. The balance as on June 30, 2018 was ₹0.09 billion as against ₹0.12 billion as on June 30, 2017.

ii) Gold Coin and Bullion

As on June 30, 2018, the Bank holds 566.23 metric tonnes of gold as compared to 557.77 metric tonnes as on June 30, 2017. The increase is on account of addition of 8.46 metric tonnes of gold during the year.

Of 566.23 metric tonnes, 292.30 metric tonnes (292.28 metric tonnes as on June 30, 2017) is held as backing for notes issued and shown separately as an asset of Issue Department. The balance 273.93 metric tonnes as on June 30, 2018 as compared to 265.49 metric tonnes is treated as an asset of Banking Department. The value of gold held as asset of Banking Department increased by 11.12 per cent from ₹627.02 billion as on June 30, 2017 to ₹696.74 billion as on June 30, 2018, primarily on account of depreciation of Rupee *vis-à-vis* USD and the addition of 8.44 metric tonnes of gold during the year (Table XII.6).

iii) Bills purchased and discounted

Though the Reserve Bank can undertake purchase and discounting of commercial bills under the RBI Act, 1934 no such activity was undertaken in 2017-18; consequently, there was no such asset in the books of the Reserve Bank as on June 30, 2018.

iv) Investments-Foreign-Banking Department (BD)

The Foreign Currency Assets (FCA) of the Reserve Bank include: (i) deposits with other central banks (ii) deposits with the Bank for International Settlements (BIS) (iii) balances with foreign branches of commercial banks (iv) investments in foreign treasury bills and securities and (v) Special Drawing Rights

Table XII.4: Details of Foreign Currency Assets

(₹ billion)

	Particulars	As on June 30	
		2017	2018
1		2	3
I	Investments-Foreign –ID	14,366.89	18,366.85
II	Investments-Foreign –BD*	9,319.94	7,983.89
	Total	**23,686.83**	**26,350.74**

*: includes Shares in BIS and SWIFT and SDRs transferred from GoI valued at ₹104.79 billion as on June 30, 2018 compared to ₹98.47 billion as on June 30, 2017.

Notes:

1. The Reserve Bank has agreed to make resources available under the IMF's New Arrangements to Borrow (NAB). Currently India's commitment under NAB stands at SDR 4.44 billion (₹428.35 billion/US$ 6.25 billion). As on June 30, 2018, investments amounting to SDR 0.47 billion (₹45.39 billion/US$ 0.66 billion) have been made under the NAB.
2. The Reserve Bank has agreed to invest up to an amount, the aggregate of which shall not exceed US$ 5 billion (₹342.88 billion), in the bonds issued by India Infrastructure Finance Company (UK) Limited. As on June 30, 2018, the Reserve Bank has invested US$ 2.10 billion (₹144.01 billion) in such bonds.
3. In terms of the Note Purchase Agreement 2016 entered into by RBI with IMF, RBI would purchase SDR denominated Notes of IMF for an amount up to the equivalent of US$ 10 billion (₹685.75 billion).
4. During the year 2013-14, the Reserve Bank and Government of India (GoI) entered into a MoU for transfer of SDR holdings from GoI to RBI in a phased manner. As on June 30, 2018, SDR 1.06 billion (₹101.92 billion; US$ 1.49 billion) were held by the Bank.
5. With a view to strengthening regional financial and economic cooperation, the Reserve Bank of India has agreed to offer an amount of US$ 2 billion both in foreign currency and Indian rupee under the SAARC Swap Arrangement to SAARC member countries. As on June 30, 2018, Swap with Bhutan, amounting US$ 0.1 billion (₹6.74 billion) is outstanding.

(SDRs) acquired from the Government of India.

The FCA is reflected under two heads in the Balance Sheet: (a) 'Investments -Foreign-BD' shown as an asset of Banking Department and (b) 'Investments -Foreign-ID' shown as an asset of Issue Department.

Investments-Foreign-ID are the FCA eligible as per section 33 (6) of the RBI Act, 1934, used for backing of notes in circulation. The remaining of FCA constitutes 'Investments-Foreign-BD'.

The position of FCA for the last two years is given in Table XII.4.

v) Investments- Domestic-Banking Department (BD)

Investments comprise Dated Government Rupee Securities, Treasury Bills and Special Oil Bonds. As on June 30, 2018, the Reserve Bank did not hold any domestic Treasury bills. The Reserve Bank's holding of domestic securities decreased by 16.67 per cent, from ₹7,557.50 billion as on June 30, 2017 to ₹6,297.45 billion as on June 30, 2018. The decrease was on account of (a) liquidity management operations conducted by way of net Open Market Operations (OMO) sale of government securities amounting to ₹681.05 billion (face value) (b) redemption of government securities and (c) valuation impact.

A part of Investments-Domestic- BD is also earmarked for various staff funds and DEA Fund as explained in para 2.5(d). As on June 30, 2018, ₹463.83 billion (face value) was earmarked for staff funds and DEA Fund taken together.

vi) Loans and Advances

a) *Central and State Governments*

These loans are extended in the form of Ways and Means Advances (WMA) in terms of Section 17(5) of the RBI Act, 1934 and the limit in case of Central Government is fixed from time to time in consultation with the GOI and in case of State Governments, the limits are fixed based on the recommendations of Advisory Committee/Group constituted for this purpose. Loans and advances to the Central Government increased from ₹25.50 billion as on June 30,

2017 to ₹554.35 billion as on June 30, 2018. Loans and advances to the State Governments decreased to ₹14.93 billion as on June 30, 2018 from ₹24.18 billion as on June 30, 2017.

b) *Loans and advances to Commercial, Co-operative Banks, NABARD and others*

- *Loans and advances to Commercial and Co-operative Banks:* These mainly include amounts outstanding against Repo under Liquidity Adjustment Facility (LAF) and Marginal Standing Facility (MSF). The amount outstanding increased from ₹80.25 billion as on June 30, 2017 to ₹1,006.90 billion as on June 30, 2018 primarily due to increase in amount outstanding against Repo to banks.
- *Loans and advances to NABARD:* The Reserve Bank can extend loans to NABARD under section 17 (4E) of the RBI Act, 1934. No loans are outstanding as on June 30, 2018.
- *Loans and advances to others:*

  The balance under this head represents loans and advances to National Housing Bank (NHB), liquidity support provided to Primary Dealers (PDs) and outstanding Repo/Term Repo conducted with the PDs. The balance under this head increased by 46.31 per cent from ₹42.63 billion as on June 30, 2017 to ₹62.37 billion as on June 30, 2018 primarily due to increase in amount outstanding against Repo to PDs.

Table XII.5: Holdings in Subsidiaries/ Associates

(₹ billion)

		Cost	Per cent holding
1		2	3
a)	Deposit Insurance and Credit Guarantee Corporation (DICGC)	0.50	100
b)	National Bank for Agriculture and Rural Development (NABARD)	0.20	0.40
c)	National Housing Bank (NHB)	14.50	100
d)	Bharatiya Reserve Bank Note Mudran Pvt. Ltd. (BRBNMPL)	18.00	100
e)	Reserve Bank Information Technology (P) Ltd.(ReBIT)	0.50	100
	Total	**33.70**	

vii) Investment in Subsidiaries/Associates

The details of investment in subsidiaries/ associate institutions as on June 30, 2018 are given in Table XII.5. The total holding as on June 30, 2018 was ₹33.70 billion same as in the previous year.

viii) Other Assets

'Other Assets' comprise fixed assets (net of depreciation), accrued income, balances held in (i) Swap Amortisation Account (SAA) (ii) Revaluation of Forward Contracts Account (RFCA) and miscellaneous assets. Miscellaneous assets comprise mainly loans and advances to staff, amount spent on projects pending completion, security deposit paid, interim amount transferred to central government, *etc*. The amount outstanding under 'Other Assets' increased by 52.15 per cent from ₹266.79 billion as on June 30, 2017 to ₹405.92 billion as on June 30, 2018 primarily on account of interim transfer made to central government during the year.

a. *Swap Amortisation Account (SAA)*

In the case of swaps that are in the nature of repo at off-market rates, the difference between the future contract rate and the rate at which the contract is entered into is amortised over the period of the contract and held in the SAA. The balance held in this account is to be reversed on maturity of the outstanding contracts. The amount outstanding in SAA as on June 30, 2018 was ₹23.10 billion as compared to ₹18.48 billion as on June 30, 2017.

b. *Revaluation of Forward Contracts Account (RFCA)*

Forward contracts that are entered into as part of intervention operations are marked to market on June 30. The net gain, if any, is recorded in FCVA with contra entry in the RFCA. There was a debit balance of ₹32.62 billion in RFCA as on June 30, 2018 on account of marked to market gain on forward contracts.

XII.6.2 ASSETS OF ISSUE DEPARTMENT

The eligible assets of the Issue Department held as backing for Notes issued consist of Gold Coin and Bullion, Rupee Coin, Investments–Foreign ID, Government of India Rupee Securities and Domestic Bills of Exchange. The Reserve Bank holds 566.23 metric tonnes of gold, of which 292.30 metric tonnes are held as backing for Notes issued as on June 30, 2018 (Table XII.6). The value of gold held as backing for notes issued increased by 7.70 per cent from ₹690.30 billion as on June 30, 2017 to ₹743.49 billion as on June 30, 2018, primarily on account of depreciation of Rupee *vis-à-vis* USD. Consequent upon the increase in Notes issued, Investments-Foreign-ID held as backing for notes issued increased by 27.84 per cent from ₹14,366.89 billion as on June 30, 2017 to ₹18,366.85 billion as on June 30, 2018. The balance of Rupee Coins held by the Issue Department increased by 51.31 per cent from ₹6.12 billion as on June 30, 2017 to ₹9.26 billion as on June 30, 2018.

Table XII.6: Physical holding of Gold

	As on June 30, 2017 Volume in metric tonnes	As on June 30 , 2018 Volume in metric tonnes
1	2	3
Gold held for backing Notes issued (held in India)	292.28	292.30
Gold held as asset of Banking Department (held abroad)	265.49	273.93
Total	**557.77**	**566.23**

FOREIGN EXCHANGE RESERVE

XII.7 The Foreign Exchange Reserves (FER) predominantly comprise FCA, besides Gold, Special Drawing Rights (SDRs) and Reserve Tranche Position (RTP). The SDR (other than the amount acquired from GoI and included under Investments-Foreign–BD) does not form part of Reserve Bank's balance sheet. Similarly, the RTP, which represents India's quota contribution to IMF in foreign currency is not part of Reserve Bank's balance sheet. The position of FER as on June 30, 2017 and June 30, 2018 in Indian Rupees and the US dollar, which is the numéraire currency for our FER, is furnished in Tables XII.7 (a) and (b).

ANALYSIS OF INCOME AND EXPENDITURE

INCOME

XII.8 The main components of Reserve Bank's income are 'Interest Receipts', which forms the major portion and 'Other income' including

Table XII.7(a): Foreign Exchange Reserves in Rupee

(₹ billion)

Components	As on June 30		Variation	
	2017	2018	Absolute	Per Cent
1	2	3	4	5
Foreign Currency Assets (FCA)	23,455.08^	26,098.07#	2,642.99	11.27
Gold	1,317.32@	1,440.23*	122.91	9.33
Special Drawing Rights (SDR)	95.80	101.92	6.12	6.39
Reserve Position in the IMF	150.30	170.40	20.10	13.37
Foreign Exchange Reserves (FER)	25,018.50	27,810.62	2,792.12	11.16

^: Excludes (a) SDR Holdings of the Reserve Bank amounting to ₹95.80 billion, which is included under the SDR holdings and (b) Investment of ₹135.95 billion in bonds issued by IIFC (UK).

#: Excludes (a) SDR Holdings of the Reserve Bank amounting to ₹101.92 billion, which is included under the SDR holdings, (b) Investment of ₹144.01 billion in bonds issued by IIFC (UK), and (c) ₹6.74 billion lent to Bhutan under a Currency Swap arrangement made available for SAARC countries.

@: Of this, Gold valued at ₹690.30 billion is held as an asset of Issue Department and Gold valued at ₹627.02 billion is held under asset of Banking Department.

*: Of this, Gold valued at ₹743.49 billion is held as an asset of Issue Department and Gold valued at ₹696.74 billion is held under asset of Banking Department.

Table XII.7(b): Foreign Exchange Reserves in USD

(US$ billion)

Components	As on June 30		Variation	
	2017	2018	Absolute	Per Cent
1	2	3	4	5
Foreign Currency Assets (FCA)	362.39*	380.77**	18.38	5.07
Gold	20.35	21.00	0.65	3.19
Special Drawing Rights (SDR)	1.48	1.49	0.01	0.68
Reserve Position in the IMF	2.32	2.48	0.16	6.9
Foreign Exchange Reserves (FER)	386.54	405.74	19.20	4.97

*: Excludes (a) SDR Holdings of the Reserve Bank amounting to US$ 1.48 billion, which is included under the SDR holdings, (b) US$ 2.10 billion invested in bonds of IIFC (UK).

**: Excludes (a) SDR Holdings of the Reserve Bank amounting to US$ 1.49 billion, which is included under the SDR holdings, (b) US$ 2.10 billion invested in bonds of IIFC (UK) and (c) BTN equivalent to US$ 0.10 billion equivalent of INR currency lent to Bhutan under a Currency Swap arrangement made available for SAARC countries.

(i) Discount (ii) Exchange (iii) Commission (iv) Amortisation of Premium/Discount on Foreign and Rupee Securities (v) Profit /Loss on Sale and Redemption of Foreign and Rupee Securities (vi) Depreciation on Rupee Securities inter portfolio transfer (vii) Rent Realised (viii) Profit or loss on sale of Bank's property and (ix) Provisions no longer required and Miscellaneous income. Certain items of income such as interest on LAF repo, Repo in foreign security and exchange gain are reported on net basis.

The head 'Depreciation on Rupee Securities inter portfolio transfer' has been added in the current year 2017-18. The balance in this head represents the depreciation booked on earmarking of rupee securities for the purpose of DEA Fund and staff funds as explained in para 2.5 (d).

Earnings from Foreign Sources

XII.9 The income from foreign sources, increased by 47.43 per cent from ₹185.86 billion in 2016-17 to ₹274.01 billion in 2017-18 mainly

Table XII.8: Earnings from Foreign Sources

(₹ billion)

Item	As on June 30		Variation	
	2017	2018	Absolute	Per Cent
1	2	3	4	5
Foreign Currency Assets (FCA)	23,686.83	26,350.74	2,663.91	11.25
Average FCA	23,110.09	25,170.70	2,060.61	8.92
Earnings from FCA (interest, discount, exchange gain/loss, capital gain/loss on securities)	185.86	274.01	88.15	47.43
Earnings from FCA as per cent of average FCA	0.80	1.09	0.29	36.25

on account of the general rise in yield/interest rates across all currencies. The rate of earnings on foreign currency assets was higher at 1.09 per cent in 2017-18 as compared with 0.80 per cent in 2016-17 (Table XII. 8).

Earnings from Domestic Sources

XII.10 The income from domestic sources increased by 17.69 per cent from ₹432.32 billion in 2016-17 to ₹508.80 billion in 2017-18 mainly on account of lower net interest outgo under LAF/MSF operations consequent to lower surplus liquidity in the banking system as compared to 2016-17 (Table XII.9).

XII.11 Interest on holding of Rupee Securities and oil bonds decreased by 11.53 per cent from ₹542.17 billion in 2016-17 to ₹479.68 billion in 2017-18. The coupon income decreased on account of decrease in the RBI's holding of Government securities as a result of net OMO sale of ₹681.05 billion in 2017-18.

XII.12 The net interest income from LAF/MSF operations increased by ₹79.50 billion from ₹(-)173.66 billion in 2016-17 to ₹(-)94.16 billion in 2017-18. The increase in net interest income from LAF/MSF operations was due to lower interest outgo under reverse repo in 2017-18 consequent to lower surplus liquidity in the banking system.

XII.13 Profit on sale and redemption of securities increased by 1206.49 per cent to ₹60.36 billion in 2017-18 as against ₹4.62 billion in 2016-17 on account of increase in sale operations amounting to ₹900.00 billion in 2017-18 as compared to sale operations of ₹0.30 billion in 2016-17.

XII.14 Premium/Discount on amortisation of domestic securities: The rupee securities and oil bonds, held by the Bank are amortised on daily basis during the period of residual maturity and the premium/discount is booked in the income head. The net income from premium/discount on amortisation of domestic securities decreased by 12.24 per cent from ₹35.47 billion during 2016-17 to ₹31.13 billion for 2017-18.

XII.15 *Interest on loans and advances*

a. *Central and State Government:*

   Interest income on Ways and Means Advances (WMA)/Overdraft (OD) received from the Centre and States increased by 9.12 per cent from ₹5.37 billion during 2016-17 to ₹5.86 billion in 2017-18. Of the total, interest income received from the Centre on account of WMA/OD increased from ₹3.98 billion in 2016-17 to ₹4.34 billion in 2017-18 and interest income received from the State on account of WMA/OD/Special Drawing Facility (SDF) increased from ₹1.39 billion during 2016-17 to ₹1.52 billion in 2017-18. The increased earning was on account of higher utilisation of WMA/OD facility by Central and State Governments in 2017-18.

b. *Banks & Financial institutions*: Interest on loans and advances to banks and financial institutions increased by 27.36 per cent from ₹1.06 billion in 2016-17 to ₹1.35 billion in 2017-18.

c. *Employees*: Interest on loans and advances to employees increased by 26.09 per cent from ₹0.46 billion in 2016-17 to ₹0.58 billion in 2017-18.

XII.16 *Commission:* The commission income increased by 10.54 per cent from ₹18.41 billion in 2016-17 to ₹20.35 billion in 2017-18 primarily on account of increase in management commission received for servicing outstanding Central and

Table XII.9: Earnings from Domestic Sources

(₹ billion)

Item	2016-17	2017-18	Variation	
			Absolute	Per cent
1	2	3	4	5
Earnings (I+II+III)	**432.32**	**508.80**	**76.48**	**17.69**
I. Earnings from domestic securities				
i) Interest on holding of domestic securities	542.17	479.68	-62.49	-11.53
ii) Profit on Sale and redemption of Securities	4.62	60.36	55.74	1,206.49
iii) Depreciation on Rupee securities inter portfolio transfer	0.00	-0.08	-0.08	-
iv) Premium /discount on amortisation of domestic securities	35.47	31.13	-4.34	-12.24
v) Net Interest on LAF Operations	-174.26	-95.41	78.85	45.25
vi) Interest on MSF operations	0.60	1.25	0.65	108.33
Sub total (i+ii+iii+iv+v+vi)	***408.60***	***476.93***	***68.33***	***16.72***
II. Interest on Loans and Advances				
i) Government (Central & States)	5.37	5.86	0.49	9.12
ii) Banks & Financial Institutions	1.06	1.35	0.29	27.36
iii) Employees	0.46	0.58	0.12	26.09
Sub total (i+ii+iii)	***6.89***	***7.79***	***0.90***	***13.06***
III. Other Earnings				
i) Discount	0.00	0.00	0.00	0.00
ii) Exchange	0.00	0.00	0.00	0.00
iii) Commission	18.41	20.35	1.94	10.54
iv) Rent realised, Profit or Loss on sale of Bank's Property, Provisions no longer required and Miscellaneous	-1.58	3.73	5.31	336.08
Sub total (i+ii+iii+iv)	***16.83***	***24.08***	***7.25***	***43.08***

State government loans, which includes savings bonds, Government Securities (G–Secs), Treasury Bills (T-Bills) & Cash Management Bills (CMBs).

XII.17 *Rent realised, Profit or Loss on sale of Bank's Property, Provisions no longer required and Miscellaneous income*: Earnings from these income heads increased by 336.08 per cent from ₹(-)1.58 billion in 2016-17 to ₹3.73 billion in 2017-18.

EXPENDITURE

XII.18 The Reserve Bank incurs expenditure in the course of performing its statutory functions by way of agency charges/commission, printing of notes, expenditure on remittance of currency besides staff related and other expenses. The total expenditure of the Bank decreased by 9.24 per cent from ₹311.55 billion in 2016-17 to ₹282.77 billion in 2017-18 primarily due to decrease in expenditure towards printing of notes (Table XII.10).

i) Interest

During 2017-18 an amount of ₹0.01 billion was credited as interest to Dr. B.R. Ambedkar Fund (set up for giving scholarship to wards of staff) and Employees Benevolent Fund.

ii) Employee cost

The total employee cost for the year 2017-18 decreased by 16.73 per cent from ₹46.21 billion in 2016-17 to ₹38.48 billion in 2017-18. The decrease was mainly due to net impact of decrease in Bank's contribution

Table XII.10: Expenditure

(₹ billion)

Item	2013-14	2014-15	2015-16	2016-17	2017-18
1	2	3	4	5	6
i. Interest Payment	0.04	0.01	0.01	0.01	0.01
ii. Employees Cost	43.24	40.58	44.77	46.21	38.48
iii. Agency charges/ commission	33.25	30.45	47.56	40.52	39.03
iv. Printing of notes	32.14	37.62	34.21	79.65	49.12
v. Provisions	0.00	10.00	10.00	131.90	141.90
vi. Others	10.67	14.90	13.35	13.26	14.23
Total (i+ii+iii+iv+v+vi)	**119.34**	**133.56**	**149.90**	**311.55**	**282.77**

towards various superannuation funds and marginal increase in pay revision. Contributions to superannuation funds depends on the actuarial valuation of the liabilities under these funds.

iii) Agency Charges/commission

Till 2016-17, the item 'Turnover commission paid to banks on relief bonds/savings bond' was included in sub head 'Agency commission on Government transactions'. The same has now been re-grouped with 'sub-head (iii)-Sundries' of Schedule 14.

a. Agency Commission on Government Transactions

The Reserve Bank discharges the function of banker to the government through a large network of agency bank branches that serve as retail outlets for government receipts and payments. The Reserve Bank pays commission to these agency banks at prescribed rates which were last revised with effect from July 01, 2012. The agency commission paid on account of government business decreased by 5.24 per cent from ₹39.68 billion in the year 2016-17 to ₹37.60 billion in the year 2017-18. The decrease may be attributed to migration of government transactions to electronic mode, especially in the light of implementation of GST framework with effect from July 1, 2017 and integration of Government systems with RBI's e-Kuber for direct processing of government payments and receipts.

b. Underwriting Commission paid to Primary Dealers

The Reserve Bank paid total underwriting commission of ₹1.13 billion during 2017-18 as compared to ₹0.53 billion during 2016-17. The increase of 113.21 per cent in underwriting commission in 2017-18 was due to sporadic phases of volatility of yields and uncertainties arising out of modifications in GoI borrowing calendar, variations in market liquidity, banking sector developments, *etc.*

c. Sundries

This includes the expenses incurred on handling charges, turnover commission paid to banks for relief/savings bonds subscriptions and commission paid on Securities Borrowing and Lending Arrangement (SBLA) *etc.* The commission paid under this head increased from ₹0.06 billion in 2016-17 to ₹0.08 billion in 2017-18.

d. Fees paid to the External Asset Managers, custodians etc.

Fees paid for custodial services, during 2017-18 amounted to ₹0.22 billion as compared to ₹0.25 billion in 2016-17.

iv) Printing of Notes

Expenditure incurred on printing of banknotes decreased by 38.33 per cent from ₹79.65 billion in the year 2016-17 to ₹49.12 billion during the year 2017-18. The decrease was mainly on account of reduced supply of notes during the year 2017-18 at 25,003 million pieces which was 14 per cent lower than that of the previous year's supply of 29,043 million pieces.

v) Others

Other expenses consisting of expenditure on remittance of currency, printing and stationery, audit fees and related expenses, miscellaneous expenses, *etc.* increased by 7.32 per cent from ₹13.26 billion in 2016-17 to ₹14.23 billion in 2017-18. This is primarily because of increase in depreciation on fixed assets during 2017-18.

vi) Provisions

In 2017-18, a provision of ₹141.90 billion was made for transfer to Contingency Fund (CF).

CONTINGENT LIABILITIES

XII.19 The total contingent liabilities of the Bank amounted to ₹743.00 billion, the main components of which are (a) ₹733.00 billion towards the exposure of Bank in forwards and swaps; and (b) the Bank holds partly paid shares, denominated in SDR, of Bank of International Settlements (BIS). The uncalled liability on partly paid shares of the BIS as on June 30, 2018 was ₹8.61 billion. The balances are callable at three months' notice by a decision of the BIS Board of Directors.

PRIOR PERIOD TRANSACTIONS

XII.20 For the purpose of disclosure, prior period transactions of ₹0.01 million and above only have been considered. The prior period transactions under expenditure and income amounted to ₹0.90 billion and ₹0.15 billion respectively.

PREVIOUS YEAR'S FIGURES

XII.21 Figures for the previous year have been rearranged, wherever necessary, to make them comparable with the current year.

AUDITORS

XII.22 The statutory auditors of the Bank are appointed by the Central Government in terms of section 50 of the RBI Act, 1934. The accounts of the Reserve Bank for the year 2017-18 were audited by M/s Chhajed & Doshi, Mumbai and M/s G. P. Kapadia & Co., Mumbai, as the Statutory Central Auditors and M/s M C Bhandari & Co., Kolkata, M/s P. B. Vijayaraghavan & Co., Chennai and M/s Mehra Goel & Co., New Delhi as Statutory Branch Auditors.

ANNEX

CHRONOLOGY OF MAJOR POLICY ANNOUNCEMENTS: JULY 2017 TO JUNE 2018*

Date of Announcement	Policy Initiative
	Monetary Policy Department
August 2, 2017	The policy repo rate was reduced by 25 bps to 6.0 per cent.
October 4	SLR was reduced by 50 bps to 19.5 per cent effective October 14, 2017. The ceiling on SLR securities under 'Held to Maturity' was also cut in phases to 19.5 per cent by March 31, 2018.
June 6, 2018	The policy repo rate was raised by 25 bps to 6.25 per cent.
	Financial Inclusion and Development Department
July 6, 2017	A comprehensive set of guidelines was issued for Small Finance Banks, which included, *inter alia*, objectives, scope of activities, and guidance on financial inclusion.
July 13	Financial Literacy Centres (FLCs) and rural bank branches were advised to use hand-held projectors to show audio-visuals and posters on financial awareness messages.
July 13	Banks were advised regarding the documents to be relied upon for ascertaining investment in plant and machinery for the classification of enterprises as micro, small or medium.
August 3	Banks/SLBC convener banks were advised about the setting up of a dedicated portal for collection and compilation of data on natural calamities on a real time basis. Banks were to upload data files on relief measures extended by them. SLBCs were required to upload states' notifications on natural calamities.
August 16	Banks were advised of the Government's approval to implement the Interest Subvention Scheme for short term crop loans during 2017-18.
September 21	Banks were advised that the applicable system wide average figure of lending for computing achievement under the priority sector lending for 2017-18 would be 11.78 per cent.
October 18	Revised guidelines were issued relating to Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM) Aajeevika and Interest Subvention Scheme.
March 1, 2018	A sub-target of 8 per cent of Adjusted Net Bank Credit or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever was higher, would apply to foreign banks with 20 branches and above, for lending to small and marginal farmers from 2018-19. Banks were advised that all loans to MSMEs engaged in providing or rendering services would qualify under the priority sector without any credit cap.
April 6	SLBC convenor / Lead banks were advised the action points containing measures for improvement of the Lead Bank Scheme and the effectiveness of Lead District Managers.
April 18	Target group specific financial literacy contents for farmers, small entrepreneurs, school children, self-help groups and senior citizens were released.
June 19	Housing loan limits for eligibility under priority sector lending were revised to bring convergence with the Affordable Housing Scheme.
	Financial Markets Regulation Department
August 10, 2017	Tri-party repo direction was introduced.
August 10	Measures like dual rating requirement for issuances of more than ₹10 billion in a year, restrictions on related party issuances, and extension of buy-back timeline were put in place for CP issuances.
September 21	The reporting requirement for OTC forex derivatives to trade repository was modified. Further, AD Category-I banks were advised to reconcile the outstanding balances between their books and the trade repository on an ongoing basis.

*Indicative in nature and details available on the Reserve Bank's website.

Date of Announcement	Policy Initiative
October 12, 2017	Central treasuries of non-residents having exposure to INR on account of exports from and imports to India were permitted to undertake hedges for and on behalf of such non-residents with AD Category-I banks in India.
November 9	Hedging Facility was simplified by reducing documentation requirements, avoiding prescriptive stipulations regarding products, purpose and hedging flexibility.
November 16	FPIs were allowed to settle OTC secondary market transactions in G-Sec either on T+1 or on T+2 basis.
November 16	Market participants were allowed to undertake 'notional' short sale to deliver G-sec from their own HTM/AFS/HFT portfolio in exceptional situation of market stress.
February 26, 2018	Persons resident in India and FPIs in the Exchange Traded Currency Derivatives market were permitted to take positions (long or short), without having to establish existence of underlying exposure, up to a single limit of US$ 100 million equivalent across all currency pairs involving INR, put together, and combined across all exchanges.
March 1	FPIs were allocated separate limit of ₹ 50 billion for long position in IRFs.
March 12	The Hedging of Commodity Price Risk and Freight Risk in Overseas Markets (Reserve Bank) Directions, 2018 were issued.
March 31	Financial Benchmark India Pvt. Ltd (FBIL) was advised to assume the responsibility for administering valuation of G-sec (issued by both centre and states) effective March 31, 2018.
April 6	The limit for FPI's investment was increased to 5.5 per cent and 6 per cent of the outstanding stock of G-Sec for 2018-19 and 2019-20, respectively. Further, the limit for FPI investment in corporate bonds was fixed at 9 per cent of the outstanding stock.
June 14	Interest Rate Swaptions in Rupees were permitted so as to enable better timing flexibility for the market participants seeking to hedge their interest rate risk.
June 15	Operational guidelines on FPI investments in debt were revised with respect to minimum residual maturity requirement, security-wise limit (from 20 per cent of outstanding stock to 30 per cent for central government security), concentration limit and single/group investor-wise limit in corporate bonds.
Financial Markets Operations Department	
June 6, 2018	Margin requirement under LAF and MSF would be assigned on the basis of residual maturity of the collateral, effective August 01, 2018. Further, the margin requirement for rated SDLs would be 1 per cent lower than that of unrated SDLs for the same maturity buckets.
Foreign Exchange Department	
July 28, 2017	Standard operating framework for facilitating outward remittance services by non-bank entities through Authorized Dealer (category I) banks in India was laid down.
September 13	Certain changes on granting in-principle approval to Full Fledged Money Changers (FFMCs), KYC norms, loading of forex encashment in debit cards, compulsory display of money changing licence, introduction of licence fee for FFMCs and late fee for delayed submission of renewal application by the FFMC were incorporated in the Master Direction on money changing activities.
September 15	AD Category-I banks were advised to update the EDPMS with data of export proceeds on "as and when realised basis" and, from October 16, 2017 generate Electronic Bank Realisation Certificate (eBRC) only from the data available in EDPMS, to ensure consistency of data in EDPMS and at DGFT.
September 22	Issuances of RDBs were excluded from the limit for investments by FPI in corporate bonds effective October 3, 2017. Consequently, email reporting requirement of RDB transactions for onward reporting to depositories was dispensed with. However, reporting of RDBs would continue as per the extant ECB norms.
November 7	The Foreign Exchange Management (transfer or issue of security by a person resident outside India) Regulations, 2017 (FEMA 20 R) were put in place to regulate investment in India by a person resident outside India. This Notification supersedes Notification No. FEMA 20/2000-RB and Notification No. FEMA 24/2000-RB both dated May 3, 2000, as amended from time to time.

Date of Announcement	Policy Initiative
November 14, 2017	Notification No. FEMA 369/2017-RB, pertaining to changes in Overseas Direct Investment guidelines, was issued.
November 15	Exchange control copy of shipping bill on account of integration with EDPMS was discontinued.
December 8	Authorised Money Changers (AMCs) were advised to report any action initiated by Directorate of Enforcement (DoE) / Directorate of Revenue Intelligence (DRI) or any other law enforcing authorities against the AMCs or its directors within one month of such action.
December 14	Late Submission Fee was introduced for persons responsible for delayed filing of the reports/ forms/ returns prescribed in the rationalised notification such as Foreign Currency-Transfer of Shares (FC-TRS) and Foreign Currency-Gross Provisional Return (FC-GPR).
December 22	Delegation of powers was made for compounding of other contraventions which were not related to delay in reporting of various reports/forms/ returns.
January 4, 2018	Refinancing of existing ECBs was extended to the overseas branches/ subsidiaries of Indian banks permitting them to refinance ECBs of highly rated (AAA) corporates as well as Navratna and Maharatna PSUs.
January 4	Joint venture/ Wholly owned subsidiary (JV/WOS) in a country /jurisdiction which is either under the observation of the Financial Action Task Force (FATF) or in respect of which enhanced due diligence is recommended by FATF or any other country / jurisdiction as prescribed by Reserve Bank were not permitted to file Annual Performance Report (APR) on the basis of an unaudited balance sheet.
January 4	Instructions on Foreign Investment in India and its related aspects in FEMA compiled and issued for the first time.
January 12	AD Category- I banks were advised to consider requests for grant of export declaration form (EDF) waiver from exporters to export freely exportable items (excluding gems and jewellery, articles of gold and precious metals) on free of cost basis for export promotion.
January 24	The format of undertaking pertaining to Directorate of Enforcement (DoE) investigation, to be taken from applicants who have requested for compounding, was changed.
February 2	Consequent upon the stabilisation of IDPMS, the submission of a separate Bill of Entry Follow-up (BEF) statement by the AD Category-I bank was discontinued after the half year ended December 2017. However, in order to facilitate faster communication by ADs through electronic modes like e-mail/sms for follow–up, the existing instructions were broadened to include electronic communication channels. ADs would also be required to follow up at least once through a registered letter.
March 13	The practice of issuance of Letters of Undertaking (LoUs) and Letters of Comfort (LoCs) by AD Category-I banks in favour of overseas supplier, bank or financial institution up to USD 20 million per import transaction for a maximum period up to one year in case of import of non-capital goods (except gold, palladium, platinum, rhodium, silver, etc) was permitted. For import of capital goods, the period of guarantee/ Letters of Credit/ Letters of Undertaking by AD can be for a maximum period up to three years. The practice of issuance of LoUs/LoCs for Trade Credits for imports in India has been discontinued with immediate effect. The reporting format was amended appropriately.
March 16	The floor limit (minimum applicable amount) of ₹100/- for Late Submission Fee (LSF) was introduced.
March 20	FEMA Notification No. FEMA 389/2017-RB on Foreign Exchange Management (Cross Border Merger) Regulations, 2018 was issued.
March 26	Notification No. FEMA 21(R) pertaining to Foreign Exchange Management (acquisition and transfer of immovable property in India) Regulations, 2018 was published in the Gazette.
April 6	Consequent to the publication of amendment to FEMA 20(R), on March 26, 2018, (i) 100 per cent foreign investment was allowed in real estate broking services under automatic route. (ii) Foreign investment in investing companies registered as NBFCs with Reserve Bank, would be under 100 per cent automatic route. (iii) Indian companies were permitted to issue capital instruments to a person resident outside India under automatic route or with the prior government approval if the Indian investee company is engaged in a sector under government route.

Date of Announcement	Policy Initiative
April 12, 2018	The definition of an Overseas Citizen (OCI) was revised as a person resident outside India who is registered as an Overseas Citizen of India Cardholder under Section 7 (A) of the Citizenship Act, 1955. The conditions for an NRI/ OCI to acquire/ transfer of immovable property in India were laid down.
April 12	Daily reporting system by AD banks of transactions undertaken by individuals under Liberalised Remittance Scheme was introduced.
April 27	The guidelines on ECB were further rationalised and liberalised by stipulation of a uniform all-in-cost ceiling, increasing the ECB Liability to Equity Ratio for ECB raised from direct foreign equity holder under the automatic route, among others.
May 3	A new system for monitoring foreign investment limits, was put in place in consultation with SEBI to ensure compliance with the various foreign investment limits by listed Indian companies.
May 3	A system of data sharing with Directorate of Revenue Intelligence was introduced by advising all AD category I banks to ensure compliance with the provisions contained in Sections 108 A and 108 B of the Customs Act, 1962 and the Rules notified thereunder with immediate effect.
May 10	The provisions pertaining to the requirement of prior approval of RBI for establishment of Branch Office/Liaison Office/Project Office or any other place of business in India by foreign entities in sectors where 100 per cent FDI is not allowed were done away with.
June 7	Two additional formats, Part E.1 for reporting details of hedging and foreign exchange earnings and Part E.2 for reporting of expenditure to simplify the format of ECB 2 return were introduced.
June 7	A Single Master Form (SMF), to be filed online, with the objective of integrating the extant reporting structures of various types of foreign investment in India was introduced.
June 19	Furnishing of Permanent Account Number (PAN) was made mandatory for all remittances under the Liberalised Remittance Scheme (LRS). Further, on remittances for maintenance of close relatives, the definition of 'relative' was aligned with that in the Companies Act, 2013 instead of the Companies Act, 1956.
	Department of Banking Regulation
July 6, 2017	In view of widespread use of electronic banking and rise in complaints, a revised framework for limiting customer liabilities in unauthorised/ fraudulent electronic transactions was issued.
August 2	Credit information report on a borrower, furnished by credit information companies to credit institutions, needs to incorporate credit information available in all modules, e.g., consumer, commercial and MFI in respect of the borrower.
August 2	Banks incorporated in India were permitted to recognise reserves held with foreign central banks in excess of the reserve requirements as Level 1 HQLA, where a foreign sovereign was assigned a zero per cent risk weight by an international rating agency. Where a foreign sovereign was assigned a non-zero per cent risk weight by an international rating agency, but a zero per cent risk weight at national discretion under Basel II, excess reserves held with such foreign central banks were allowed as Level 1 HQLA to the extent that they covered bank's stressed net cash outflows in that specific currency.
August 2	Bank rate was cut by 25 bps to 6.25 per cent with immediate effect.
September 25	It was decided to amend regulations on banks' investments in Alternative Investment Funds and align the prudential requirements for investment in financial services companies in line with Basel III. Banks were allowed to act as Professional Clearing Member and banks' subsidiaries were allowed to offer broking services in commodities derivative segment.
November 2	Banks were advised to intimate their existing large corporate borrowers (including their parent as well as subsidiaries/associates) having total exposure of ₹0.50 billion and above to obtain Legal Entity Identifier (LEI) as per the prescribed schedule. Borrowers who do not obtain LEI as per the schedule are not to be granted renewal/ enhancement of credit facilities.
November 9	Banks were advised to put in place appropriate mechanism for meeting the needs of senior citizens and differently abled persons.
January 4, 2018	Harmonized definitions of a set of 83 data elements reported across multiple returns to the Reserve Bank were issued.

Date of Announcement	Policy Initiative
February 7, 2018	In the context of switch-over to GST, banks and NBFCs were permitted to continue to classify their exposure to GST-registered MSME borrowers as standard asset if the amount overdue from the borrower as on September 1, 2017 and payments due between September 1, 2017 and January 31, 2018 are paid not later than 180 days from their respective original due dates.
February 12	In view of the enactment of Insolvency and Bankruptcy Code, 2016, a harmonized and simplified framework for resolution of stressed assets replaced the previous schemes/guidelines like CDR.
April 2	Banks were allowed to spread provisioning for MTM losses on investments for the quarters ended December 31, 2017 and March 31, 2018 equally over up to four quarters, commencing with the quarter in which the loss was incurred. They were advised to create and maintain an Investment Fluctuation Reserve of at least 2 per cent on a continuing basis to be achieved preferably within 3 years from 2018-19.
April 5	SCBs, excluding RRBs, were required to implement Ind AS from April 1, 2018, However, in view of the banks' level of preparedness and the pending necessary legislative amendments, it was decided to defer implementation of Ind AS by one year.
April 6	Stand-alone plain vanilla forex options (without attached structures) purchased by clients would be exempted from the 'user suitability and appropriateness' norms, and the regulatory requirements would be at par with forex forward contracts.
April 6	In view of risks in dealing with virtual currencies, RBI-regulated entities were prohibited from dealing in such currencies or providing services for facilitating or settling.
April 20	KYC Directions were aligned with the amendments in the Prevention of Money Laundering (PML) rules *vide* Government Gazette notifications of June 1, 2017 and thereafter.
May 17	With a view to enabling IFSC Banking Units (IBUs) to start their operations, the parent bank will be required to provide a minimum capital of USD 20 million or equivalent in any foreign currency to its IBU which should be maintained at all times. The minimum prescribed regulatory capital, including for the exposures of the IBU, shall be maintained on an on-going basis at the parent level; for foreign banks, the IBU shall submit a certificate to this effect obtained from the parent on a half-yearly basis to RBI.
May 17	To mitigate funding risk over a longer time horizon, final guidelines on Net Stable Funding Ratio (NSFR) were issued.
June 6	Bank rate was revised, with immediate effect, to 6.50 per cent from 6.25 per cent.
June 6	Banks and NBFCs were permitted to classify exposure to all MSMEs (including those which are yet to register under GST) as standard asset as per a 180-day past due criterion. The dues of GST-registered MSMEs payable from January 1, 2019 onwards would be aligned to 90 days NPA norm in a phased manner.
June 7	Deposits under Gold Monetization Scheme can be made for broken periods. Under Medium and Long-Term Government Scheme (MLTGD), the interest payment will be annual. For managing MLTGD Scheme, designated banks will be paid handling charges and commission at a flat rate of 1.5 per cent and 1 per cent respectively of the rupee equivalent of the amount of gold mobilised by them. Any premature redemption under MLTGD scheme would be only in INR.
June 7	The rate of interest payable by banks to the depositors/claimants on the unclaimed amount transferred to the Depositors' Education and Awareness (DEA) Fund has been revised to 3.5 per cent simple interest per annum effective July 1, 2018 from 4 per cent earlier.
June 14	Banks were advised to follow, effective June 11, 2018, the list of Left Wing Extremism affected districts as revised by the Government, in connection with Annex III to the Bank's circular on 'Rationalisation of Branch Authorisation Policy-Revision of Guidelines' issued on May 18, 2017.
June 15	Given the rising yields on G-sec, as also the inadequacy of time to build the Investment Fluctuation Reserve (IFR) for many banks, banks were allowed to spread provisioning for the MTM losses in AFS and HFT portfolios for the quarter ending June 30, 2018, subject to suitable disclosure in their notes to accounts/quarterly results.
June 15	Banks were allowed to reckon G-sec held by them up to another 2 per cent of their NDTL, under FALLCR within the mandatory SLR requirement, as Level 1 HQLA for the purpose of computing their LCR.

Date of Announcement	Policy Initiative
	Department of Cooperative Bank Regulation
July 13, 2017	Cooperative banks were advised to provide relevant details on entries in the accounts and information on 'deposit insurance cover' along with the limit of coverage upfront in the passbooks.
August 16	The functional and technical requirements for Core Banking Solution in UCBs were released.
December 14	Guidelines on limiting the liability of customers of co-operative banks in unauthorised electronic banking transactions were issued.
May 10, 2018	The guidelines on priority sector lending by UCBs were broadly harmonised with those of SCBs.
	Department of Non-Banking Regulation
July 6, 2017	NBFCs with asset size of ₹5 billion and above were permitted to undertake point of presence (PoP) services for the National Pension System after registration with the PFRDA.
August 14	NBFCs notified as 'Financial Institutions' under the SARFAESI Act, 2002 were advised to appoint a nominated counsel in the High Court of Delhi.
August 14	NBFCs were allowed to use the ratings of Infomerics Valuation and Rating Private Limited for their fixed deposit portfolios.
October 4	Regulation on P2P lending platforms as NBFC-Peer to Peer Lending Platform was issued.
November 9	Guidelines were issued to NBFCs on managing risks and code of conduct in outsourcing of financial services.
November 23	ARCs, meeting prescribed conditions, were exempted from the shareholding limit of 26 per cent in the borrower company.
January 4, 2018	ARCs were advised to adhere to the relevant provisions of the Insolvency and Bankruptcy Code (IBC), 2016 and Insolvency and Bankruptcy Board of India (Information Utilities) Regulations, 2017 on submission of financial information to information utilities.
February 23	NBFCs covered under the Ombudsman Scheme were advised to appoint Principal Nodal Officers (PNOs)/ Nodal Officers (NOs) and to display salient features of the Ombudsman Scheme at all their offices and branches.
May 31	Exemptions granted to government NBFCs from certain regulatory and statutory provisions were withdrawn and they were required to adhere to prudential regulations in a phased manner.
June 7	Systemically Important Core Investment Companies (CIC-ND-SI) were permitted to hold infrastructure investment trusts (InvIT) units only as sponsors provided such exposure does not exceed the minimum holding and tenor limits as prescribed under SEBI regulations for a sponsor.
	Department of Banking Supervision
July 13, 2017	For banks with non-executive chairman, there will be no restriction if he/she is also nominated to the Audit Committee of the Board of Directors.
July 27	To ensure rest and rotation for statutory central auditors, an audit firm after completing its four year tenure in a particular private/foreign bank would not be eligible for appointment for a period of six years.
June 21, 2018	Banks and White-Label ATM Operators were advised to initiate immediate action for addressing concerns about the ATMs running on Windows XP and/or other unsupported operating system.
June 29	For improving audit quality and transparency in examination of accountability of Statutory Auditors (SAs), enforcement action framework was put in place.
	Department of Non-Banking Supervision
March 15, 2018	Government-owned NBFCs were advised to submit periodic returns.
	Consumer Education and Protection Department
February 23, 2018	To provide a cost-free and expeditious complaint redressal mechanism relating to deficiency in services by NBFCs, Ombudsman Scheme for Non-Banking Financial Companies, 2018 was introduced initially for deposit taking NBFCs.

Date of Announcement	Policy Initiative
	Internal Debt Management Department
October 4, 2017	It was decided to conduct weekly auctions of SDLs (held fortnightly earlier) and announce the auction results latest by 3:00 PM the same day.
November 23	To encourage participation of retail investors in G-sec and T-Bill primary auctions, specified stock exchanges were permitted to act as aggregators/facilitators for submitting investor bids in the non-competitive segment of primary auction.
May 3, 2018	With a view to meeting the diverse needs of investors and making Separate Trading of Registered Interest and Principal of Securities (STRIPS) more aligned with market requirements, it was decided to remove the restrictions on the securities eligible for Stripping/Reconstitution as well as the requirement of authorisation of all requests for Stripping/Reconstitution by Primary Dealers (PDs).
June 6	In order to facilitate Standalone Primary Dealers (SPDs) to provide comprehensive services to their FPI clients, it was decided to provide the SPDs a limited foreign exchange licence.
June 6	It was decided to lower the rate of interest on special drawing facility from 100 bps to 200 bps below the policy repo rate to incentivise maintenance of adequate funds by state governments in Consolidated Sinking Fund (CSF) and Guarantee Redemption Fund (GRF).
	Department of Currency Management
February 9, 2018	On delayed reporting the Reserve Bank advised that penal interest at the prevailing rate for instances where the currency chest had reported "net deposit" might not be charged. However, a flat penalty of ₹50,000 is to be levied on the currency chests in the case of wrong reporting of soiled note remittances to RBI/diversions shown as "Withdrawal".
February 15	Banks were advised to direct all their branches to accept coins of all denominations tendered at their counters either for exchange or deposit, violation of which might attract penal action by the RBI.
March 1	Incentives to banks for installation of cash recyclers and ATMs dispensing only lower denomination notes were withdrawn.
April 6	Certain minimum standards for engaging the service providers/sub-contractors by banks for cash management logistics were prescribed. Banks were advised to review their outsourcing arrangements, bring them in line with the instructions within 90 days and put in place business continuity plan.
April 12	To mitigate risks, banks were advised to consider using lockable cassettes in their ATMs for cash replenishment and implement the same in phases, covering at least one-third ATMs every year, so that all ATMs achieve cassette swap by March 31, 2021.
	Department of Payment and Settlement Systems
October 11, 2017	To foster innovation and competition, and to ensure safety, security and customer protection, the revised Master Directions on Prepaid Payment Instruments (PPI) were released.
December 6	Merchant discount rate for debit card transactions was rationalised.
April 6, 2018	All payment system providers and other entities participating in the payment ecosystem in India were advised to ensure that the entire data relating to payment systems operated by them are stored in a system only in India.

APPENDIX TABLE 1: MACROECONOMIC AND FINANCIAL INDICATORS

Item	Average 2003-04 to 2007-08 (5 years)	Average 2009-10 to 2013-14 (5 years)	2015-16	2016-17	2017-18
1	2	3	4	5	6
I. Real Economy					
I.1 Real GDP at market prices (% change)*	8.8	7.4	8.2	7.1	6.7
I.2 Real GVA at basic prices (% change)*	8.7	7.1	8.1	7.1	6.5
I.3 Foodgrains Production (Million tonnes)	213.6	248.8	251.6	275.1	279.5
I.4 a) Food Stocks (Million tonnes at end-March)	18.6	50.0	43.6	38.0	43.3
b) Procurement	39.4	61.3	65.3	60.2	68.2
c) Off-take	41.5	56.9	63.7	67.4	59.2
I.5 Index of Industrial Production (% change)**	10.4	3.5	3.3	4.6	4.3
I.6 Index of Eight Core Industries (% change)**	5.9	5.6	3.0	4.8	4.3
I.7 Gross Domestic Saving Rate (% of GNDI at current prices)***	32.5	32.8	30.7	29.6	…
I.8 Gross Domestic Investment Rate (% of GDP at current prices)***	33.6	36.9	32.3	30.6	…
II. Prices					
II.1 Consumer Price Index (CPI) Combined (average % change)	…	…	4.9	4.5	3.6
II.2 CPI- Industrial Workers (average % change)	5.0	10.3	5.6	4.1	3.1
II.3 Wholesale Price Index (average % change)#	5.5	7.1	-3.7	1.7	2.9
III. Money and Credit					
III.1 Reserve Money (% change)	20.4	12.1	13.1	-12.9	27.3
III.2 Broad Money (M3) (% change)	18.6	14.7	10.1	6.9	9.2
III.3 a) Aggregate Deposits of Scheduled Commercial Banks (% change)	20.2	15.0	9.3	11.3	6.2
b) Bank Credit of Scheduled Commercial Banks (% change)	26.7	16.7	10.9	4.5	10.0
IV. Financial Markets					
IV.1 Interest rates (%)					
a) Call/Notice Money rate	5.6	7.2	7.0	6.2	5.9
b) 10 year G-Sec yield	7.0	8.0	7.8	7.0	7.0
c) 91-Days T-bill yield	…	…	7.4	6.4	6.2
d) Weighted Average Cost of Central Government Borrowings	…	…	7.9	7.2	7.0
e) Commercial Paper	7.7	8.4	8.1	7.4	7.1
f) Certificate of Deposits##	8.9	8.2	7.8	6.9	6.7
IV.2 Liquidity (₹ billion)					
a) LAF Outstanding~	…	…	-2,995.2	3,140.7	-574.8
b) MSS Outstanding~~	…	…	0.0	0.0	0.0
c) Average Daily Call Money Market Turnover	184.9	255.3	269.5	305.8	282.1
d) Average Daily G-Sec Market Turnover###	77.1	241.4	474.9	829.9	537.7
e) Variable Rate Repo$	…	…	2,635.7	129.9	2,622.1
f) Variable Rate Reverse Repo$	…	…	…	2,032.0	153.1
g) MSF$	…	…	600.5	19.3	525.9
V. Government Finances					
V.1 Central Government Finances (% of GDP)&					
a) Revenue Receipts	9.8	9.1	8.7	9.0	8.6
b) Capital Outlay	1.2	1.5	1.6	1.6	1.5
c) Total Expenditure	14.4	14.8	13.0	12.9	12.8
d) Gross Fiscal Deficit	3.6	5.3	3.9	3.5	3.5
V.2 State Government Finances&&					
a) Revenue Deficit (% of GDP)	0.4	0.0	0.0	0.3	0.4
b) Gross Fiscal Deficit (% of GDP)	2.7	2.2	3.1	3.5	3.1
c) Primary Deficit (% of GDP)	0.3	0.6	1.5	1.9	1.3

APPENDIX TABLE 1: MACROECONOMIC AND FINANCIAL INDICATORS (*Concld.*)

Item	Average 2003-04 to 2007-08 (5 years)	Average 2009-10 to 2013-14 (5 years)	2015-16	2016-17 PR	2017-18 P
1	2	3	4	5	6
VI. External Sector					
VI.1 Balance of Payments					
a) Merchandise Exports (% change)	25.3	12.2	-15.9	5.2	10.3
b) Merchandise Imports (% change)	32.3	9.7	-14.1	-1.0	19.5
c) Trade Balance/GDP (%)	-5.4	-9.0	-6.2	-4.9	-6.1
d) Invisible Balance/GDP (%)	5.1	5.7	5.1	4.3	4.3
e) Current Account Balance/GDP (%)	-0.3	-3.3	-1.1	-0.6	-1.9
f) Net Capital Flows/GDP (%)	4.6	3.7	2.0	1.6	3.5
g) Reserve Changes [(BoP basis) (US$ billion) [(Increase (-)/Decrease (+)]	-40.3	-6.6	-17.9	-21.6	-43.6
VI.2 External Debt Indicators					
a) External Debt Stock (US$ billion)	156.5	359.0	484.8	471.3	529.7
b) Debt-GDP Ratio (%)	17.7	20.8	23.4	20.0	20.5
c) Import Cover of Reserves (in Months)	14.0	8.5	10.9	11.3	10.9
d) Short-term Debt to Total Debt (%)	13.6	21.3	17.2	18.7	19.3
e) Debt Service Ratio (%)	8.3	5.6	8.8	8.3	7.5
f) Reserves to Debt (%)	113.7	84.8	74.3	78.5	80.2
VI.3 Openness Indicators (%)					
a) Export plus Imports of Goods/GDP	30.4	40.7	31.5	29.6	29.9
b) Export plus Imports of Goods & Services/GDP	40.8	52.8	42.9	41.0	41.9
c) Current Receipts plus Current Payments/GDP	46.6	59.0	48.8	46.6	47.4
d) Gross Capital Inflows plus Outflows/GDP	36.8	50.0	46.6	46.8	46.0
e) Current Receipts & Payments plus Capital Receipts & Payments/GDP	83.5	109.0	95.3	93.4	93.4
VI.4 Exchange Rate Indicators					
a) Exchange Rate (Rupee/US Dollar)					
End of Period	43.1	51.1	66.3	64.8	65.0
Average	44.1	51.2	65.5	67.1	64.5
b) 36 - Currency REER (% change)	3.1^	0.8	2.9	2.2	4.5
c) 36 - Currency NEER (% change)	1.7^	-4.9	0.9	-0.1	3.1
d) 6 - Currency REER (% change)	4.4^	1.9	2.3	2.0^^	3.8
e) 6 - Currency NEER (% change)	1.6^	-5.4	-1.6	-1.0^^	1.9

… : Not Available. PR: Partially Revised. P: Provisional.

* : Data from 2003-04 to 2011-12 are at 2004-05 base, while those from 2012-13 onwards are at 2011-12 base.

** : Data for average 2003-04 to 2007-08 and 2009-10 to 2013-14 are based on 2004-05 base year series. For 2015-16, 2016-17 and 2017-18, data are based on the new series with base year 2011-12.

*** : Data from 2003-04 to 2010-11 are at 2004-05 base, while those from 2011-12 onwards are at 2011-12 base.

: Base year for WPI is 2011-12=100 for annual data and 2004-05=100 for average of 5 years inflation.

: Data for column 2 pertain to April 13, 2007 to March 28, 2008.

: Outright trading turnover in central government dated securities (based on calendar days).

~ : LAF outstanding as on March 31 (negative signs indicate injection).

~~ : Outstanding as on last Friday of the financial year.

$: Outstanding as on March 31.

& : Data for 2017-18 are provisional accounts.

&& : Data for 2017-18 corresponds to Revised Estimates.

^ : Average of period 2005-06 to 2007-08.

^^ : Data are Provisional.

Note : Real Effective Exchange Rate (REER) are based on CPI (combined).

Source : RBI, Central Statistics Office (CSO), Ministry of Agriculture & Farmers' Welfare, Ministry of Commerce and Industry, Food Corporation of India (FCI), Labour Bureau and Budget documents of the central and state governments.

APPENDIX TABLE 2: GROWTH RATES AND COMPOSITION OF REAL GROSS DOMESTIC PRODUCT

(At 2011-12 Prices)

(Per cent)

Sector	Growth Rate				Share		
	Average 2013-14 to 2017-18	2015-16	2016-17	2017-18	2015-16	2016-17	2017-18
1	2	3	4	5	6	7	8
Expenditure Side GDP							
1. Private Final Consumption Expenditure	7.0	7.4	7.3	6.6	55.8	55.9	55.8
2. Government Final Consumption Expenditure	7.6	6.8	12.2	10.9	9.9	10.3	10.8
3. Gross Fixed Capital Formation	5.4	5.2	10.1	7.6	30.3	31.1	31.4
4. Change in Stocks	0.8	-15.4	-61.2	4.5	2.0	0.7	0.7
5. Valuables	5.4	-1.4	-13.9	58.8	1.6	1.3	1.9
6. Net Exports	-9.2	10.4	12.0	-150.5	-1.2	-1.0	-2.4
a) Exports	2.9	-5.6	5.0	5.6	20.8	20.4	20.2
b) Less Imports	0.6	-5.9	4.0	12.4	22.1	21.4	22.6
7. Discrepancies	-206.2	-846.7	7.3	13.9	1.6	1.6	1.7
8. GDP	**7.1**	**8.2**	**7.1**	**6.7**	**100.0**	**100.0**	**100.0**
GVA at Basic Prices (Supply Side)							
1. Agriculture, forestry and fishing	**3.1**	**0.6**	**6.3**	**3.4**	**15.4**	**15.3**	**14.8**
2. Industry	**7.7**	**12.1**	**8.7**	**5.5**	**23.3**	**23.7**	**23.5**
of which :							
a) Mining and quarrying	7.9	13.8	13.0	2.9	3.1	3.3	3.2
b) Manufacturing	7.9	12.8	7.9	5.7	18.1	18.2	18.1
c) Electricity, gas, water supply & other utility services	6.5	4.7	9.2	7.2	2.1	2.2	2.2
3. Services	**7.8**	**8.7**	**6.7**	**7.6**	**61.3**	**61.0**	**61.7**
of which :							
a) Construction	3.6	3.7	1.3	5.7	8.2	7.8	7.8
b) Trade, hotels, transport, communication and services related to broadcasting	8.3	10.3	7.2	8.0	19.0	19.0	19.3
c) Financial, real estate & professional services	9.2	10.9	6.0	6.6	21.9	21.7	21.7
d) Public Administration, defence and other services	7.8	6.1	10.7	10.0	12.2	12.6	13.0
4. GVA at basic prices	**7.0**	**8.1**	**7.1**	**6.5**	**100.0**	**100.0**	**100.0**

Source: CSO.

APPENDIX TABLE 3: GROSS SAVINGS

(Per cent of GNDI)

Item	2013-14	2014-15	2015-16	2016-17
1	2	3	4	5
I. Gross Savings	**31.4**	**31.6**	**30.7**	**29.6**
1.1 Non-financial corporations	**10.5**	**11.1**	**12.2**	**12.1**
1.1.1 Public non-financial corporations	1.1	1.0	1.0	1.0
1.1.2 Private non-financial corporations	9.4	10.1	11.2	11.1
1.2 Financial corporations	**2.6**	**2.7**	**2.1**	**2.2**
1.2.1 Public financial corporations	1.4	1.3	1.3	1.3
1.2.2 Private financial corporations	1.1	1.3	0.8	0.8
1.3 General Government	**-1.5**	**-1.4**	**-1.1**	**-0.7**
1.4 Household sector	**19.9**	**19.2**	**17.5**	**16.0**
1.4.1 Net financial saving	7.2	6.9	8.1	6.7
Memo: Gross financial saving	*10.4*	*9.9*	*10.8*	*9.1*
1.4.2 Saving in physical assets	12.3	11.9	9.1	9.0
1.4.3 Saving in the form of valuables	0.3	0.4	0.3	0.3

GNDI**:** Gross national disposable income.
Note: Net financial saving of the household sector is obtained as the difference between gross financial savings and financial liabilities during the year.
Source: CSO.

APPENDIX TABLE 4: INFLATION, MONEY AND CREDIT

(Per cent)

Inflation									
Consumer Price Index (All India)#	**Rural**			**Urban**			**Combined**		
	2015-16	**2016-17**	**2017-18**	**2015-16**	**2016-17**	**2017-18**	**2015-16**	**2016-17**	**2017-18**
1	2	3	4	5	6	7	8	9	10
General Index (All Groups)	**5.6**	**5.0**	**3.6**	**4.1**	**4.0**	**3.6**	**4.9**	**4.5**	**3.6**
Food and beverages	5.4	4.7	2.4	4.6	3.9	1.8	5.1	4.4	2.2
Housing	…	…	…	4.9	5.2	6.5	4.9	5.2	6.5
Fuel and light	6.8	4.6	6.5	2.7	1.0	5.6	5.3	3.3	6.2
Miscellaneous	4.7	5.1	4.3	2.8	3.7	3.1	3.7	4.5	3.8
Excluding Food and Fuel	5.5	5.5	4.7	3.9	4.3	4.6	4.6	4.8	4.6
Other Price Indices	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
1. Wholesale Price Index (2011-12=100)*									
All Commodities	**3.8**	**9.6**	**8.9**	**7.4**	**5.2**	**1.3**	**-3.7**	**1.7**	**2.9**
Primary Articles	12.7	17.7	9.8	9.8	9.8	2.2	-0.4	3.4	1.4
of which : Food Articles	15.3	15.6	7.3	9.9	12.3	5.6	2.6	4.0	2.1
Fuel and Power	-2.1	12.3	14.0	10.3	7.1	-6.1	-19.7	-0.3	8.2
Manufactured Products	2.2	5.7	7.3	5.4	3.0	2.6	-1.8	1.3	2.7
Non-Food Manufactured Products	0.2	6.1	7.3	4.9	2.7	2.7	-1.8	-0.1	3.0
2. CPI- Industrial Workers (IW) (2001=100)	12.4	10.4	8.4	10.4	9.7	6.3	5.6	4.1	3.1
of which : CPI-IW Food	15.2	9.9	6.3	11.9	12.3	6.5	6.1	4.4	1.5
3. CPI- Agricultural Labourers (1986-87=100)	13.9	10.0	8.2	10.0	11.6	6.6	4.4	4.2	2.2
4. CPI- Rural Labourers (1986-87=100)	13.8	10.0	8.3	10.2	11.5	6.9	4.6	4.2	2.3
Money and Credit									
	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17^**	**2017-18**
Reserve Money (RM)	**17.0**	**19.1**	**3.6**	**6.2**	**14.4**	**11.3**	**13.1**	**-12.9**	**27.3**
Currency in Circulation	15.7	18.8	12.4	11.6	9.2	11.3	14.9	-19.7	37.0
Bankers' Deposits with RBI	21.0	20.2	-15.9	-10.0	34.0	8.3	7.8	8.4	3.9
Currency-GDP Ratio$	12.3	12.2	12.2	12.0	11.6	11.6	12.1	8.8	10.9
Narrow Money (M1)	**18.2**	**10.0**	**6.0**	**9.2**	**8.5**	**11.3**	**13.5**	**-3.9**	**21.8**
Broad Money (M3)	**16.9**	**16.1**	**13.5**	**13.6**	**13.4**	**10.9**	**10.1**	**6.9**	**9.2**
Currency-Deposit Ratio	15.9	16.3	16.1	15.7	15.1	15.2	16.0	11.0	14.4
Money Multiplier (Ratio)##	4.8	4.7	5.2	5.5	5.5	5.5	5.3	6.7	5.8
GDP-M3 Ratio$##	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Scheduled Commercial Banks									
Aggregate Deposits	17.2	15.9	13.5	14.2	14.1	10.7	9.3	11.3	6.2
Bank Credit	16.9	21.5	17.0	14.1	13.9	9.0	10.9	4.5	10.0
Non-food Credit	17.1	21.3	16.8	14.0	14.2	9.3	10.9	5.2	10.2
Credit-Deposit Ratio	72.2	75.7	78.0	77.9	77.8	76.6	77.7	72.9	75.5
Credit-GDP Ratio$	50.1	50.6	52.8	52.9	53.4	52.4	52.7	51.4	51.4

: Base for Consumer Price Index (All India) is 2012=100; ^ : March 31, 2017 over April 1, 2016 barring RM and its components.
… : CPI Rural for Housing is not compiled. ##: Not expressed in per cent.
* : Base for WPI is 2004-05=100 for the period 2008-09 to 2012-13 and 2011-12=100 for the period 2013-14 to 2017-18.
$: GDP data from 2011-12 onwards are based on new series *i.e.*, base: 2011-12.
Note: Data refer to y-o-y change in per cent, barring the ratios.
Source: RBI, CSO, Labour Bureau and Ministry of Commerce and Industry.

APPENDIX TABLE 5: CAPITAL MARKET - PRIMARY AND SECONDARY

(Amount in ₹ billion)

Item	2016-17		2017-18 P	
	Number	Amount	Number	Amount
1	2	3	4	5
I. PRIMARY MARKET				
A. Prospectus and Rights Issues				
1. Private Sector (a+b)	**132**	**599**	**221**	**730**
a) Financial	26	454	20	361
b) Non-Financial	106	145	201	369
2. Public Sector (a+b+c)	**2**	**22**	**8**	**372**
a) Public Sector Undertakings	1	10	4	69
b) Government Companies	…	…	…	…
c) Banks/Financial Institutions	1	11	4	303
3. Total (1+2, i+ii, a+b)	**134**	**621**	**229**	**1,102**
Instrument Type				
(i) Equity	118	325	222	1,052
(ii) Debt	16	296	7	50
Issuer Type				
(a) IPOs	105	291	200	838
(b) Listed	29	330	29	264
B. Euro Issues (ADRs and GDRs)	**…**	**…**	**…**	**…**
C. Private Placement				
1. Private Sector (a+b)	3,189	4,201	2,366	4,478
a) Financial	2,588	3,083	1,723	3,412
b) Non-Financial	601	1,117	643	1,065
2. Public Sector (a+b)	247	2,471	208	2,323
a) Financial	155	1,586	167	1,926
b) Non-Financial	92	885	41	396
3. Total (1+2, i+ii)	3,436	6,672	2,574	6,800
(i) Equity	24	137	56	694
(ii) Debt	3,412	6,534	2,518	6,107
D. Qualified Institutional Placement	**20**	**85**	**53**	**673**
E. Mutual Funds Mobilisation (Net)#		**3,431**		**2,718**
1. Private Sector		2,794		2,285
2. Public Sector		637		433
II. SECONDARY MARKET				
BSE				
BSE Sensex: End-Period	29,621		32,969	
Period Average	27,338		32,397	
Price Earning Ratio	23		24	
Market Capitalisation to GDP ratio (%)	80		85	
Turnover Cash Segment		9,983		10,830
Turnover Derivatives Segment		69		33
NSE				
S&P CNX Nifty: End-Period	9,174		10,114	
Period Average	8,421		10,030	
Price Earning Ratio	23		25	
Market Capitalisation to GDP ratio (%)	79		84	
Turnover Cash Segment		50,559		72,348
Turnover Derivatives Segment		943,703		1,649,849

P: Provisional. …: Nil. #: Net of redemptions.
Source: SEBI, NSE, BSE, CSO and various merchant bankers.

APPENDIX TABLE 6: KEY FISCAL INDICATORS

(As per cent to GDP)

Year	Primary Deficit	Revenue Deficit	Primary Revenue Deficit	Gross Fiscal Deficit	Outstanding Liabilities@	Outstanding Liabilities$
1	2	3	4	5	6	7
Centre						
1990-91	3.9	3.2	-0.5	7.6	53.7	59.6
1995-96	0.8	2.4	-1.7	4.9	49.4	57.3
2000-01	0.9	3.9	-0.6	5.5	53.9	59.6
2009-10	3.2	5.2	1.9	6.5	54.5	56.3
2010-11	1.8	3.2	0.2	4.8	50.6	52.2
2011-12	2.8	4.5	1.4	5.9	51.7	53.5
2012-13	1.8	3.7	0.5	4.9	51.0	52.5
2013-14	1.1	3.2	-0.2	4.5	50.5	52.2
2014-15	0.9	2.9	-0.3	4.1	50.2	51.5
2015-16	0.7	2.5	-0.7	3.9	50.4	51.9
2016-17	0.4	2.1	-1.1	3.5	48.7	49.9
2017-18 (RE)	0.4	2.6	-0.5	3.5	49.1	50.1
2017-18 (PA)	0.4	2.6	-0.5	3.5	…	…
2018-19 (BE)	0.3	2.2	-0.9	3.3	47.8	48.7
States						
1990-91	1.7	0.9	-0.6	3.2	21.9	21.9
1995-96	0.7	0.7	-1.1	2.5	20.3	20.3
2000-01	1.7	2.5	0.2	4.0	27.3	27.3
2009-10	1.2	0.5	-1.3	2.9	25.5	25.5
2010-11	0.5	0.0	-1.6	2.1	23.5	23.5
2011-12	0.4	-0.3	-1.8	1.9	22.8	22.8
2012-13	0.5	-0.2	-1.7	2.0	22.2	22.2
2013-14	0.7	0.1	-1.4	2.2	22.0	22.0
2014-15	1.1	0.4	-1.2	2.6	21.7	21.7
2015-16	1.5	0.0	-1.5	3.1	23.4	23.4
2016-17	1.9	0.3	-1.4	3.5	23.8	23.8
2017-18 (RE)	1.3	0.4	-1.4	3.1	24.0	24.0
2018-19 (BE)	0.9	-0.2	-1.8	2.6	24.3	24.3
Combined						
1990-91	4.9	4.1	-0.2	9.1	62.9	68.9
1995-96	1.5	3.1	-1.7	6.3	59.4	67.3
2000-01	3.5	6.4	0.6	9.2	68.3	74.0
2009-10	4.5	5.7	0.9	9.3	68.8	70.6
2010-11	2.4	3.2	-1.3	6.9	64.0	65.6
2011-12	3.3	4.2	-0.3	7.8	65.6	67.4
2012-13	2.3	3.5	-1.1	6.9	65.1	66.7
2013-14	1.9	3.3	-1.5	6.7	65.4	67.1
2014-15	2.0	3.3	-1.4	6.7	65.3	66.7
2015-16	2.2	2.5	-2.2	6.9	67.5	69.0
2016-17	2.2	2.3	-2.4	7.0	67.0	68.1
2017-18 (RE)	1.7	3.0	-1.9	6.6	67.9	68.9
2018-19 (BE)	1.1	2.1	-2.7	5.9	67.5	68.3

… : Not Available. RE: Revised Estimates. PA: Provisional Accounts. BE: Budget Estimates.

@ : Includes external liabilities of the centre calculated at historical exchange rates.

$: Includes external liabilities of the centre calculated at current exchange rates.

Note: 1. Data on combined deficit/liabilities indicators are net of inter-governmental transactions between the Centre and the State governments *viz.,* (a) NSSF investment in State governments special securities (b) Loans and advance by the Centre to States and (c) State governments' investment in Centre's treasury bills.

2. Negative sign (-) indicates surplus in deficit indicators.

3. GDP data from 2011-12 onwards are based on new base 2011-12.

4. Columns 6 and 7 are outstanding figures as at end-March of respective years.

Source: Budget documents of the central and state governments.

APPENDIX TABLE 7: COMBINED RECEIPTS AND DISBURSEMENTS OF THE CENTRAL AND STATE GOVERNMENTS

(Amount in ₹ billion)

Item	2013-14	2014-15	2015-16	2016-17	2017-18 (RE)	2018-19 (BE)
1	2	3	4	5	6	7
1 Total Disbursements	**30,003.0**	**32,852.1**	**37,606.1**	**42,659.7**	**48,579.9**	**53,611.8**
1.1 Developmental	17,142.2	18,720.6	22,012.9	25,379.1	29,324.1	32,025.6
1.1.1 Revenue	13,944.3	14,830.2	16,682.5	18,784.2	22,525.7	24,390.9
1.1.2 Capital	2,785.1	3,322.6	4,120.7	5,012.1	5,857.8	6,745.8
1.1.3 Loans	412.9	567.8	1,209.7	1,582.8	940.6	889.0
1.2 Non-Developmental	12,427.8	13,667.7	15,108.1	16,726.5	18,542.5	20,762.8
1.2.1 Revenue	11,413.7	12,695.2	13,797.3	15,552.4	17,684.4	19,839.3
1.2.1.1 Interest Payments	5,342.3	5,845.4	6,480.9	7,244.5	8,166.4	8,851.5
1.2.2 Capital	990.4	946.9	1,273.1	1,157.7	844.4	909.1
1.2.3 Loans	23.8	25.6	37.8	16.3	13.8	14.4
1.3 Others	432.9	463.8	485.1	554.2	713.3	823.4
2 Total Receipts	**30,013.7**	**31,897.4**	**37,780.5**	**42,884.3**	**47,718.6**	**52,780.4**
2.1 Revenue Receipts	22,114.8	23,876.9	27,483.7	31,322.0	35,923.8	41,185.4
2.1.1 Tax Receipts	18,465.5	20,207.3	22,971.0	26,221.5	30,132.2	34,941.0
2.1.1.1 Taxes on commodities and services	11,257.8	12,123.5	14,409.5	16,523.8	18,296.6	22,138.8
2.1.1.2 Taxes on Income and Property	7,176.3	8,051.8	8,522.7	9,656.2	11,802.5	12,775.1
2.1.1.3 Taxes of Union Territories (Without Legislature)	31.3	32.0	38.8	41.5	33.2	27.1
2.1.2 Non-Tax Receipts	3,649.3	3,669.7	4,512.7	5,100.6	5,791.6	6,244.4
2.1.2.1 Interest Receipts	401.6	396.2	357.8	332.2	316.1	368.4
2.2 Non-debt Capital Receipts	391.1	609.5	598.3	690.6	1,651.8	1,428.4
2.2.1 Recovery of Loans & Advances	93.8	220.7	165.6	209.4	648.8	616.5
2.2.2 Disinvestment proceeds	297.3	388.8	432.7	481.2	1,003.0	811.9
3 Gross Fiscal Deficit [1 - (2.1 + 2.2)]	**7,497.1**	**8,365.6**	**9,524.1**	**10,647.0**	**11,004.3**	**10,998.0**
3A Sources of Financing: Institution-wise						
3A.1 Domestic Financing	7,424.2	8,236.3	9,396.6	10,467.1	10,980.1	11,023.9
3A.1.1 Net Bank Credit to Government	3,358.6	-374.8	2,310.9	6,171.2	1,447.9	…
3A.1.1.1 Net RBI Credit to Government	1,081.3	-3,341.9	604.7	1,958.2	-1,448.5	…
3A.1.2 Non-Bank Credit to Government	4,065.6	8,611.1	7,085.7	4,295.8	9,532.2	…
3A.2 External Financing	72.9	129.3	127.5	180.0	24.2	-25.9
3B Sources of Financing: Instrument-wise						
3B.1 Domestic Financing	7,424.2	8,236.3	9,396.6	10,467.1	10,980.1	11,023.9
3B.1.1 Market Borrowings (net)	6,392.0	6,640.6	6,733.0	6,898.2	7,952.0	8,398.4
3B.1.2 Small Savings (net)	-142.8	-565.8	-785.1	-1,050.4	-1,653.3	-1,434.6
3B.1.3 State Provident Funds (net)	312.9	343.4	352.6	456.9	406.1	474.2
3B.1.4 Reserve Funds	34.6	51.1	-33.2	-64.4	6.7	31.1
3B.1.5 Deposits and Advances	255.4	275.5	134.7	177.9	168.4	159.1
3B.1.6 Cash Balances	-10.7	954.7	-174.4	-224.6	861.3	831.5
3B.1.7 Others	582.8	536.8	3,169.1	4,273.4	3,238.8	2,564.2
3B.2 External Financing	72.9	129.3	127.5	180.0	24.2	-25.9
4 Total Disbursements as per cent of GDP	*26.7*	*26.3*	*27.3*	*28.0*	*29.0*	*28.6*
5 Total Receipts as per cent of GDP	*26.7*	*25.6*	*27.4*	*28.1*	*28.4*	*28.2*
6 Revenue Receipts as per cent of GDP	*19.7*	*19.2*	*20.0*	*20.5*	*21.4*	*22.0*
7 Tax Receipts as per cent of GDP	*16.4*	*16.2*	*16.7*	*17.2*	*18.0*	*18.7*
8 Gross Fiscal Deficit as per cent of GDP	*6.7*	*6.7*	*6.9*	*7.0*	*6.6*	*5.9*

…: Not available. RE: Revised Estimates. BE: Budget Estimates.

Note: GDP data 2011-12 onwards are based on 2011-12 base.

Source: Budget documents of the central and state governments.

APPENDIX TABLE 8: INDIA'S OVERALL BALANCE OF PAYMENTS

(US$ million)

	2013-14	2014-15	2015-16	2016-17 PR	2017-18 P
1	2	3	4	5	6
A. CURRENT ACCOUNT					
1 Exports, f.o.b.	318,607	316,545	266,365	280,138	308,970
2 Imports, c.i.f.	466,216	461,484	396,444	392,580	469,006
3 Trade Balance	-147,609	-144,940	-130,079	-112,442	-160,036
4 Invisibles, Net	115,313	118,081	107,928	98,026	111,319
a) 'Non-Factor' Services of which :	73,066	76,529	69,676	68,345	77,562
Software Services	67,002	70,400	71,454	70,763	72,186
b) Income	-23,028	-24,140	-24,375	-26,302	-28,681
c) Private Transfers	65,481	66,264	63,139	56,573	62,949
5 Current Account Balance	-32,296	-26,859	-22,151	-14,417	-48,717
B. CAPITAL ACCOUNT					
1 Foreign Investment, Net (a+b)	26,386	73,456	31,891	43,224	52,401
a) Direct Investment	21,564	31,251	36,021	35,612	30,286
b) Portfolio Investment	4,822	42,205	-4,130	7,612	22,115
2 External Assistance, Net	1,032	1,725	1,505	2,013	2,944
3 Commercial Borrowings, Net	11,777	1,570	-4,529	-6,102	-183
4 Short Term Credit, Net	-5,044	-111	-1,610	6,467	13,900
5 Banking Capital of which :	25,449	11,618	10,630	-16,616	16,190
NRI Deposits, Net	38,892	14,057	16,052	-12,367	9,676
6 Rupee Debt Service	-52	-81	-73	-99	-75
7 Other Capital, Net @	-10,761	1,109	3,315	7,559	6,213
8 Total Capital Account	48,787	89,286	41,128	36,447	91,390
C. Errors & Omissions	**-983**	**-1,021**	**-1,073**	**-480**	**902**
D. Overall Balance [A(5)+B(8)+C]	**15,508**	**61,406**	**17,905**	**21,550**	**43,574**
E. Monetary Movements (F+G)	**-15,508**	**-61,406**	**-17,905**	**-21,550**	**-43,574**
F. IMF, Net	**0**	**0**	**0**	**0**	**0**
G. Reserves and Monetary Gold (Increase -, Decrease +)	**-15,508**	**-61,406**	**-17,905**	**-21,550**	**-43,574**
of which : SDR allocation	**0**	**0**	**0**	**0**	**0**
Memo: As a ratio to GDP					
1 Trade Balance	-7.9	-7.1	-6.2	-4.9	-6.1
2 Net Services	3.9	3.8	3.3	3.0	3.0
3 Net Income	-1.2	-1.2	-1.2	-1.2	-1.1
4 Current Account Balance	-1.7	-1.3	-1.1	-0.6	-1.9
5 Capital Net (Excld. changes in reserves)	2.6	4.4	2.0	1.6	3.5
6 Foreign Investment, Net	1.4	3.6	1.5	1.9	2.0

PR: Partially Revised. P: Provisional. f.o.b.: free on board. c.i.f.: cost, insurance and freight.

@ : Includes delayed export receipts, advance payments against imports, net funds held abroad and advances received pending issue of shares under FDI.

Note: 1. Gold and silver brought by returning Indians have been included under imports, with a contra entry in private transfer receipts.

2. Data on exports and imports differ from those given by DGCI&S on account of differences in coverage, valuation and timing.

Source: RBI.

APPENDIX TABLE 9: FOREIGN DIRECT INVESTMENT FLOWS TO INDIA: COUNTRY-WISE AND INDUSTRY-WISE

(US$ million)

Source/ Industry	2013-14	2014-15	2015-16	2016-17	2017-18 P
1	2	3	4	5	6
Total FDI	**16,054**	**24,748**	**36,068**	**36,317**	**37,366**
Country-Wise Inflows					
Mauritius	3,695	5,878	7,452	13,383	13,415
Singapore	4,415	5,137	12,479	6,529	9,273
Netherlands	1,157	2,154	2,330	3,234	2,677
USA	617	1,981	4,124	2,138	1,973
Japan	1,795	2,019	1,818	4,237	1,313
Cayman Islands	25	72	440	49	1,140
Germany	650	942	927	845	1,095
Hong Kong	85	325	344	134	1,044
United Kingdom	111	1,891	842	1,301	716
Switzerland	356	292	195	502	506
UAE	239	327	961	645	408
France	229	347	392	487	403
China	121	505	461	198	350
Italy	185	167	279	364	308
South Korea	189	138	241	466	293
Cyprus	546	737	488	282	290
Canada	11	153	52	32	274
Others	1,626	1,682	2,243	1,490	1,889
Sector-wise Inflows					
Communication Services	1,256	1,075	2,638	5,876	8,809
Manufacturing	6,381	9,613	8,439	11,972	7,066
Retail & Wholesale Trade	1,139	2,551	3,998	2,771	4,478
Financial Services	1,026	3,075	3,547	3,732	4,070
Computer Services	934	2,154	4,319	1,937	3,173
Business services	521	680	3,031	2,684	3,005
Electricity and other energy Generation, Distribution & Transmission	1,284	1,284	1,364	1,722	1,870
Construction	1,276	1,640	4,141	1,564	1,281
Transport	311	482	1,363	891	1,267
Miscellaneous Services	941	586	1,022	1,816	835
Restaurants and Hotels	361	686	889	430	452
Real Estate Activities	201	202	112	105	405
Education, Research & Development	107	131	394	205	347
Mining	24	129	596	141	82
Trading	0	228	0	0	0
Others	293	232	215	470	226

P: Provisional.
Note: Includes FDI through SIA/FIPB and RBI routes only.
Source: RBI.

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