RESERVE BANK OF INDIA

ANNUAL REPORT

2016-17

Report of the Central Board of Directors on the working of the Reserve Bank of India for the year ended June 30, 2017 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 2016-17

भारतीय रिज़र्व बैंक

RESERVE BANK OF INDIA

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गवर्नर

Governor

LETTER OF TRANSMITTAL

Ref. No. SYD. 414 / 02.16.001 /2017-18

August 30, 2017
Bhadrapada 8, 1939 (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, 2017 certified by the Bank's Auditors and signed by the Deputy Governors, the Principal Chief General Manager 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, 2017.

Sincerely,

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

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

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

Natarajan Chandrasekaran

Bharat Narotam Doshi

Sudhir Mankad

Rajiv Kumar

Ashok Gulati

Manish Sabharwal

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

Anjuly Chib Duggal

Subhash Chandra Garg

MEMBERS OF LOCAL BOARDS

WESTERN AREA

Vallabh Roopchand Bhanshali

Dilip S. Shanghvi

EASTERN AREA

Sunil Mitra

NORTHERN AREA

SOUTHERN AREA

Prasanna Kumar Mohanty

(Position as on August 16, 2017)

PRINCIPAL OFFICERS

(As on August 11, 2017)

EXECUTIVE DIRECTORS	Deepak Kumar Mohanty
	Deepali Pant Joshi
	Michael D. Patra
	K.K. Vohra
	Meena Hemchandra
	Deepak Singhal
	Sudarshan Sen
	M. Rajeshwar Rao
	Surekha Marandi
	Malvika Sinha
	S. Ganesh Kumar
CENTRAL OFFICE	
Central Vigilance Cell	Lily Vadera, Chief General Manager
Consumer Education and Protection Department	Arun Pasricha, Chief General Manager
Corporate Strategy and Budget Department	Sadhana Verma, Chief General Manager
Department of Banking Regulation	S.S. Barik, Chief General Manager-in-Charge
Department of Banking Supervision	Parvathy V. Sundaram, Chief General Manager-in-Charge
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	Rohit Jain, Chief General Manager
Department of Corporate Services	Thomas Mathew, Chief General Manager
Department of Currency Management	P. Vijayakumar, Chief General Manager
Department of Economic and Policy Research	–
Department of External Investments and Operations	T.K. Rajan, General Manager-in-Charge
Department of Government and Bank Accounts	S. Ramaswamy, Principal Chief General Manager
Department of Information Technology	–
Department of Non-Banking Regulation	C.D. Srinivasan, Chief General Manager
Department of Non-Banking Supervision	Sathyan David, Chief General Manager
Department of Payment and Settlement Systems	Nanda Dave, Chief General Manager-in-Charge
Department of Statistics and Information Management	G. Chatterjee, Principal Adviser
Enforcement Department	Anil K. Sharma, Chief General Manager
Financial Inclusion and Development Department	Uma Shankar, Principal Chief General Manager
Financial Markets Operations Department	R.S. Ratho, Chief General Manager
Financial Markets Regulation Department	T. Rabi Sankar, Chief General Manager
Foreign Exchange Department	Shekhar Bhatnagar, 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	R. Sebastian, Chief General Manager
Internal Debt Management Department	Archana Mangalagiri, Chief General Manager
International Department	M.K. Saggar, Adviser
Legal Department	Mona Anand, Legal Adviser-in-Charge
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	A.K. Misra, 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	Rabi N. Mishra
OFFICES	**REGIONAL DIRECTORS**
Chennai	Arundhati Mech
Kolkata	S.C. Murmu
Mumbai	S. Rajagopal
New Delhi	K.K. Saraf
BRANCHES	
Ahmedabad	J.K. Dash
Bengaluru	E.E. Karthak
Bhopal	Ajay Michyari
Bhubaneswar	P.K. Das, General Manager (Officer-in-Charge)
Chandigarh	Nirmal Chand
Dehradun	Subrata Das, General Manager (Officer-in-Charge)
Guwahati	B.K. Mishra
Hyderabad	R. Subramanian
Jaipur	Arnab Roy
Jammu	N.K. Sahu
Kanpur	Vivek Deep
Lucknow	Ajay Kumar
Nagpur	J.M. Jivani
Patna	N.P. Topno
Raipur	Saraswati Shyamaprasad
Ranchi	Patric Barla
Shimla	Amar Nath
Thiruvananthapuram	S.M. Narasimha Swamy
	OFFICERS-IN-CHARGE
Agartala	Tamal Biswas, General Manager (O-i-C)
Aizawl	Deng Mary Lainlunkim, General Manager (O-i-C)
Belapur	S.N. Panda, Chief General Manager
Gangtok	Manabendra Misra, General Manager (O-i-C)
Imphal	Hauzel Thangzamuan, Chief General Manager
Kochi	M.K. Mall, Chief General Manager
Panaji	S.T. Kannan, General Manager (O-i-C)
Shillong	Anurag Asthana, General Manager (O-i-C)
Srinagar	Rakesh Raina, Assistant General Manager (O-i-C)

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LIST OF ABBREVIATIONS

AD - Authorised Dealer
ADF - Asset Development Fund
ADWDR - Agricultural Debt Waiver and Debt Relief
AEs - Advanced Economies
AIFIs - All India Financial Institutions
AMCs - Asset Management Companies
AMRMS - Audit Management and Risk Monitoring System
APMC - Agricultural Produce Market Committee
AQR - Asset Quality Review
ARCs - Asset Reconstruction Companies
ATMs - Automated Teller Machines
BC - Business Correspondent
BCM - Business Continuity Management
BE - Budget Estimates
BEST - Brihanmumbai Electric Supply and Transport Undertaking
BFS - Board for Financial Supervision
BIA - Basic Indicator Approach
BIS - Bank for International Settlements
BO - Banking Ombudsman
BoP - Balance of Payment
BPSS - Board for Payment and Settlement System
BRBNMPL - Bharatiya Reserve Bank Note Mudran Private Limited
BRICS - Brazil, Russia, India, China and South Africa
BSE - Bombay Stock Exchange
BSR - Basic Statistical Returns
CA - Current Account
CAB - College of Agricultural Banking
CAD - Current Account Deficit
CAFRAL - Centre for Advanced Financial Research and Learning
CASA - Current Account and Saving Account
CART - Classification and Regression Tree Approach
CBRMC - Central Bank Risk Managers' Conference
CBS - Core Banking Solution
CCB - Committee of the Central Board
CCC - Certified Credit Counsellors
CCIL - Clearing Corporation of India Limited
CCM - Committee on Currency Movement
CD - Certificate of Deposit
CDES - Currency Distribution and Exchange Scheme
CDSL - Central Depository Services Limited
CEPD - Consumer Education and Protection Department
CF - Contingency Fund
CFLs - Centres for Financial Literacy
CGRA - Currency and Gold Revaluation Account
CIC - Currency in Circulation
CMBs - Cash Management Bills
CPC - Central Pay Commission
CPI - Consumer Price Index
CPI-ALs - Consumer Price Index-Agricultural Labourers

LIST OF ABBREVIATIONS

CPI-IWs - Consumer Price Index-Industrial Workers

CPI-RLs - Consumer Price Index-Rural Labourers

CPMI-IOSCO - Committee on Payments and Market Infrastructures-International Organisation of Securities Commissions

CPs - Commercial Papers

CRAR - Capital to Risk-Weighted Assets Ratio

CRILCs - Central Repository of Information on Large Credits

CRR - Cash Reserve Ratio

CSBD - Corporate Strategy and Budget Department

CSF - Consolidated Sinking Fund

CSO - Central Statistics Office

DBR - Department of Banking Regulation

DBS - Department of Banking Supervision

DCBS - Department of Cooperative Bank Supervision

DCCBs - District Central Cooperative Banks

DCS - Department of Corporate Services

DDs - Demand Drafts

DEA - Depositors' Education and Awareness Fund

DEIO - Department of External Investments and Operations

DGBA - Department of Government and Bank Accounts

DICGC - Deposit Insurance and Credit Guarantee Corporation

DISCOMs - Electricity Distribution Companies

DNBS - Department of Non-Banking Supervision

DPSS - Department of Payment and Settlement Systems

DSGE - Dynamic Stochastic General Equilibrium

DSIM - Department of Statistics and Information Management

ECB - External Commercial Borrowings

EDMS - Electronic Document Management System

EFD - Enforcement Department

EMDEs - Emerging Markets and Developing Economies

EMEs - Emerging Market Economies

EMS - Enterprise Management System

ERM - Enterprise-Wide Risk Management

ETCD - Exchange Traded Currency Derivatives

EXIM Bank - Export Import Bank

FAQs - Frequently Asked Questions

FCA - Foreign Currency Assets

FCCB - Foreign Currency Convertible Bond

FCNR(B) - Foreign Currency Non-Resident (Bank) Account Deposits

FCVA - Foreign Exchange Forward Contracts Valuation Account

FDI - Foreign Direct Investment

FED - Foreign Exchange Department

FEMA - Foreign Exchange Management Act

FER - Foreign Exchange Reserves

FIAC - Financial Inclusion Advisory Committee

LIST OF ABBREVIATIONS

FIP - Financial Inclusion Plan

FMCG - Fast-moving Consumer Goods

FMOD - Financial Markets Operations Department

FMRD - Financial Markets Regulation Department

FOMC - Federal Open Market Committee

FPI - Foreign Portfolio Investment

FRBM - Fiscal Responsibility and Budget Management

FSAP - Financial Sector Assessment Programme

FSB - Financial Stability Board

FSDC - Financial Stability and Development Council

FSR - Financial Stability Report

FSU - Financial Stability Unit

FVCIs - Foreign Venture Capital Investors

FWG - Framework Working Group

G-20 - Group of Twenty

GDP - Gross Domestic Product

GFC - Global Financial Crisis

GFCF - Gross Fixed Capital Formation

GFD - Gross Fiscal Deficit

GMM - Generalised Method of Moments

GNDI - Gross National Disposable Income

GoI - Government of India

GRF - Guarantee Redemption Funds

GSDP - Gross State Domestic Product

G-secs - Government Securities

GST - Goods and Services Tax

GVA - Gross Value Added

HLCCSM - High Level Committee on Currency Storage and Movement

HRA - House Rent Allowance

HRMD - Human Resource Management Department

HTM - Held to Maturity

IAC - Internal Advisory Committee

IBA - Indian Banks' Association

IBBI - Insolvency and Bankruptcy Board of India

IBC - Insolvency and Bankruptcy Code

ICCR - Incremental Cash Reserve Ratio

IDPMS - Import Data Processing and Monitoring System

IDS - Income Declaration Scheme

IFA - International Financial Architecture

IFSC - International Financial Service Centre

IGBC - Indian Green Building Council

IGIDR - Indira Gandhi Institute of Development Research

IIP - Index of Industrial Production

IIP - International Investment Position

IMD - India Meteorological Department

IMF - International Monetary Fund

INR - Indian Rupee

IPDS - Integrated Power Development Scheme

IRA-FS - Investment Revaluation Account-Foreign Securities

IRA-RS - Investment Revaluation Account-Rupee Securities

LIST OF ABBREVIATIONS

IPOs - Initial Public Offerings

IT - Information Technology

ITES - Information Technology Enabled Services

KYC - Know Your Customer

LAF - Liquidity Adjustment Facility

LEI - Legal Entity Identifier

LPA - Long Period Average

LPG - Liquefied Petroleum Gas

M_3 - Money Supply

MA-SAAR - Moving Averages of Seasonally Adjusted Annualised Growth

MCLR - Marginal Cost of Funds Based Lending Rate

MGNREGA - Mahatma Gandhi National Rural Employment Guarantee Act

MoSPI - Ministry of Statistics and Programme Implementation

MPC - Monetary Policy Committee

MSEs - Micro and Small Enterprises

MSF - Marginal Standing Facility

MSMEs - Micro, Small and Medium Enterprises

MSPs - Minimum Support Prices

MSS - Market Stabilisation Scheme

NABARD - National Bank for Agriculture and Rural Development

NAMCABS - National Mission for Capacity Building of Bankers for financing the MSME sector

NBFCs - Non-Banking Financial Companies

NCDs - Non-Convertible Debentures

NDA - Net Domestic Assets

NDS-OM - Negotiated Dealing System-Order Matching

NDTL - Net Demand and Time Liabilities

NEFT - National Electronic Funds Transfer

NEM - North-East Monsoon

NFA - Net Foreign Assets

NHB - National Housing Bank

NIBM - National Institute of Bank Management

NIC - National Industrial Classification

NiC - Notes in Circulation

NIIP - Net International Investment Position

NPAs - Non-Performing Assets

NPS - National Pension System

NRE - Non-Resident (External) Rupee Accounts

NRO - Non-Resident Ordinary Accounts

NRLM - National Rural Livelihood Mission

NSE - National Stock Exchange

NSDL - National Securities Depository Limited

NSFI - National Strategy for Financial Inclusion

NSFR - Net Stable Funding Ratio

OFCBs - Overseas Foreign Currency Borrowings

OM - Original Maturity

OMO - Open Market Operations

OPEC - Organisation of Petroleum Exporting Countries

OROP - One Rank One Pension

LIST OF ABBREVIATIONS

OSMOS - Off-Site Monitoring and Surveillance System
OTC - Over the Counter
PAs - Provisional Accounts
PACS - Primary Agricultural Credit Societies
PADO - Public Administration, Defence and Other Services
PCA - Prompt Corrective Action
PCR - Public Credit Register
PDs - Primary Dealers
PFCVA - Provision for Forward Contracts Valuation Account
PLF - Plant Load Factor
PMGKDS - Pradhan Mantri Garib Kalyan Deposit Scheme
POs - Payment Orders
PPAs - Power Purchase Agreements
PPI - Producer Price Index
PPIs - Prepaid Payment Instruments
PSBs - Public Sector Banks
PSUs - Public Sector Undertakings
PSLCs - Priority Sector Lending Certificates
QIPs - Qualified Institutional Placements
RBI - Reserve Bank of India
RBIA - Risk Based Internal Audit
RBSC - Reserve Bank Staff College
RCS - Regional Connectivity Scheme
RD - Revenue Deficit
RDBs - Rupee Denominated Bonds
ReBIT - Reserve Bank Information Technology Private Limited
REER - Real Effective Exchange Rate
RERA - Real Estate (Regulation and Development) Act
RFCA - Revaluation of Forward Contracts Account
RM - Reserve Money
RMD - Risk Monitoring Department
RRBs - Regional Rural Banks
RTF - Risk Tolerance Framework
RTGS - Real Time Gross Settlement System
RTI - Right to Information Act
RTP - Reserve Tranche Position
S4A - Scheme for Sustainable Structuring of Stressed Assets
SAA - Swap Amortisation Account
SAARC - South Asian Association for Regional Cooperation
SARFAESI - Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest
SBNs - Specified Bank Notes
SCBs - Scheduled Commercial Banks
SDF - Special Drawing Facility
SDL - State Development Loans
SDR - Special Drawing Rights
SEBI - Securities and Exchange Board of India
SGBs - Sovereign Gold Bonds
SGL - Subsidiary General Ledger
SHGs - Self Help Groups

LIST OF ABBREVIATIONS

SLR	- Statutory Liquidity Ratio
SMS	- Short Message Service
SPARC	- Supervisory Programme for Assessment of Risk and Capital
SPMCIL	- Security Printing and Minting Corporation of India Limited
SPSEs	- State Public Sector Enterprises
SRU	- Strategic Research Unit
StCBs	- State Cooperative Banks
SWM	- South-West Monsoon
T-Bills	- Treasury Bills
UCBs	- Urban Cooperative Banks
UDAY	- Ujwal DISCOM Assurance Yojana
UMPP	- Ultra Mega Thermal Power Projects
UNCTAD	- United Nations Conference on Trade and Development
USSD	- Unstructured Supplementary Service Data
WACR	- Weighted Average Call Rate
WADR	- Weighted Average Discount Rate
WADTDR	- Weighted Average Domestic Term Deposit Rate
WAEIR	- Weighted Average Effective Interest Rate
WALR	- Weighted Average Lending Rate
WAY	- Weighted Average Yield
WDV	- Written Down Value
WMA	- Ways and Means Advances
WPI	- Whole Sale Price Index
XBRL	- eXtensible Business Reporting Language
y-o-y	- Year-on-Year

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

*For the Year July 1, 2016 to June 30, 2017**

PART ONE: THE ECONOMY - REVIEW AND PROSPECTS

I ASSESSMENT AND PROSPECTS

I.1 Headwinds from the global slowdown and the transient impact of demonetisation notwithstanding, the Indian economy demonstrated resilience in 2016-17, marked by moderate expansion and macroeconomic stability - low inflation, and improvement in current account and fiscal deficits. Financial markets priced in global and domestic shocks and volatility ebbed, with excess liquidity conditions induced by demonetisation persisting through the second half of the year. In this *milieu*, the outlook for growth in 2017-18 has brightened, with the likelihood of another favourable monsoon and the implementation of major policy reforms – led by the introduction of the Goods and Services Tax (GST) from July 1, 2017 - that would help to unlock bottlenecks to growth. The likely normal southwest monsoon for the second successive year is expected to boost rural demand besides keeping a check on food inflation. Urban consumption too is expected to remain buoyant, following the upward revision in the house rent allowance (HRA) to central government employees as also the likely implementation of the 7th Central Pay Commission (CPC) award at the state level. With further progress in implementing policy reforms that ease doing business, India may continue to be a preferred destination for foreign direct investment (FDI). Improvement in external vulnerability indicators and fiscal credibility should boost business and investment sentiment. The sluggish growth of industry and fixed capital formation, however, remain areas which warrant priority in policy attention. The progress in resolving the highly indebted corporates and improving the financial health of public sector banks (PSBs) is critical for restarting credit flows to the productive sectors, apart from reviving the investment climate, in general. The attainment of the inflation target under the new monetary policy framework should strengthen the transparency, credibility and effectiveness of monetary policy, which would anchor the progress of reforms going forward.

ASSESSMENT: 2016-17

I.2 In 2016-17, Gross Domestic Product (GDP) growth moderated due to slowdown in gross capital formation as waning business confidence and flagging entrepreneurial energies took their toll on the appetite for new investment. On the other hand, both government and private consumption accelerated and held up aggregate demand. While the turnaround in the growth of agriculture paved the way for a pick-up in rural demand, urban demand remained resilient due to

* 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 2017. 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.

hikes in salary, wages and pensions of the central government employees. There has also been an improvement in households' financial savings, post demonetisation.

I.3 On the production side, agriculture and allied activities rebounded sharply in 2016-17. Record foodgrains and horticulture production, facilitated by the normal monsoon as well as considerable hike in pulses' Minimum Support Prices (MSPs), augmented the sector's growth during the year. On the other hand, deceleration in services Gross Value Added (GVA) across all sub-sectors barring public administration, defence and other services (PADO), moderated the overall GVA growth. The slowdown was pronounced in H2 as construction and real estate sectors, which relied to a large extent on cash transactions, were severely impacted following demonetisation. The growth in industrial GVA also decelerated from a year ago, dragged down by a slowdown in manufacturing and mining, even though electricity generation accelerated. On the use-based front, consumer non-durables posted the highest growth across sectors while consumer durables decelerated significantly. Industrial output seemed to have been impacted, *albeit* transiently, by demonetisation as IIP growth during November 2016 to March 2017 was 2.6 percentage points lower than in the pre-demonetisation period (April – October 2016).

I.4 As the infrastructure sector is widely perceived to hold the key to revival of growth, top priority was accorded to addressing environmental clearances, land acquisition issues and other structural bottlenecks associated with project implementation, which led to a reduction in the number of stalled projects and cost overruns in central sector infrastructure projects during 2016-17. During the year, there was the highest ever awarding and construction of national highway projects. The resolution of stalled projects, development of roads under *Bharat Mala* project, steps taken to streamline land acquisition, *inter alia,* helped to speed up road construction. Capacity addition in major ports was also the highest ever in a single year with improvement in total turn-around time[1] and average output per ship berth day[2]. In respect of the power sector, the shortfall in meeting total energy requirements bottomed out during the year. In addition, India turned around from a net importer to a net exporter of electricity for the first time. Concomitant to the impetus for cleaner energy, the renewable energy sector surpassed thermal power in annual capacity addition, also for the first time. This apart, increased capacity addition in solar energy and enhanced private sector interest, coupled with the availability of cheaper voltaic cells, resulted in historically low solar tariffs in recent reverse auctions. Moreover, almost all state governments joined the *Ujwal DISCOM Assurance Yojana* (UDAY) scheme during the year, strengthening prospects for financial turnaround of distribution companies (DISCOMs) on a macro scale, going forward. Amidst these positive developments, capacity utilisation in thermal power plants continued to decline for the seventh year in succession, weighed down by the stressed health of power DISCOMs and lower energy

[1] Turn-Around Time – Total time spent by a ship since its entry till its departure. It was 3.43 days on an average in 2016-17 as against 3.64 days during the previous year.

[2] Output per ship berth day – Total tonnage handled/distributed over total number of berth days. It was 14,576 tonnes in 2016-17 as against 13,748 tonnes during the previous year.

demand. Similarly, the pace of capital investment in railways slackened even as electrification of railway lines and commissioning of broad gauge lines moderated.

I.5 Inflation picked up during the first four months of 2016-17 driven by an upsurge in food prices, outweighing favourable base effects. With the monsoon gaining momentum, however, inflation reversed into a declining trajectory beginning August 2016, which got accentuated by falling food prices, especially those of vegetables, in the wake of demonetisation in November 2016. Rapid disinflation in the food group drove down headline inflation month after month - barring February and March - to a low of 1.5 per cent in June 2017. Eventually, the year 2016-17 ended up with a subdued inflation of 3.6 per cent in Q4, undershooting the Bank's projection of 5.0 per cent.

I.6 The asset quality of the banking sector continued to be a concern during 2016-17. In the aftermath of the asset quality review (AQR) undertaken by the Reserve Bank beginning July 2015 and concomitantly with better recognition of non-performing assets (NPAs), the asset quality of banks, particularly the PSBs, deteriorated sharply. As of end-March 2017, 12.1 per cent of the advances of the banking system were stressed (sum of gross NPAs and restructured standard advances). A sharp increase in provisioning for NPAs adversely impacted the profitability of banks, with the PSBs as a whole continuing to incur net losses during 2016-17. The capital position of many banks also witnessed erosion even though the capital to risk-weighted assets ratio (CRAR) for the banking system as a whole marginally increased and continued to be above the regulatory minimum under the Basel III framework. The large amount of bad loans circumscribed the ability of banks to lend, as reflected in the declining credit growth in recent years. Large NPAs also led to risk aversion on the part of banks as apprehensions of loans turning into NPAs intensified. Furthermore, banks engaged in diversifying their credit portfolios, reducing their exposure from large industries and shifting towards the relatively less stressed categories of housing, personal loans and services.

I.7 As the banking sector struggled with the sizeable volume of NPAs, the Reserve Bank continued its efforts to fortify the regulatory framework through significant policy interventions for improving the banking system's ability to deal with distress. Pursuant to the promulgation of the Banking Regulation (Amendment) Ordinance, 2017, the Reserve Bank constituted an Internal Advisory Committee (IAC) to recommend cases that might be considered for reference under the Insolvency and Bankruptcy Code (IBC), 2016. On the recommendation of the IAC, the Reserve Bank directed banks to file proceedings under the IBC in respect of 12 accounts comprising about 25 per cent of the current gross NPAs of the banking system. The Reserve Bank also brought the Overseeing Committee under its aegis and strengthened it by adding three more members and by expanding its mandate to review the resolution of cases other than those under the Scheme for Sustainable Structuring of Stressed Assets (S4A scheme). Final guidelines on large exposures framework and enhancing credit supply for large borrowers through market mechanism were also issued in order to align the exposure norms for Indian banks with the Basel Committee on Banking Supervision (BCBS) standards and to further diversify the lending base of banks.

I.8 Apart from slowdown in credit, one-off factors like demonetisation and the redemption of

Foreign Currency Non-Resident (Bank) (FCNR(B)) deposits impacted the behaviour of monetary aggregates during the year. Predominantly driven down by the compression in currency in circulation, reserve money contracted during the year while the growth of money supply moderated, despite the surge in deposits. Besides demonetisation, intra-year spikes in deposits growth were caused by mobilisation under the Income Declaration Scheme (IDS) and arrears of the 7th CPC to central government employees. The surge in deposits led to excess liquidity in the banking system which was absorbed through an array of liquidity management measures, *viz.,* reverse repo under the Liquidity Adjustment Facility (LAF), incremental Cash Reserve Ratio (CRR), and issuance of Cash Management Bills (CMBs) under the Market Stabilisation Scheme (MSS). Credit growth touched a low in more than two decades on account of factors such as subdued state of economic activity, risk aversion of the banking sector, capital adequacy requirements, loan write-offs, substitution of bank credit by UDAY bonds, loan repayment by use of specified bank notes (SBNs) and banks' pre-occupation with exchange of notes and deposits following demonetisation. As the pace of remonetisation gathered momentum, monetary aggregates started recovering with currency in circulation as of end-June 2017 reaching around 85 per cent of its pre-demonetisation peak.

I.9 The institutional architecture for the conduct of monetary policy underwent a fundamental shift, with the formal transition to a flexible inflation targeting framework and the constitution of a six member monetary policy committee (MPC) for setting the policy rate. These reforms marked the culmination of efforts made since early 2014 to strengthen the transparency, credibility and independence of monetary policy formulation. The conduct of monetary policy during 2016-17 was guided by an inflation objective of 5.0 per cent for Q4 of 2016-17. With inflation, then expected to be below its objective for Q4: 2016-17, the MPC in its resolution of February 8, 2017 emphasised its commitment to the medium-term inflation target of 4 per cent within a band of +/- 2 per cent while supporting growth. Keeping this in view, the stance of monetary policy was changed from accommodative to neutral in February 2017. The inflation objective for Q4: 2016-17 was met with a considerable undershoot on the back of strong disinflation in food items, driven partly by demonetisation.

I.10 Post demonetisation, the pace of monetary transmission from the policy repo rate to banks' lending rates accelerated significantly, aided by the increase in the share of low cost current account and saving account (CASA) deposits in bank funding. However, the transmission to actual lending rates was uneven across sectors, reflecting sector-specific credit risk dynamics. Asset quality concerns also appeared to have constrained the banks from passing on the full benefits of rate cuts. Also, the transmission of past cumulative cuts in the repo rate to lending rates has not propelled a revival in credit growth as banks, especially PSBs, appeared to have turned risk-averse and strapped by large provisioning requirements, as mentioned earlier. As such, private investment activity remained depressed. The recent experience suggests that monetary easing alone may not help in reviving the investment sentiment unless structural factors affecting it are addressed.

I.11 Notwithstanding a deferment of the target of 3.0 per cent gross fiscal deficit to gross domestic product (GFD/GDP) ratio to 2018-19 as announced in the Union Budget 2017-18, adherence of the

central government to the fiscal consolidation path in 2016-17 enhanced fiscal credibility, thereby anchoring inflation expectations in the economy. Fiscal consolidation was achieved during 2016-17 through a strategy of revenue augmentation rather than expenditure compression, exemplifying improvement in the quality of public finances. Tax revenues were shored up by collections under the IDS, upward revision or imposition of cess, additional excise duty and pruning of the negative list for services tax. Capital expenditure exceeded the budget estimates even as revenue expenditure was broadly contained within the budgeted level. Consequently, the gross fiscal deficit remained at the budgeted level of 3.5 per cent. In contrast, state finances deteriorated on account of UDAY scheme and revenue shortfalls despite cutbacks in capital outlays.

I.12 During 2016-17, the benchmark Indian equity indices, *viz.*, BSE Sensex and Nifty 50 increased by 16.9 per cent and 18.5 per cent, respectively, as against some contraction in the previous year. The stock market gained on account of optimism over the Union Budget proposals, passage of the GST Bill, favourable monsoon, expectations of steady progress of economic reforms, better macroeconomic data, higher than expected Q3 earnings of companies and huge buying by institutional investors amid positive cues from global equity markets. The Indian equity market had eased temporarily in Q3 owing to several factors such as the US Presidential election outcome, increasing expectations of interest rate hike by the US Fed, withdrawal of legal tender status of SBNs, and foreign portfolio investment (FPI) selling, but recovered in the next quarter.

I.13 India's external sector strengthened during 2016-17 as reflected in a lower current account deficit (CAD), robust FDI inflows, build-up of forex reserves and improvement in other external vulnerability indicators. The trade deficit narrowed with stronger exports and subdued imports and offset the impact of lower net receipts from services exports and remittances, and higher outgo of investment income payments. Net capital flows were in excess of CAD, resulting in an increase in foreign exchange reserves during the year. Following the redemption of FCNR(B) deposits by banks without much disruption in the foreign exchange market, India's external debt turned much lower than its level a year ago. The reduction in the CAD and external debt, and build-up of foreign exchange buffers, fortified the resilience of the external sector in 2016-17.

PROSPECTS: 2017-18

I.14 Global growth is gaining traction in 2017-18 with the recovery, driven primarily by a cyclical upturn in investment, manufacturing and trade. Tailwinds are also expected from the improving performance of emerging markets and developing economies (EMDEs). However, the path and pace of global growth will likely be shaped by structural factors, *viz.*, the inward-looking protectionist policies in advanced economies, low productivity growth and high income inequality impinging on the cyclical upturn. Amid elevated asset prices, financial markets remain vulnerable to systemic factors, including geo-political risks and the pace of normalisation of monetary policy and balance sheets by major central banks. Consequently, external risks to the domestic economy remain.

I.15 Against the backdrop of these external developments, strengthening external demand will likely play a role in supporting the domestic economy. Favourable domestic conditions are

mainly expected to enable a quicker pace of overall economic activity during the year. While growth is again expected to be consumption-led, continuing remonetisation should enable a pick-up in discretionary consumer spending, especially in cash-intensive segments of the economy. Government spending continues to be robust, cushioning the impact of a slowdown in other constituents. Furthermore, reductions in bank lending rates post-demonetisation should support investment demand of stress-free corporates. On the downside, global political risks remain elevated. Second, rising input costs may prove a drag on the profitability of firms, pulling down the overall GVA growth. Third, the twin balance sheet problem - over-leveraged corporate sector and stressed banking sector - may delay the revival in private investment demand.

I.16 The expected normal monsoon and the resultant replenishment of reservoirs, policy initiatives of the government such as hike in MSPs and increasing crop insurance coverage are likely to help in boosting crop production and supporting rural demand. The implementation of HRA as per the recommendation of the 7th CPC for central government employees from July 2017 and the possibility of its implementation at the state level should strengthen urban consumption demand. An offsetting impact on aggregate demand could, however, emerge if state governments restrain or scale down capital spending, keeping in view the objective of fiscal consolidation.

I.17 Early indicators for 2017-18 based on IIP and the performance of eight core industries point to subdued industrial activity. The prospects for the manufacturing sector remain uncertain in the short term in view of the implementation of GST. The services sector is, however, expected to perform better during the year. The majority of the high frequency services sector indicators, shows signs of improvement thus far, though some sectors such as commercial vehicles have been adversely affected by external factors like emission norms. Construction and real estate seem to be on the path of recovery as reflected in rebounding of new residential project launches to pre-demonetisation levels. Furthermore, government initiatives such as infrastructure status for affordable housing, improved customer protection and transparency through the real estate regulatory agencies, modified policy norms on real estate investment trusts to address funding issues, and the provision for 75 per cent upfront payment of the arbitral amount by Public Sector Undertakings (PSUs) to builders and contractors, should provide a boost to the housing sector. On the whole, real GVA growth is projected to rise from 6.6 per cent in 2016-17 to 7.3 per cent in 2017-18, with risks evenly balanced.

I.18 Headline inflation remained around 2.2 per cent in the first quarter of 2017-18. In June 2017, inflation declined to a historic low of 1.5 per cent, primarily driven by disinflation in food and large favourable base effects. Excluding food and fuel, inflation eased on account of subdued price pressures in services, particularly transport and communication, reflecting fall in global crude oil prices. With the likely progress of the south-west monsoon, food prices are likely to remain moderate over the ensuing months, consequent upon the dissipation of seasonal price pressures of select vegetables such as tomatoes. Furthermore, in view of the bumper production and record procurement of pulses during 2016-17, inflation in pulses – a major driver of food inflation during 2015-16 and early 2016-17 – is expected to remain muted. Notwithstanding these developments, some uptick in overall food inflation could be

expected as unfavourable base effects set in from August 2017. In contrast, the implementation of the GST is not expected to have a material impact on headline inflation in the near term. However, the announcements of farm loan waivers and the implementation of the 7th CPC with the likelihood of adoption at the state level have implications in terms of fiscal slippages with upside pressures to the future trajectory of headline inflation. On the whole, headline inflation is forecast in the range of 2.0-3.5 per cent in the first half of 2017-18 and 3.5-4.5 per cent in the second half.

I.19 The continuing increase in currency in circulation on the back of remonetisation is likely to reduce the magnitude of the liquidity overhang during the course of the year. In this scenario, the Reserve Bank will continue to manage liquidity to ensure that the operating target – weighted average call money rate (WACR) – remains aligned to the policy repo rate. Continuing government initiative towards a full implementation of the formula for adjustment in the interest rates on small savings schemes to changes in yields on government securities of corresponding maturities will further strengthen the transmission of policy rates to bank lending rates, which will help increase credit demand.

I.20 Notwithstanding the rapid remonetisation process, currency demand appears to have attained a new normal (currently around 87 per cent of the pre-demonetisation peak) in view of the sharp increase in electronic modes of payments since demonetisation. Indeed, year-on-year growth rates of the total volume of retail electronic payments, that had averaged around 37 per cent during April to October 2016, shot up to nearly 70 per cent in November and then further to as much as 123 per cent in December 2016; in subsequent months, the growth rates have moderated but remain high. There appears to be a structural break in the volume and value of retail electronic payments, coinciding with the onset of demonetisation and the special measures put in place to promote digital payments. Going forward, the Reserve Bank would continue its efforts towards migrating to a less-cash economy while ensuring safety and enhancing the efficiency of the payments system.

I.21 In the fiscal sphere, while the gains to growth, efficiency and tax buoyancy over the medium term from the recent implementation of GST are unequivocally recognised, near-term uncertainties with regard to revenue mobilisation therefrom – which could impact fiscal consolidation at both centre and state levels – cannot be ruled out as this fundamental reform gains pan-India traction. Additionally, state government finances are likely to face several challenges during 2017-18. First, the announcement of farm loan waivers by four state governments (so far in 2017-18) and the potential announcement by several others pose a major fiscal risk over the medium term. Besides impacting credit discipline, vitiating credit culture and dis-incentivising borrowers from repayment, they may have a destabilising impact on yields of state development loans (SDL), thereby posing a higher interest burden for the states in future. Concomitantly, ratchet effects can firm up the general level of interest rates and crowd out private borrowers. Second, the committed liabilities of states may increase in case they decide to implement the recommendations of their own pay commissions in 2017-18. Third, the existing high level of state government guarantees constitutes a major fiscal risk. Fourth, the interest liabilities of states that have participated in financial restructuring of DISCOMs (through UDAY) would increase in the years ahead. Fifth, many states

(particularly the fiscally prudent ones), which were earlier refraining from seeking additional funds through market borrowing, may now borrow as per the flexibility provided by the Fourteenth Finance Commission.

I.22 Thus, even as the central government makes significant efforts toward fiscal consolidation, the higher debt burden of the states could push up general government debt. Keeping in view the recommendation of the FRBM Review Committee (Chairman: Shri N. K. Singh) that a sustainable debt path – consisting of a debt-GDP ratio of 40 per cent for the central government and 20 per cent for state governments by 2022-23 – must be the principal macro-economic anchor of fiscal policy, the states too will need to tread the fiscal path with caution to reach this benchmark.

I.23 In the external sector, a slump in export growth and an increase in imports widened the trade deficit to US$ 40 billion in Q1 of 2017-18, the highest since Q2 of 2013-14. The evolution of terms of trade is likely to be largely shaped by the outlook for oil production in the US and compliance with the extended production cuts announced by the Organisation of the Petroleum Exporting Countries (OPEC). Even though the outlook among major trade partner economies entails a modest expansion, increasing recourse to protectionist measures in advanced economies could impose a challenging business environment for exports. The global economic environment is prone to other downside risks such as high policy uncertainty in advanced economies and the possibility of financial market disruptions due to faster normalisation of monetary policy by advanced economies. Nevertheless, the CAD is expected to be comfortably financed by stable capital inflows as FDI may remain strong with further progress in the ease of doing business and simplification of procedures in recent years. Foreign portfolio flows, on the other hand, remain vulnerable to bouts of global risk aversion. However, an optimistic growth outlook, pro-reform measures and augmented level of reserves are expected to mitigate the negative spillovers of global market disruptions.

I.24 In the banking arena, the actions of the central government authorising the Reserve Bank to direct banking companies to resolve specific stressed assets by initiating insolvency resolution process are expected to significantly improve the resolution of stressed assets, particularly in consortium or multiple banking arrangements. The corporate insolvency resolution process, liquidation and cross-border insolvency under the IBC, 2016 and the establishment of the Insolvency and Bankruptcy Board of India (IBBI) will help in reorganisation and resolution of corporates and individuals in a time-bound manner. The proposal of the Union Budget 2017-18 to introduce a bill relating to resolution of financial firms is expected to improve the resilience and stability of the financial system through speedy and efficient resolution of financial firms in distress, and also help address the moral hazard problem associated with explicit and implicit government guarantees.

I.25 The prescription of stringent penalties by the Reserve Bank for breaching the risk thresholds under the revised Prompt Corrective Action (PCA) framework - restrictions on dividend payments, remittance of profits and branch expansion; higher provisions; and restriction on management compensation are expected to help restore the health of banks currently under PCA. The Reserve Bank's instructions to banks to put in place a Board-approved policy for making provisions for standard assets at rates higher than the regulatory minimum, based on evaluation of

risk and stress in various sectors, will help control build-up of fresh stressed assets in a pre-emptive manner. The fine-tuning of macro-prudential measures in the form of reduction in risk weights and provisioning on standard assets on certain categories of individual housing loans will provide a boost to the flow of credit to the housing sector.

I.26 In pursuance of the regulatory stance in 2016-17, the Reserve Bank will continue to monitor and respond to banks' asset quality issues in 2017-18 as well. Implementation of Indian Accounting Standard (Ind-AS) and the Basel III framework will remain the areas of focus during 2017-18. The revised framework for securitisation, the minimum capital requirement for market risk, guidelines on net stable funding ratio (NSFR) and the guidelines on corporate governance as per Basel standards will be considered during the course of the year. The revised regulatory framework for the All India Financial Institutions (AIFIs), including extension of various elements of Basel III standards relevant to these institutions, will also be taken up. The banking sector has undergone significant transformation by digital innovations in the past few years and the Reserve Bank will work on framing an appropriate response to the regulatory challenges posed by developments in FinTech. Taking note of changes in the global and financial sector environment, the Reserve Bank formalised a framework for taking enforcement action against banks for non-compliance with guidelines and instructions issued by it. Accordingly, a separate Enforcement Department has been created within the Reserve Bank in April 2017.

I.27 Going forward, an important initiative under active consideration of the Reserve Bank is the setting up of a transparent and comprehensive public credit register (PCR) – an extensive database of credit information for India that is accessible to all stakeholders – that would help in enhancing efficiency of the credit market, increase financial inclusion, improve ease of doing business, and help control delinquencies, as corroborated by international evidence. To begin with, by incorporating unique identifiers for the borrowers (*Aadhaar* for individuals and Corporate Identification Number (CIN No.) for companies), the Reserve Bank's Basic Statistical Returns (BSR1) data set could be quickly transformed into a PCR covering customers of scheduled commercial banks, which could then be expanded to cover other financial institutions in India. In this regard, a High-level Task Force comprising experts as well as major stakeholders is being constituted to, *inter alia*, review the current availability of information on credit in India and suggest a roadmap, including priority areas, for developing a transparent, comprehensive and near-real-time PCR for India.

I.28 Infrastructural development of the economy would continue to play a critical role in shaping growth prospects, particularly over the medium to long run. Several initiatives – increased public infrastructure investment; innovative ways of infrastructure financing; the fast-track awarding and construction of national highway projects; effective streamlining of land acquisition issues; Regional Connectivity Scheme (RCS) to connect the unserved and under-served airports; the proposal to achieve 100 per cent rural electrification by May 2018; providing infrastructure status to affordable housing; and a new Metro Rail Policy and Metro Rail Act – are in the pipeline which would provide an enabling environment for growth path in the years to come. The recent policy measures for easing of norms for state PSUs to directly borrow from bilateral agencies, launching of Infrastructure Investment

Trust and full-fledged rolling out of National Investment and Infrastructure Fund are also expected to address the infrastructure financing constraints significantly. In the power sector, higher capacity addition in renewables may pose multiple challenges with regard to the integration of renewables into the electricity grid and the possible dampening effect on already worsened thermal Plant Load Factor (PLF). However, the new coal linkage policy and the impetus for more nuclear power plants would engender a positive outlook for the sector.

I.29 Finally, in the area of employment generation, spending on priority sectors (roads, railways, health and housing), MGNREGA (*i.e.*, Mahatma Gandhi National Rural Employment Guarantee Act) and the *Pradhan Mantri MUDRA Loan Scheme* are going to be the most important factors. As labour regulations get further simplified, more jobs are expected to be included and created in the formal sector. On labour reforms, the codification of labour laws into four codes, *viz.*, wages, industrial relations, social security and welfare, and safety and working conditions, will help avoid multiplicity of labour laws. At the same time, the job loss threat, particularly in Information Technology and Information Technology Enabled Services (IT and ITES) sector emanating from the emerging global protectionism cannot be overlooked.

II ECONOMIC REVIEW

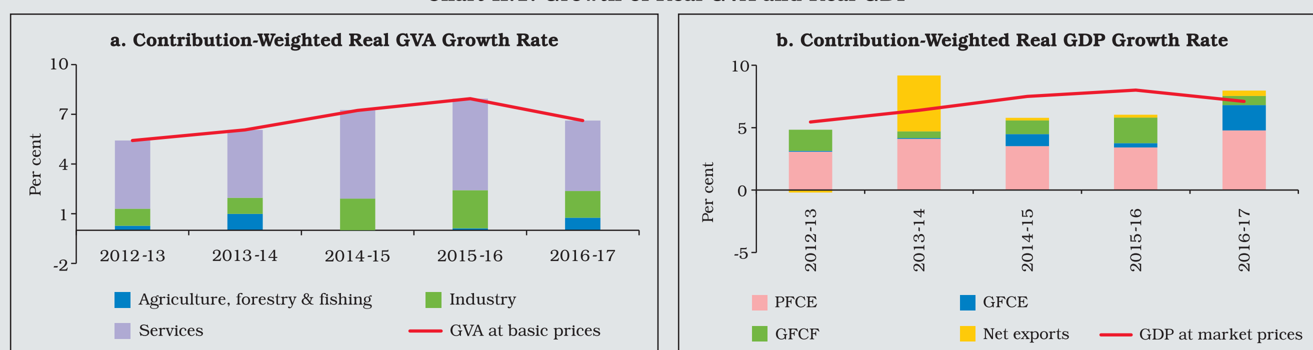
In the midst of global slowdown accentuated by the vicissitudes of financial markets and the transient impact of demonetisation, the Indian economy turned out resilient, marked by both internal and external stability. While economic growth moderated in 2016-17, there were visible signs of improvement in macroeconomic fundamentals – low inflation, and modest current account deficit and fiscal deficit. Going forward, even as the recent launch of the Goods and Services Tax (GST) gains traction across the country, strengthening fiscal consolidation, particularly at the sub-national level; reviving bank credit, and bringing investment back on rails, remain a challenge.

II.1 The Real Economy

II.1.1 Against the backdrop of activity and trade slowing across advanced and emerging economies, firming commodity prices and bouts of volatility interrupting generally rallying financial markets, the Indian economy posted a resilient performance in 2016-17, underpinned by macroeconomic stability. The provisional estimates of national accounts released by the Central Statistics Office (CSO) in May 2017 reveal that real Gross Value Added (GVA) growth moderated in 2016-17 from a year ago, mainly located in the services sector (Chart II.1a). Public administration, defence and other services (PADO) cushioned the slowdown, adding 2.2 percentage points to the growth of real GVA in the services sector and 1.4 percentage points to the growth of overall GVA of 6.6 per cent. GVA in mining and quarrying activities also decelerated sharply. However, mining output expanded as the narrative on aggregate supply in this section will show.

II.1.2 In contrast, agriculture and allied activities shrugged off the fetters of two consecutive monsoon failures and rebounded on the back of all-time highs in the production of foodgrains, fruits and vegetables. A key driver turned out to be pulses, profiled in Box II.2. Manufacturing slowed in relation to the preceding year but held up above trend. It was sustained by healthy revenues of manufacturing corporations, alongside an improvement in the output of the unorganised sector. Electricity generation and the supply of other utilities were boosted by the inclusion of renewable sources of energy in the new index

Chart II.1: Growth of Real GVA and Real GDP



PFCE: Private final consumption expenditure; GFCE: Government final consumption expenditure; GFCF: Gross fixed capital formation.
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.

of industrial production (IIP) as discussed in para II.1.16.

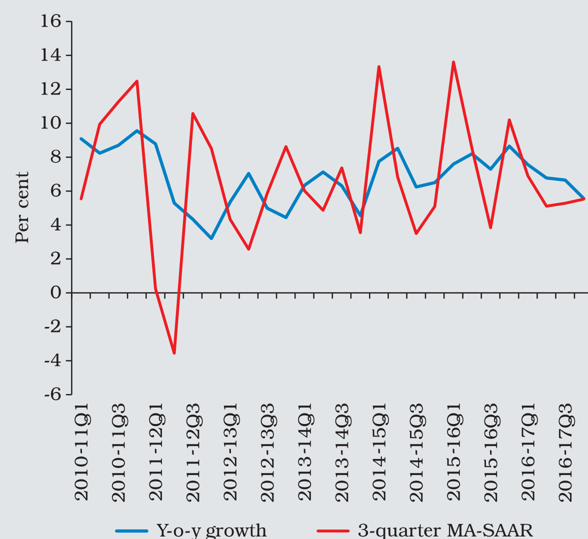
II.1.3 Aggregate demand, which is featured in the immediately following sub-section, suffered from a sharp slowdown in gross capital formation as entrepreneurial energies flagged and a sluggish appetite for new investment took its toll on business confidence. As a consequence, gross fixed capital formation (GFCF) contributed barely 0.7 percentage point to the real GDP growth of 7.1 per cent in 2016-17 despite accounting for around one-third of real GDP (Chart II.1b). Net exports contributed 0.4 percentage point, helped by a turnaround in merchandise export performance after contraction in the previous year. The rest of the real GDP growth was consumption-driven - both private and public. In fact, absent the implementation of the 7th Central Pay Commission and one-rank-one-pension (OROP) for defence services embedded in government consumption, real GDP growth would have been lower by 2 percentage points. Private consumption spending alone contributed two-thirds of the growth of aggregate demand. In this context, Box II.1 addresses issues around the sustainability of consumption-led growth and its unintended consequences.

Aggregate Demand

II.1.4 The slackening of aggregate demand set in from the first quarter of the year. This is confirmed by the loss of momentum showing up in three-quarter moving averages of seasonally adjusted annualised growth rates (MA-SAARs) (Chart II.2).

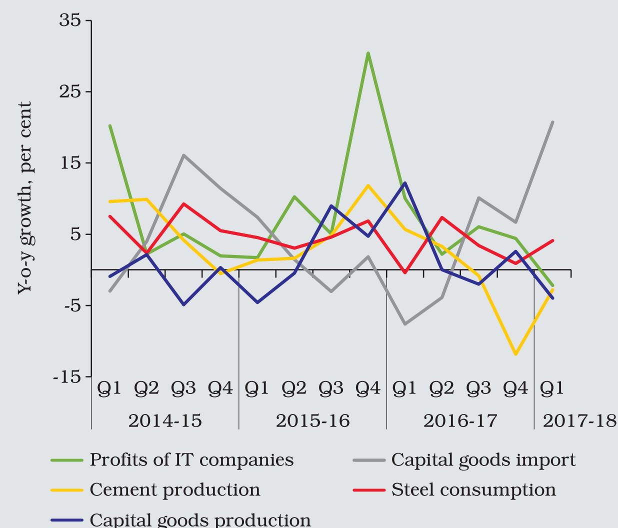
II.1.5 Underlying the loss of momentum, GFCF began to lose height from Q2 and sank into contraction in Q4 of 2016-17. This was mirrored in proximate coincident indicators – steel consumption and cement production (Chart II.3). This development is worrisome in view of the secular-like retreat of the rate of gross domestic investment in the 2011-12 based GDP series [incorporating the new indices of industrial production (IIP) and wholesale prices (WPI)] to 29.5 per cent of GDP in 2016-17.

Chart II.2: GVA Growth: Y-o-Y and 3-Quarter MA-SAAR



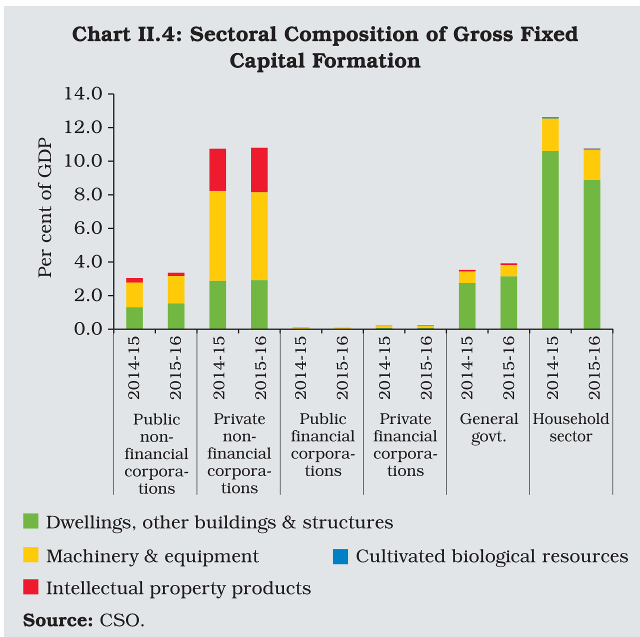
Source: CSO and RBI staff estimates.

Chart II.3: Indicators of Investment Demand



Source: DGCIS, Ministry of Commerce, CSO, Ministry of Steel and RBI staff estimates.

Chart II.4: Sectoral Composition of Gross Fixed Capital Formation

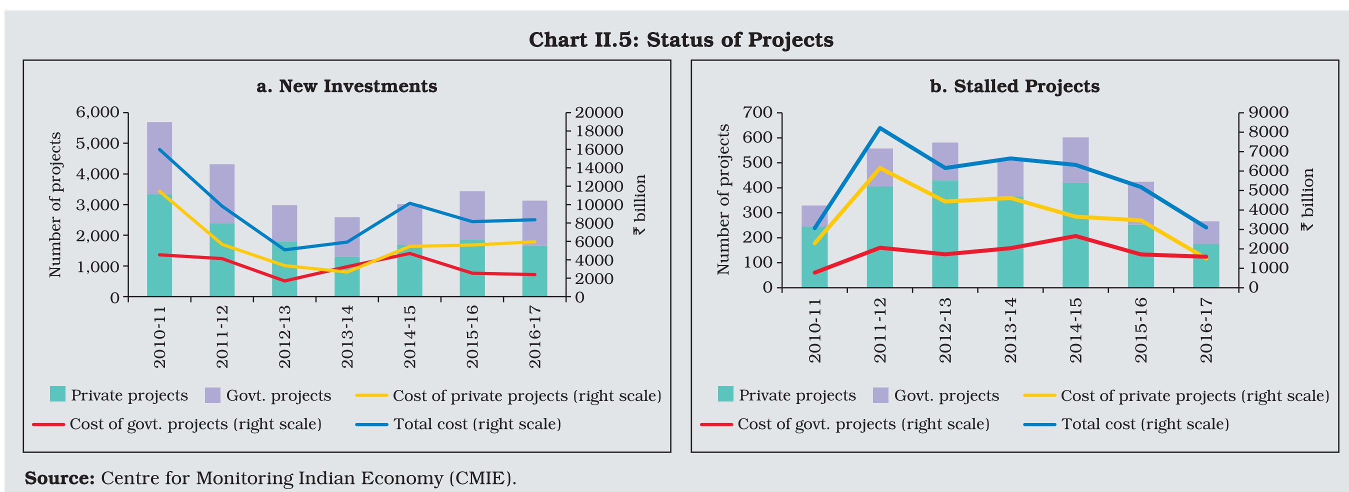


Source: CSO.

II.1.6 While the falling away of fixed investment mainly occurred in household dwellings, other buildings and structures (Chart II.4), the investment climate remained sombre. Fixed investment by other agents – government and private non-financial corporations – increased, but marginally, to provide an offset. The Reserve Bank's survey of order books, inventories and capacity utilisation indicated persisting slack in capacity utilisation (seasonally adjusted) in manufacturing in 2016-17. The capacity utilisation was observed to co-move closely with the de-trended industrial production. New investment intentions contracted in 2016-17 with respect to both government and private sectors, with the cost of private projects remaining elevated (Chart II.5a). Plant load factors in thermal power plants underwent a sustained decline, largely reflecting weakness in demand from financially stressed distribution companies.

II.1.7 The resilience of some infrastructure sectors in the face of this downturn is noteworthy and brightens the outlook. First, there was a decline in cost and time overruns in central sector infrastructure projects (₹1.5 billion and above). Second, awarding and construction of highway projects in the road sector reached an all-time high even as daily additions to the roads constructed touched a peak of 22.6 km during 2016-17 from 16.6 km last year. Third, stalled projects declined by 40 per cent in terms of value and 37 per cent in terms of number (Chart II.5b). Fourth, capacity addition in major ports was the highest ever in a single year and 12 major ports recorded higher growth in cargo traffic as well as efficiency gains measured in turnaround time (3.43 days in 2016-17 as against 3.64 days in the previous year), and average output per ship berth day (14,576 tonnes in 2016-17 as against 13,748 tonnes in the previous year).

Chart II.5: Status of Projects



Source: Centre for Monitoring Indian Economy (CMIE).

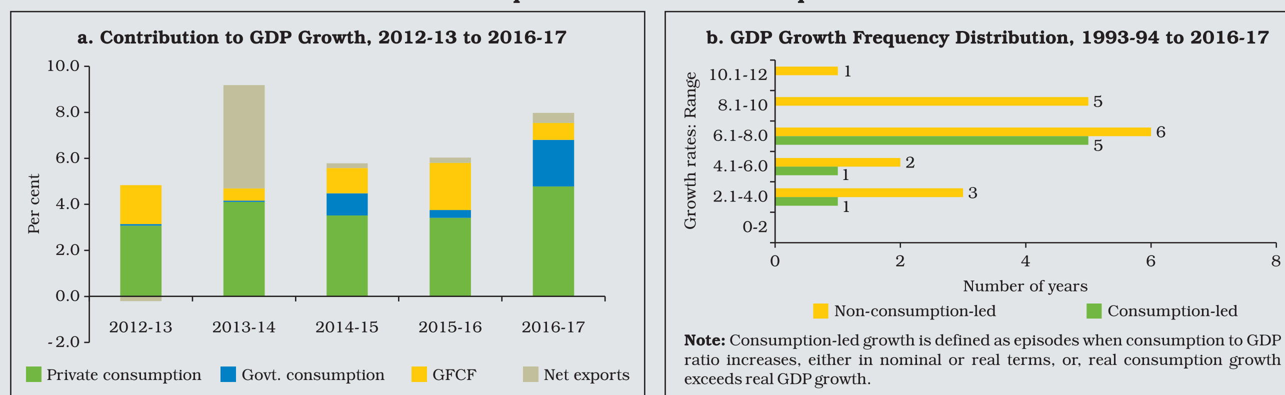
II.1.8 In the power sector, 27 states/UTs joined the *Ujwal DISCOM Assurance Yojana* (UDAY) to deleverage and revive distribution companies, and issued bonds worth ₹2.32 trillion (86.3 per cent of the target of ₹2.69 trillion). In the civil aviation sector, a Regional Connectivity Scheme (RCS) was launched in October 2016. In the automobile sector, the government provided incentives for demand and manufacture of electric/hybrid vehicles. In matters of government procurements, a new policy decision has been taken in favour of domestically manufactured goods.

II.1.9 Consumption expenditure set a floor to the slowdown in real GDP growth in 2016-17 and actually accelerated in the second half of the year when the impact of demonetisation was the most intense. This proved fortuitous as it coincided with the deepening retrenchment in fixed investment. Government final consumption, boosted by revisions in salaries and pensions referred to earlier, provided nearly a third of this support. Private consumption expenditure also benefited from rising real incomes – from the sharp fall in inflation and crowding-in income effects of government spending – and raised its contribution to real GDP growth from 57 per cent in H1 of 2016-17 to about 79 per cent in H2. The strength of private consumption was reflected in the acceleration of agricultural GVA as well as the sizable increase in telephone connections, indirect tax collections and the index of manufacturing constituting a part of industrial production. Consumption as a driver of growth has been associated with low growth multipliers and 'half-life', with some evidence that side effects such as rising household indebtedness could turn out to be growth-retarding in the medium-term (Box II.1).

Box II.1
Is Consumption-Led Expansion Sustainable?: A Case Study of India

In recent years, GDP growth in India has been consumption-led, more so during 2013-14 and 2016-17 (Chart 1a). In such a phase of growth, consumption grows faster than GDP, either in nominal or real terms, so that the consumption-to-GDP ratio increases over time or alternatively, real consumption growth exceeds real GDP growth (Kharroubi and Kohlscheen 2017). Consumption-led growth can arguably lead to a slackening of future growth if it entails growing imbalances due to limits to capacity creation, and rising debt burdens, particularly for households. Evidently, while borrowings helped smoothen private consumption in the short-run after the recession of 2001-02, excessive

Chart 1: Consumption-led and Non-Consumption-led Growth



Note: Consumption-led growth is defined as episodes when consumption to GDP ratio increases, either in nominal or real terms, or, real consumption growth exceeds real GDP growth.

Source: CSO and RBI staff estimates.

(Contd....)

leverage led to the debt-servicing burden which, in turn, debilitated consumption and overall growth during 2007 to 2009 in the U.S (Dynan 2012).

Private consumption contributes more than half of India's GDP growth and is less volatile than other sources of expenditure. At a high growth level (above 8 per cent), the growth process was observed to be non-consumption-led (Chart1b)[1]. Given that India has a large domestic consumer market, consumption may be the inevitable means of economic growth. However, whether consumption-led growth is beneficial for economic growth or acts as a drag remains to be assessed, particularly in view of the fact that rates of growth in investment and net exports have not been very impressive in recent years.

Drawing on Kharroubi and Kohlscheen (2017), two issues were examined for the period 1993-94 to 2014-15: (i) whether consumption-led growth was associated with a subsequent slowdown in real GVA growth; and (ii) whether the debt burden of the household sector was a mechanism thereof. Growth in private (corporate plus household) credit to GDP ratio and growth in combined debt service ratio[2] (interest payment to GDP ratio) for corporate and household sectors were included as control variables:

$$Y_{t+h} = \alpha + \beta CL_t + \gamma PC_t + \theta DSR_t + \epsilon_t$$

where, $h = 1,2,\ldots,n$ (1)

Y is real GVA growth, *CL* is a variable counting the number of years of consumption-led growth between year *t-3* and *t*, *PC* is growth in private credit-to-GDP, and *DSR* is growth in the debt service ratio in year *t*.

In the next step, the impact of growth in household credit to GDP ratio and growth in the debt service ratio of the household sector, apart from the number of episodes of consumption-led growth in the preceding three years, on subsequent real consumption growth was estimated.

$$C_{t+h} = \alpha + \beta CL_t + \gamma HHC_t + \theta DSRHH_t + \varphi C_t + \epsilon_t$$

where, $h = 1,2,\ldots,n$ (2)

C_t is real consumption growth, and *HHC* is growth in household credit-to-GDP, and *DSRHH* is growth in the debt service ratio of household in year *t*.

Consumption-led growth was found to have a negative impact on GVA growth one-year ahead by 1.39 percentage points at 5 per cent significance level. The impact of the debt service ratio was significant neither numerically (-0.1 percentage point) nor statistically, indicating the muted role of formal finance in driving consumption growth. Consumption-led growth did have, *albeit* not statistically significant, a negative impact on consumption growth one-year ahead. These results corroborate the imperative for a judicious balance in the growth drivers for non-disruptive and sustainable long-term growth.

References:

1. Dynan, K. (2012), "Is a Household Debt Overhang Holding Back Consumption?", *Brookings Papers on Economic Activity*.
2. Kharroubi, E. and E. Kohlscheen (2017), "Consumption-led Expansions", *BIS Quarterly Review*, March.

II.1.10 In terms of financing, household financial savings - the most important source of funds for investment in the economy - picked up to 7.8 per cent of Gross National Disposable Income (GNDI) in 2015-16 on the back of improvement in real income (Table II.1). Savings of private non-financial corporations increased to 10.8 per cent of GNDI in 2015-16. At the same time, general government's dissaving declined to 1.0 per cent in 2015-16 (Appendix Table 3). On the investment front, households' physical assets declined sharply to 10.7 per cent in 2015-16, contributing to the overall decline in fixed capital formation. The net inflow of resources from abroad to supplement domestic saving remained muted, mirrored in modest current account deficits as presented in Section II.6. As per preliminary estimates, household financial savings rate increased further to 8.1 per cent of GNDI in 2016-17 on account of an increase in households' assets in bank

[1] In case consumption-led growth is defined in terms of weighted contribution to overall growth, almost all such episodes in India could be characterised as consumption-led, given the large share of private consumption in GDP.

[2] Debt service ratio is calculated by applying weighted average lending rate to outstanding credit and then dividing by GDP.

Table II.1: Financial Saving of the Household Sector

(Per cent of GNDI)

Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
1	2	3	4	5	6	7
A. Gross financial saving	**10.4**	**10.5**	**10.4**	**10.1**	**10.9**	**11.8**
Of which:						
1. Currency	1.2	1.1	0.9	1.1	1.4	-2.1
2. Deposits	6.0	6.0	5.8	5.0	4.8	7.3
3. Shares and debentures	0.2	0.2	0.2	0.2	0.3	1.2
4. Claims on government	-0.2	-0.1	0.2	0.0	0.5	0.5
5. Insurance funds	2.2	1.8	1.8	2.4	1.9	2.9
6. Provident and pension funds	1.1	1.5	1.5	1.5	2.0	1.9
B. Financial liabilities	**3.2**	**3.2**	**3.1**	**2.9**	**3.1**	**3.7**
C. Net financial saving (A-B)	**7.2**	**7.2**	**7.2**	**7.2**	**7.8**	**8.1**

*: As per the latest estimates of the Reserve Bank; GNDI: Gross national disposable income.
Note: Figures may not add up to total due to rounding off.
Source: CSO.

deposits, life insurance and mutual funds, even though currency with the public contracted during the year. Higher financial savings were mainly supported by lower inflationary scenario as also portfolio adjustment from physical to financial assets by households. At the same time, there was an increase in financial liabilities of the household sector.

Aggregate Supply

II.1.11 On the supply side, GVA at basic prices – GDP stripped of net product taxes – also slowed quarter after quarter in 2016-17, the slump more pronounced in H2. MA-SAAR reveals this sharp loss of momentum (Chart II.2).

II.1.12 The quarterly pattern of GVA growth tracked that of the services sector in which, too, the deceleration was stark in H2 and co-moving in all constituents, barring PADO. Although not as well synchronised, the evolution of the GVA of industry also dragged during H2, essentially in manufacturing (Table II.2).

II.1.13 GVA in agriculture and allied activities rose to recent peaks with every harvest arrival during the year and cushioned the impact of the

Table II.2: Real GVA Growth (2011-12 Prices)

(Per cent)

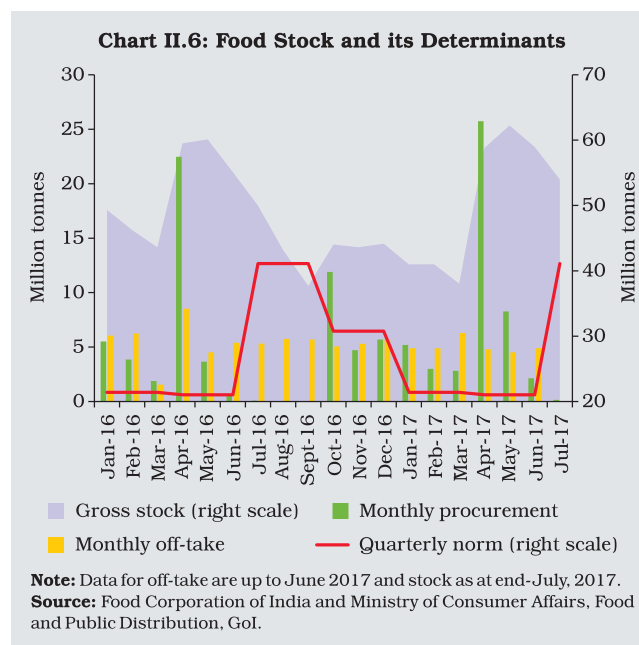
Item	2015-16				2016-17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	2	3	4	5	6	7	8	9
I. Agriculture, forestry and fishing	**2.4**	**2.3**	**-2.1**	**1.5**	**2.5**	**4.1**	**6.9**	**5.2**
II. Industry	**7.7**	**9.2**	**12.0**	**11.9**	**9.0**	**6.5**	**7.2**	**5.5**
i. Mining and quarrying	8.3	12.2	11.7	10.5	-0.9	-1.3	1.9	6.4
ii. Manufacturing	8.2	9.3	13.2	12.7	10.7	7.7	8.2	5.3
iii. Electricity, gas, water supply and other utility services	2.8	5.7	4.0	7.6	10.3	5.1	7.4	6.1
III. Services	**8.9**	**9.0**	**9.0**	**9.4**	**8.2**	**7.4**	**6.4**	**5.7**
i. Construction	6.2	1.6	6.0	6.0	3.1	4.3	3.4	-3.7
ii. Trade, hotels, transport, communication and services related to broadcasting	10.3	8.3	10.1	12.8	8.9	7.7	8.3	6.5
iii. Financial, real estate and professional services	10.1	13.0	10.5	9.0	9.4	7.0	3.3	2.2
iv. Public administration, defence and other services	6.2	7.2	7.5	6.7	8.6	9.5	10.3	17.0
IV. GVA at basic prices	**7.6**	**8.2**	**7.3**	**8.7**	**7.6**	**6.8**	**6.7**	**5.6**

Source: CSO.

downturn in other sectors. This strong revival occurred on the back of normal precipitation [97 per cent of the Long Period Average (LPA)] in the south-west monsoon (SWM). Out of 36 sub-divisions, 27 sub-divisions received normal/ excess rainfall. The initial delay in the monsoon's onset was more than compensated by recovery in July-August 2016 and a belated departure. This helped maintain soil moisture and replenished reservoirs. Consequently, even though the north-east monsoon (NEM) ended at 45 per cent below LPA, the reservoir position remained above the 10-year average. At the end of December 2016, the water level in 91 major reservoirs across the country stood at 126 per cent of the live storage a year ago. *Rabi* sowing turned out to be higher by 5.7 per cent than in the previous year, aided by higher MSPs (especially for pulses) and availability of key agricultural inputs.

II.1.14 The fourth advance estimates of crops for 2016-17 have placed the production of foodgrains at 275.7 million tonnes, which is 9.6 per cent higher than in the previous year and a historical record. Within foodgrains, rice, wheat, pulses and coarse cereals recorded their highest ever production levels. Besides favourable agro-climatic conditions, multi-pronged initiatives such as incentives for crop diversification, issuance of soil health cards, focus on integrated irrigation schemes, a simplified crop insurance scheme and improved marketing facilities created an enabling environment. The record production spurred an extensive drive to procure rice and wheat to replenish depleted stocks (Chart II.6). The all-time high production of pulses at 22.95 million tonnes, combined with a surge in imports of as much as 6.6 million tonnes, facilitated the build-up of buffer stock during the year (Box II.2). The production

Chart II.6: Food Stock and its Determinants



Note: Data for off-take are up to June 2017 and stock as at end-July, 2017.
Source: Food Corporation of India and Ministry of Consumer Affairs, Food and Public Distribution, GoI.

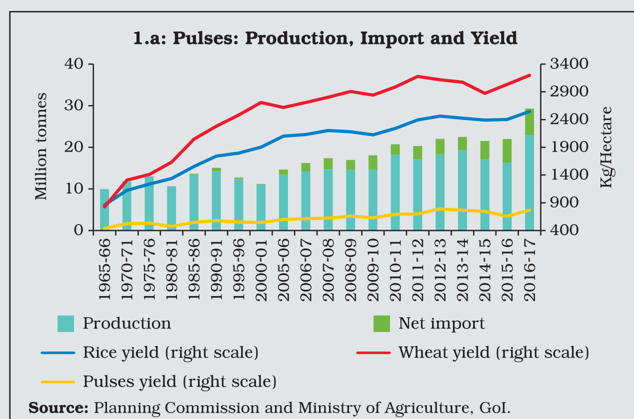
of horticulture increased by 3.1 per cent to 295.2 million tonnes, another record.

II.1.15 For 2017-18, the Ministry of Agriculture set higher targets of production for foodgrains (both cereals and pulses) as well as commercial crops (sugarcane, oilseeds and cotton). Early indications based on the progress of *kharif* sowing, and arrival of monsoon augur well for achieving the production targets. Region-wise, the distribution of rainfall during 2017-18 so far has, however, been somewhat uneven, with the east and north-east region receiving rainfall above LPA while the south peninsula (particularly Kerala and Karnataka) and the central India (particularly Madhya Pradesh) experiencing deficiency (Chart II.7).

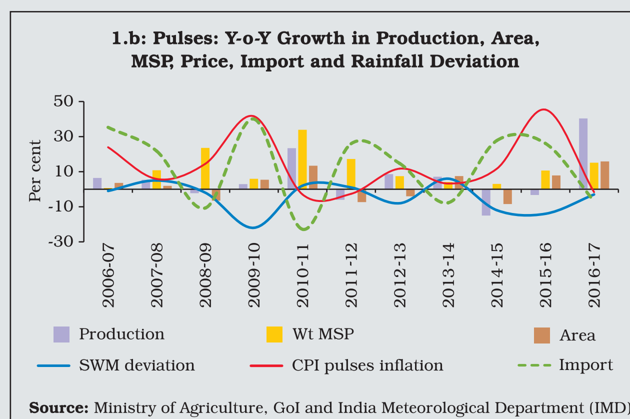
II.1.16 The deceleration in the growth of GVA in industry in 2016-17 in relation to the preceding year is not reflected in the new series of IIP. The CSO released a new series on the IIP in mid-May 2017, changing (a) the constituent items to better represent the evolving industrial structure; and (b) the base year to 2011-12 from 2004-05, thereby aligning it with national accounts and the new

Box II.2
Dynamics of Pulses Production

In India, which is the largest producer, consumer and importer of pulses - a major plant source of protein - domestic demand follows the celebrated *Bennett's Law*: the pattern of consumption shifts in favour of nutritious food as incomes rise. Low and near stagnant productivity, and excessive reliance on the monsoon are widely identified as the biggest impediments to augmenting domestic output (Chart 1.a & b). As a fallout, 15-20 per cent of the domestic requirement of pulses was made up by imports through the last 15 years (Chart 1.b).



Source: Planning Commission and Ministry of Agriculture, GoI.



Source: Ministry of Agriculture, GoI and India Meteorological Department (IMD).

Noting that the production of pulses seems to have linkages with the price support system, the role of prices of pulses as a determinant of production is examined in a dynamic panel generalised method of moments (GMM) framework, using data of 28 states for 2006-16:

$$\log(P.Prod)_0 = \underset{(10.67)^{*}}{0.92\log(P.Area)_0} + \underset{(1.75)^{**}}{0.22\log(P.CPI)_0} + \underset{(1.77)^{**}}{0.18\log(P.\ Yield)_0} + \underset{(1.25)}{0.09\log(P.Prod)_{-1}}$$

J-Statistics= 98.69; prob(J-stats)= 0.16
Arellano-Bond test for AR(1) in first differences: z = -5.08, Pr > z = 0.00
Arellano-Bond test for AR(2) in first differences: z = 1.04, Pr > z = 0.28
**: Significant at 1% level; **: Significant at 10% level*

Instrumental variables:
$\log(P.MSP)_0$; $\log(P.MSP)_{-1}$;$\log(AI)_0$; $Log(SWMA)_0$; $\log(P.CPI)_{-1}$; $Log(SWMA)_{-1}$; $\log(P.import)_{wt}$; $\log(S.MSP)_0$

Variables definition (sub-script "x" refers to the year):
$\log(P.Prod)_x$: Pulses production; $\log(P.Area)_x$: Area under pulses; $\log(P.CPI)_x$: Pulses – CPI
$\log(P.Yield)_x$: Pulses yield; $\log(P.MSP)_x$: Production weighted pulses minimum support price; $\log(AI)_x$: WPI based agricultural input cost index; $Log(SWMA)_x$: South west monsoon rainfall in mm; $\log(S.MSP)_x$: Soyabean MSP;
$\log(P.import)_{wt}$: Pulses import distributed among states using consumption basket weight as per NSS 72nd round (July, 2014 – June, 2015) of household expenditure survey.

The results indicate that much of the increase in production during the period was due to increased acreage though the impact of own lag was found to be insignificant statistically. Yield has a relatively subdued effect, *albeit* significant and positive in sign, possibly reflecting its low and stagnant level. Rainfall and MSP up to a year lag, that directly affect acreage, which also proxy for absence of adequate pulses irrigation (only 19.0 per cent of net sown area irrigated) and the prospect of remunerations (as MSP sets floor price), respectively, were statistically significant as instrumental variables. Prices and production of pulses share a positive relationship of statistical significance. The instrumental variables, *viz.,* CPI with a one year lag, imports and input costs that have a bearing on current prices, also turned out significant. The significance of soyabean's MSP – a competing crop for pulses - as an instrumental variable possibly indicates a shift in acreage across crops.

(Contd....)

Prices of pulses follow a cycle. Years of bumper production are preceded by monsoon failure, high pulses inflation, and their imports. Subsequently, farmers are incentivised by remunerative global and/or domestic prices coupled with higher than usual hikes in MSPs to bring in more areas under cultivation. Thereafter, prices of pulses generally crash when they arrive in the markets, which acts as a dis-incentive for production in the next season and causes pulses prices to rise again, akin to the Cobweb Model or Hog Cycle (alternatively called pork cycle or cattle cycle) based on production lags and adaptive expectations (Rosen, *et al.* 1994). The cycle has traversed the full distance from peak to peak, rendering pulses cultivation six times riskier than paddy (GoI 2016).

Raising pulses production through integrated management (seeds, fertilisers, insecticides and pesticides) to improve yields, and weather proofing by expanding irrigation facilities, should be the Government's strategy for the medium to long-term. In the interregnum, however, targeted use of remunerative MSPs – announced on time without delay in payment, coupled with predictable procurement operations as also providing vent in the form of export and futures trading to liquidate excess stocks, may be necessary safeguards against prices crashing during harvests so that production is sustained.

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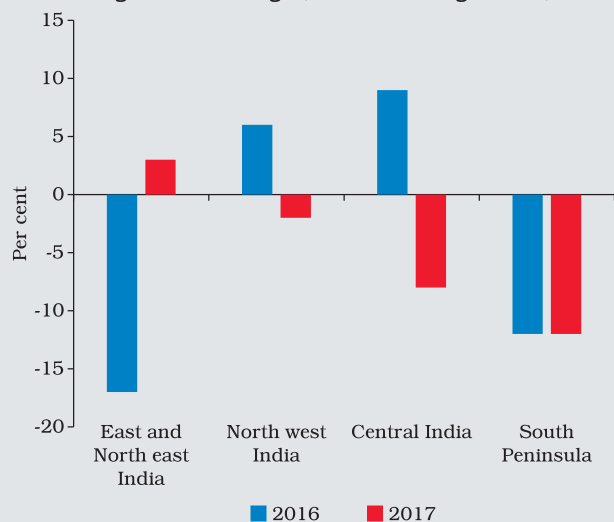
4. Rosen, S., K. Murphy and J. Scheinkman (1994), "Cattle Cycles", *Journal of Political Economy*, 102 (3): 468-492.
5. The National Academy of Agricultural Sciences (2016), "Towards Pulses Self-Sufficiency in India".
6. Thangzason, S., D. K. Raut, Pallavi and D. P. Rath, "What has Gone Wrong with Pulses?", *mimeo*.

WPI. In terms of the new IIP, industrial production accelerated in 2016-17 across sectors. The wedge between industrial GVA and IIP mainly reflects the impact of falling input costs.

Chart II.7: Region-wise Rainfall Deviation from Long Period Average (June 1st to August 21st)

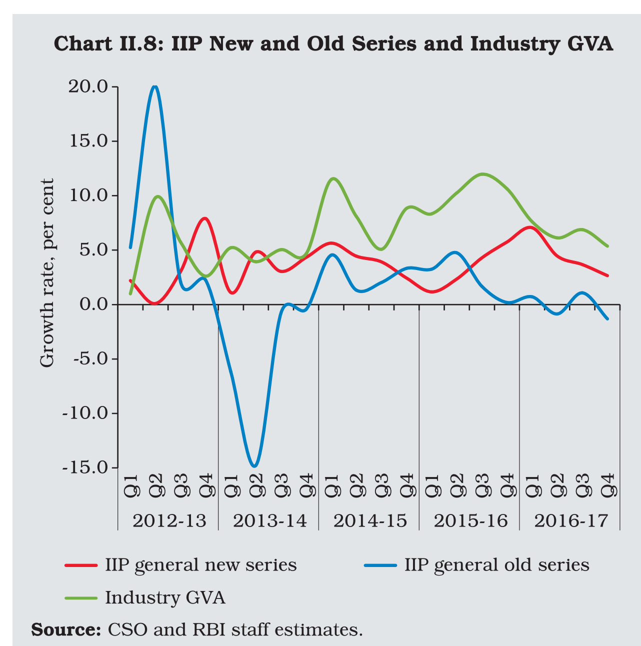


Source: IMD.

II.1.17 The new IIP has expanded the coverage of manufacturing sector from 620 items in 397 groups to 809 items in 405 groups. With the increase in item groups reporting in value terms from 53 to 109 (mostly in the capital goods category), capital goods now include 'work-in-progress' and thus account for longer production cycles and minimise the volatility resulting from bulk reporting on delivery. Other major changes in the manufacturing index include higher weightage to petroleum products (from 6.7 per cent to 11.8 per cent) to account for subsidies and inclusion of a new sub-group "Manufacture of pharmaceuticals, medicinal chemical and botanical products". The new index excludes unorganised manufacturing while deciding on weights. Electricity index now captures electricity generation out of renewable sources while the number of minerals have been reduced from 62 to 29 in the mining index, taking into account the reclassification done by the

Mineral Conservation and Development Rules, 2016. A new use-based category, 'infrastructure/ construction goods' has been introduced while 'basic goods' have been re-christened as 'primary goods'. The weights of primary goods and consumer non-durables have declined on transfer of items to the infrastructure/construction category. The weight of manufacturing has increased while that of electricity has reduced in the overall index. A standing Technical Review Committee to be chaired by the Secretary, Ministry of Statistics and Programme Implementation (MoSPI), has been set up for an on-going revision of IIP. Based on the new index, industrial production recorded a compound annual growth of 3.8 per cent during 2012-13 through 2016-17 as against 1.2 per cent in the old index. In 2016-17, IIP increased by 4.4 per cent as against a contraction of 0.1 per cent under the old index (Chart II.8).

Chart II.8: IIP New and Old Series and Industry GVA



Source: CSO and RBI staff estimates.

II.1.18 Structural bottlenecks became manifest in a persistent sluggishness in the production of crude oil and natural gas sub-sectors; yet, in spite of this drag, mining output accelerated, which was led by coal and refinery products. The manufacturing sector also gained speed over the year, particularly with respect to pharmaceuticals, motor vehicles, transport equipment, basic metals, petroleum products, wearing apparel, and machinery and equipment. Despite a moderation in the dominant thermal segment, the electricity sector managed a slight uptick on the back of renewable energy sources (Table II.3). Efforts are

Table II.3: Index of Industrial Production (Base 2011-12)

(Per cent)

Industry Group	Weight in IIP	Growth Rate						
		2012-13	2013-14	2014-15	2015-16	2016-17	Apr-June 2016-17	Apr-June 2017-18
1	2	3	4	5	6	7	8	9
Overall IIP	100.0	3.3	3.3	4.1	3.4	4.4	7.1	2.0
Mining	14.4	-5.3	-0.2	-1.3	4.3	5.3	7.5	1.3
Manufacturing	77.6	4.8	3.6	3.8	3.0	4.1	6.6	1.8
Electricity	8.0	4.0	6.0	14.8	5.7	5.8	10.0	5.3
Use-Based								
Primary goods	34.0	0.5	2.3	3.7	5.0	4.9	8.3	2.2
Capital goods	8.2	0.4	-3.6	-0.8	2.1	3.5	12.9	-4.0
Intermediate goods	17.2	5.1	4.5	6.2	1.6	3.3	3.4	1.4
Infrastructure/construction goods	12.3	5.4	5.7	5.0	2.8	3.9	5.0	1.9
Consumer durables	12.8	5.0	5.7	4.0	4.3	1.9	7.8	-0.9
Consumer non-durables	15.3	6.1	3.7	4.1	2.7	7.6	7.2	7.7

Source: CSO.

underway to financially turn around the electricity distribution companies (DISCOMs) through UDAY, as discussed earlier. Besides, a number of policy initiatives were taken by the government to strengthen the electricity sector such as a new coal linkage policy, push for more nuclear power plants, state specific plans on 24x7 power for all and the Integrated Power Development Scheme (IPDS) for strengthening sub-transmission and distribution infrastructure. During the year, the gap between the average cost of supply and revenue realised by DISCOMs declined by 11 paise to 45 paise per kwh through cost realisation programmes and tariff hikes. With lower demand for power and declining solar tariff, power purchase agreements (PPAs) have turned costly for DISCOMs and the Ultra Mega Thermal Power Projects (UMPP) have become unattractive. In the process, the DISCOMs have taken advantage of the prevailing lower spot rates.

II.1.19 All use-based segments, with the exception of primary goods (which decelerated marginally, dragged by a decline in production of petrol, kerosene, urea and hard coke despite acceleration in mining and electricity) and consumer durables, expanded at an accelerated pace during the year. The pick-up in capital goods output in 2016-17 needs to be monitored closely as it has occurred on the back of a favourable base effect that, however, could not sustain it in April-June 2017. An important component of capital goods, namely, electrical equipment had been in contraction mode since October 2016 but machinery and equipment accelerated in 2016-17. In the infrastructure/ construction goods segment, robust growth in steel products - HR coils, sheets, bars and rods of mild steel - driven both by domestic demand and exports, offset the slowdown in cement production. The newly introduced pre-fabricated concrete blocks, however, remained in contraction mode for most part of 2016-17 along with other construction materials like glassware and cement clinkers. The acceleration in intermediate goods was driven mostly by increased production of chemicals and chemical products, polymers and auto components. The production of consumer durables was in contraction mode for the last four months of the year, and April-June 2017 too was dragged down by components like textiles, apparel, leather, wood and paper products. Production of consumer non-durables, in contrast, grew steadily through the year and in April-June this year, driven by the phenomenal growth of ‘digestive enzymes and antacids’; excluding this item group, the production of consumer non-durables would have been in contraction. The sub-components of consumer non-durables like food and beverages remained in contraction mode for most part of H2: 2016-17.

II.1.20 GVA in services decelerated in 2016-17 across sectors, barring PADO. With respect to financial, real estate and professional services, the slowdown was the sharpest, accentuated by the impact of demonetisation on the cash-intensive real estate sector. Reflecting the slackening of construction activity, steel consumption and cement production decelerated/contracted from their levels a year ago. Some lead/coincident indicators of services activities, however, showed improvement during 2016-17. For instance, transportation activity – railway freight, port cargo and civil aviation – accelerated during 2016-17. Communication activity was boosted by increased competition in the sector and adoption of wireless broadband services with the entry of *Reliance Jio*. Notwithstanding the transitory impact of demonetisation, automobile sales accelerated, reflecting up-tick in consumer sentiment, new

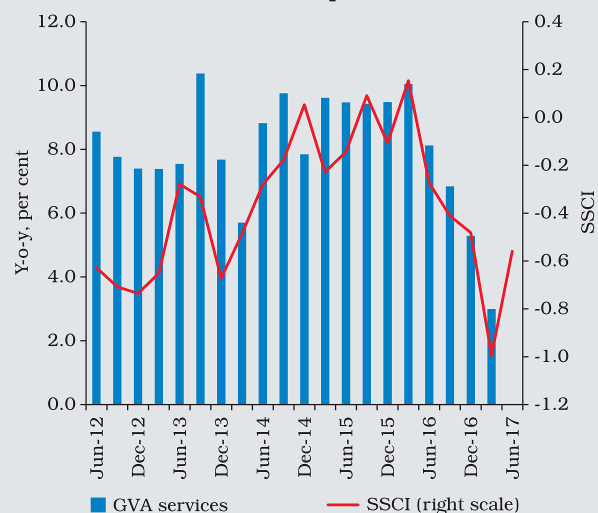
launches and discount offers. Foreign tourist arrivals grew robustly, providing a boost to trade, hotels and restaurants. However, slowdown in construction and financial, real estate and professional services sector hurt services sector growth in Q4: 2016-17.

II.1.21 The Reserve Bank's service sector composite index (SSCI), which extracts and combines information gleaned from high frequency indicators and statistically leads GVA growth in the services sector, is showing early signs of recovery, led by construction and trade – an upbeat steel consumption in Q1: 2017-18 that is likely to be sustained by favourable base effects in the next quarter and the firming up of trade indicators (Chart II.9).

Employment

II.1.22 During 2016-17, emphasis was laid on investment in human capital, through initiatives in the form of various skill development and apprentice schemes with a view to improving the quality of labour and addressing skill gaps. According to the Labour Bureau's new quarterly employment survey, which covers units with 10 or more persons in eight select sectors, there has been a net addition of 0.23 million jobs during Q2-Q4, 2016-17, mainly in manufacturing and education, taking the total employment to 20.75 million at end-March 2017.

Chart II.9: Growth in Services Sector (excluding PADO) and Service Sector Composite Index (SSCI)



Source: CSO and RBI staff estimates.

II.1.23 Going forward, consumption demand is likely to remain robust on the back of expected normal south-west monsoon and possible implementation of the 7th CPC at the state level, apart from the gathering pace of remonetisation. Further, the thrust of the Union Budget on capital expenditure, housing, MSME and farm sector coupled with other reforms such as the implementation of GST from July 2017 and the Real Estate (Regulation and Development) Act (RERA), 2016 is expected to reinvigorate economic activity during 2017-18.

II.2 PRICE SITUATION

II.2.1 Headline inflation, measured by the Consumer Price Index (CPI), underwent exceptional movements during 2016-17. This sparked considerable debate about the level at which it will eventually settle (Box II.3). In the first four months of the year, favourable base effects could not restrain an extra-seasonal and monotonic surge in food prices across the board, barring cereals. Food price pressures were exacerbated by the delayed onset of the south-west monsoon and consequently, headline inflation reached an intra-year peak of 6.1 per cent in July 2016 (Chart II.10).

II.2.2 As surprising as the intensity of this spike was, its sudden downturn from August 2016 unhinged expectations. Once again, it was food prices at work – their rapid disinflation drove down headline inflation month after month - barring February and March 2017 - to a low

Box II.3
Distribution of Inflation in India

With headline CPI inflation easing from 5.8 per cent in 2014-15 to 4.5 per cent in 2016-17, the likely level at which it would stabilise assumes importance. Accordingly, CPI inflation is analysed at a disaggregated level for 2014-15 through 2016-17, using a Markov chain framework. Markov chain is a sequence of discrete time stochastic process. In this framework, the conditional probability distribution of future states of the process, given the present state and information on past states, depends only upon the present state. Mathematically,

$P\,[\,X_t \in A \mid Xs_1 = x_1, Xs_2 = x_2, Xs_3 = x_3,\ldots, Xs_n = x_n, Xs = x] = P\,[X_t \in A \mid Xs = x]$ for all times $s_1<s_2<s_3<\ldots<s_n<s<t$, all states $x_1, x_2, x_3,\ldots,x_n$ and x in S and all subsets A of S.

The central tendency of CPI inflation is observed to be settling around 4 per cent with an upward bias in the long-run. The monthly switches in inflation for major groups of CPI rural/urban data sets across states were tracked across 32 defined bands of inflation. The 32 bands were formed to cover every possible value of inflation, consisting of two extreme bands, *viz.,* (i) less than -10 per cent and (ii) equal to or more than 20 per cent, and 30 bands of equal width of one percentage point within the interval from -10 per cent to 20 per cent. Given these initial conditions, transition probability matrices were constructed for full as well as filtered data sets (*i.e.*, excluding the first and the last bands) and steady state equilibria were derived under the Markov chain framework for each year as also for the full three-year period (Chart 1).

The central tendency of CPI inflation (both mean and median) in steady state using 2014-15 data is found to be lower than that using 2015-16 and 2016-17 data. This is because inflation at the beginning of 2014-15 had hovered in higher bands before dipping sharply, leading to a relatively higher number of transitions from higher to lower bands. In contrast, such transitions were limited during 2015-16 and 2016-17, as inflation was range-bound. The median inflation derived from the steady-state equilibrium for the combined three-year period is 4.13 per cent for the full data set and 4.10 per cent for the filtered data set (Table 1). The corresponding standard deviation of inflation in respect of both the data sets has moderated, corroborating the convergence of the inflation to around 4 per cent.

The above analysis is based on the assumption that the transition probabilities, as estimated from the data set, do not change over time. However, these probabilities could be impacted by changes in the nature of various shocks in the economy, going forward. Subject to this caveat and purely on the basis of a stochastic process, this analysis provides preliminary evidence about the inflation rate, based on the new CPI series, converging to around 4 per cent.

Table 1: Implied Inflation from Steady State Equilibrium

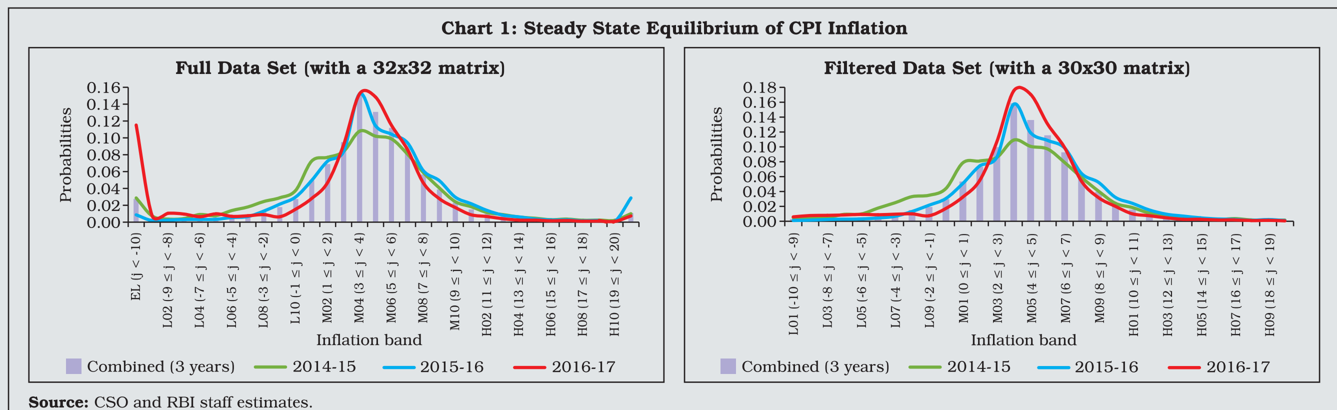
(Per cent)

	Full Data Set			Filtered Data Set		
Year	Mean*	Median	SD	Mean	Median	SD
2014-15	3.74	3.86	4.41	3.44	3.61	4.39
2015-16	4.46	4.30	3.78	4.58	4.38	3.73
2016-17	3.89	4.21	3.93	3.99	4.23	3.72
Combined (3 Years)	4.10	4.13	3.82	4.08	4.10	3.70

*: Trimmed, *i.e.*, excluding the first and the last bands. SD: Standard deviation.

Source: CSO and RBI staff estimates.

Chart 1: Steady State Equilibrium of CPI Inflation



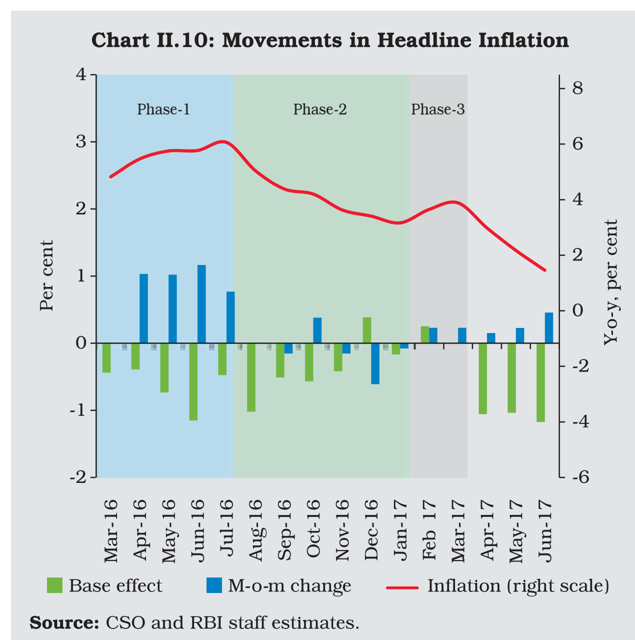
Source: CSO and RBI staff estimates.

References:

1. Reserve Bank of India (2014), "Report of the Expert Committee to Revise and Strengthen the Monetary Policy Framework" (Chairman: Dr. Urjit R. Patel), Mumbai.
2. Sinha, R. K. (2017), "Stochastic Transitions of CPI-C in the Era of New Monetary Policy Framework of RBI", *mimeo*, July.

of 1.5 per cent in June 2017. In hindsight, the inflation outcomes since August 2016 mark the confluence of several forces. First, as the monsoon quickly gained full strength and spatial spread, conditions came together for a bumper *kharif* crop. Second, anecdotal evidence pointed towards fire sales of perishables from November 2016 post demonetisation. Third, the cumulative impact of the government's supply management measures, particularly with regard to pulses, sent the disinflationary spiral into overdrive. Given the paucity of data points, these factors are still difficult to disentangle but a combination of transitory and supply-side effects overwhelmed the firming up of global commodity prices from October 2016 as well as the unfavourable base effects that kicked in from December 2016. A modest uptick in inflation during February-March 2017 proved to be weak and short-lived and sub-3 per cent readings appeared in May-June 2017. In the event, inflation undershot the target of 5.0 per cent for Q4 of 2016-17 by 140 basis points. Excluding food and fuel, inflation remained unyielding at around 4.9 per cent from September 2016 till March 2017, reflecting both inertial behaviour attributable to inflation in services and movements in international crude prices. However, a modest decline in inflation, excluding food and fuel, was witnessed during the first quarter of 2017-18 (Box II.4).

Chart II.10: Movements in Headline Inflation

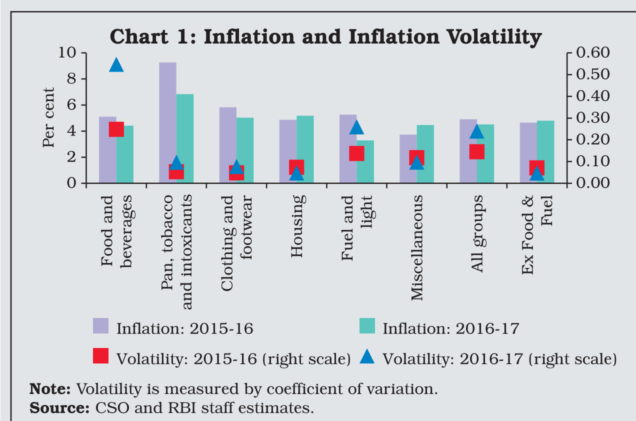


Source: CSO and RBI staff estimates.

Box II.4
Decoding CPI Inflation Excluding Food and Fuel

CPI inflation has declined sharply in recent years. However, excluding food and fuel, inflation remained sticky at around 4.8 per cent in 2016-17 (Chart 1), until recently, when the fall during April-June 2017 brought it down to around 4 per cent. Conceptually, inflation can be decomposed into two components: core and non-core. The underlying inflation as shaped by the pressure of aggregate demand against capacity is captured in the core component while the non-core part reflects short-term price movements caused by shocks or relative price changes (see, *e.g.*, Laflèche and Armour 2006). Central banks generally monitor core inflation as it acts as a signal for persistent movements in inflation.

Chart 1: Inflation and Inflation Volatility



Note: Volatility is measured by coefficient of variation.
Source: CSO and RBI staff estimates.

Headline and core inflations may diverge in the wake of relative price shocks. If headline inflation reverts to core inflation, the role of food and fuel price shocks is considered transitory. On the other hand, if core inflation catches up with headline inflation, it suggests a generalised movement in prices through second round effects and inflation expectation channels (Anand, *et al.* 2015). The

(Contd...)

observed deceleration in headline inflation in India in the recent period could, therefore, potentially be a transitory phenomenon in the wake of sharp correction in food prices and favourable terms of trade aided by a decline in global commodity prices.

Measuring inflation persistence is widely addressed in empirical literature starting with the seminal work of Rotemberg (1982) which relied on nominal price contracting to impart a degree of inertia in a rational expectation setting. Drawing on literature, inflation persistence was tracked by autoregressive behaviour. The autoregressive coefficients, using an ARIMA model on a de-seasonalised CPI from January 2011 to March 2017, corroborated persistence in inflation, both at the overall and sub-group levels, barring housing, and transport and communication (Table 1). However, the degree of persistence varied across sub-groups. For example, the level of inflation persistence was found to be relatively high for services components such as health and education. Moreover, health and education inflation had lower volatility, suggesting relatively steady inflation. The persistence in inflation could be attributable to multitudes of factors such as market structure, levels of productivity and habit formation. Intensifying competition in goods and services markets coupled with productivity enhancing measures could help address persistence in inflation more on a durable basis. During April-June 2017-18, inflation excluding food and fuel declined and persistence also faded across all sub-groups. This is also reflected in the out-of-sample forecast performance of the ARIMA model. Possible pass-through of lower headline inflation in recent months to core inflation could have worked through second-round effects and inflation expectations.

Table 1: Measurement of Persistence: 2011 (January) - 2017 (March)

	Mean	Standard Deviation	Persistence	
	Inflation (Y-o-Y)		AR(1)	Sum of AR Coefficients up to 2 lags
Pan, tobacco and intoxicants	9.2	1.9	0.99*	0.97
Clothing	8.5	3.0	1.25*	0.99
Footwear	7.4	3.0	0.99*	0.99
Housing	6.6	1.8	-0.15	-0.14
Health	6.0	1.3	0.51*	0.97*
Education	7.3	1.6	0.65*	0.96*
Personal care and effects	6.2	3.8	1.01*	0.92
Recreation and amusement	4.9	0.9	0.67*	0.84
Transport and communication	3.9	3.1	-0.31	-0.14
Excluding food and fuel	6.4	1.9	0.46	0.58*

*: Significant at 5 per cent level.

References:

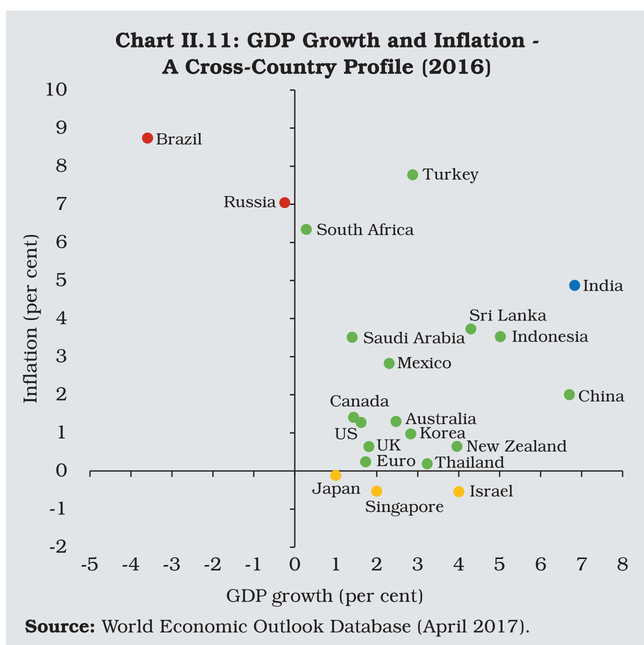
1. Anand, R., E. Prasad and B. Zhang (2015), “What Measure of Inflation Should a Developing Country Central Bank Target?”, *IMF Working Paper*, WP/15/205.
2. Laflèche, T. and J. Armour (2006), “Evaluating Measures of Core Inflation”, *Bank of Canada Review*, pp. 19-29.
3. Rotemberg, Julio J. (1982), “Sticky Prices in the United States”, *Journal of Political Economy*, 90(6), December.

II.2.3 On an annual average basis, inflation came down to 4.5 per cent in 2016-17 from 4.9 per cent in the previous year in a fairly generalised movement, except in the housing and miscellaneous categories (Appendix Table 4). Household’s inflation expectations adapted to salient price movements and broadly tracked inflation developments over the year as reflected in the March 2017 round of the Reserve Bank’s inflation expectations survey conducted during the year. An ebbing of inflation expectations was also corroborated in various rounds of the more forward-looking responses in the survey of professional forecasters.

II.2.4 Inflation edged up in a number of economies to or above target levels in 2016-17, reflecting tighter labour market conditions and the firming up of commodity prices, especially crude oil and metals. Turkey and South Africa remained outliers in an otherwise low inflation environment (Chart II.11).

II.2.5 Globally, prices of agricultural commodities, especially food items, firmed up during the year due to a moderation in excess supply (Chart II.12). Metal prices also hardened due to higher real estate investments and efforts for reduction of excess industrial capacity in China, which accounts for more than half of the global consumption

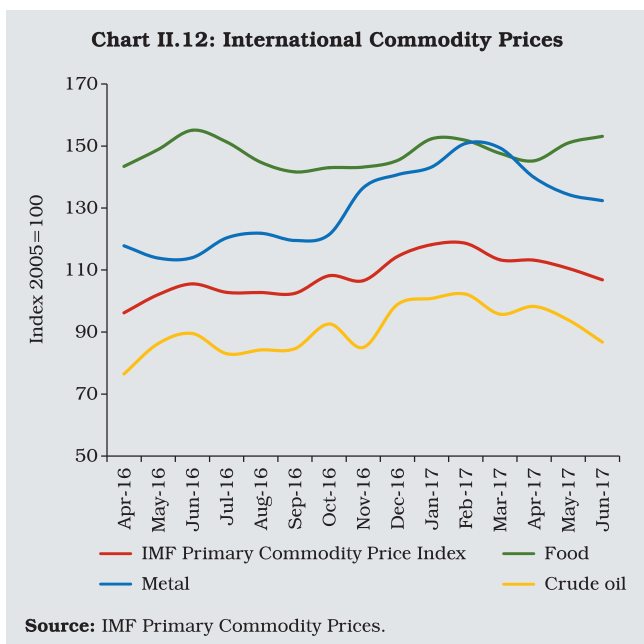
Chart II.11: GDP Growth and Inflation - A Cross-Country Profile (2016)



Source: World Economic Outlook Database (April 2017).

of metals. Easing of fiscal policy in the United States also supported the firming up of global metal prices. Global crude oil prices trended up after the OPEC's November 2016 decision to cut production by around 1.2 million barrels per day, effective January 01, 2017 to bring the ceiling to 32.5 million barrels per day in the first half of 2017.

Chart II.12: International Commodity Prices



Source: IMF Primary Commodity Prices.

The price of the Indian basket of crude oil moved in tandem and rose to about US$ 51 per barrel in March 2017 from around US$ 36 per barrel in March 2016.

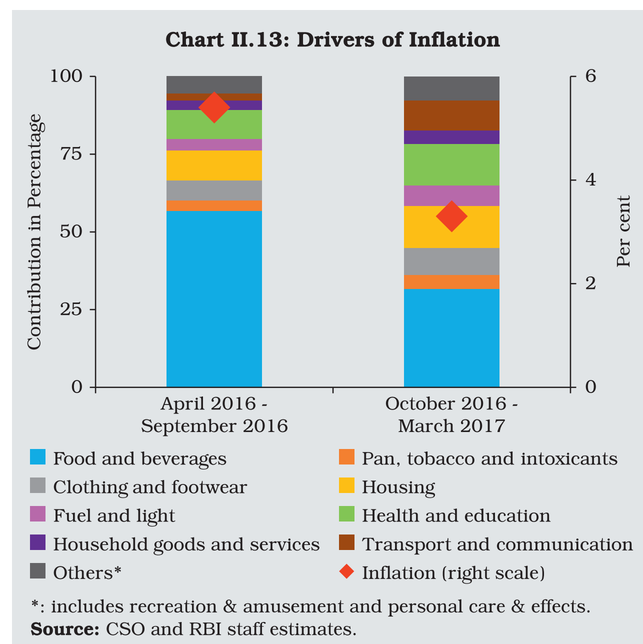
Constituents of Inflation

II.2.6 Intra-year movements in headline inflation were underpinned by significant shifts at the sub-group level. Broadly, there was a sharp decline in the contribution of food and beverages in H2: 2016-17, while that of non-food components, notably transport and communication, and fuel and light, picked up. Housing and services such as health and education were the other drivers of inflation (Chart II.13).

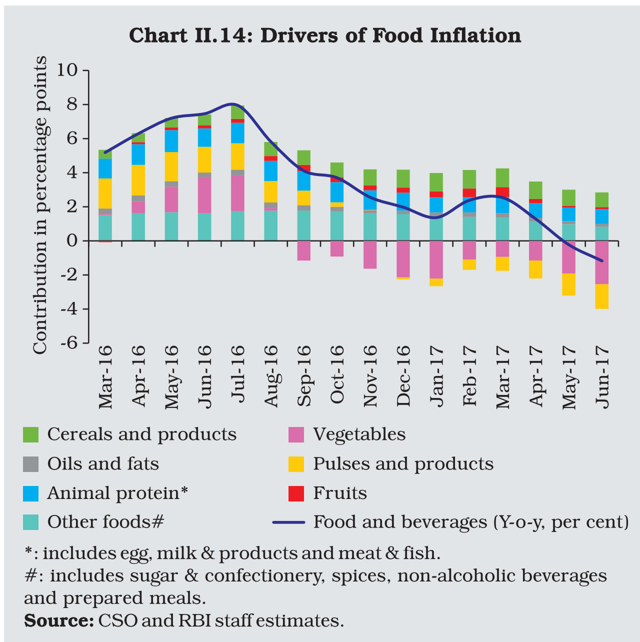
Food

II.2.7 Inflation in food and beverages (weight: 45.9 per cent in CPI), declined the most during 2016-17, with its contribution to overall inflation down to 46 per cent from 49 per cent a year ago. Both *kharif* and *rabi* seasons produced bumper harvests, aided by a normal monsoon after two consecutive years of drought-like conditions.

Chart II.13: Drivers of Inflation



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



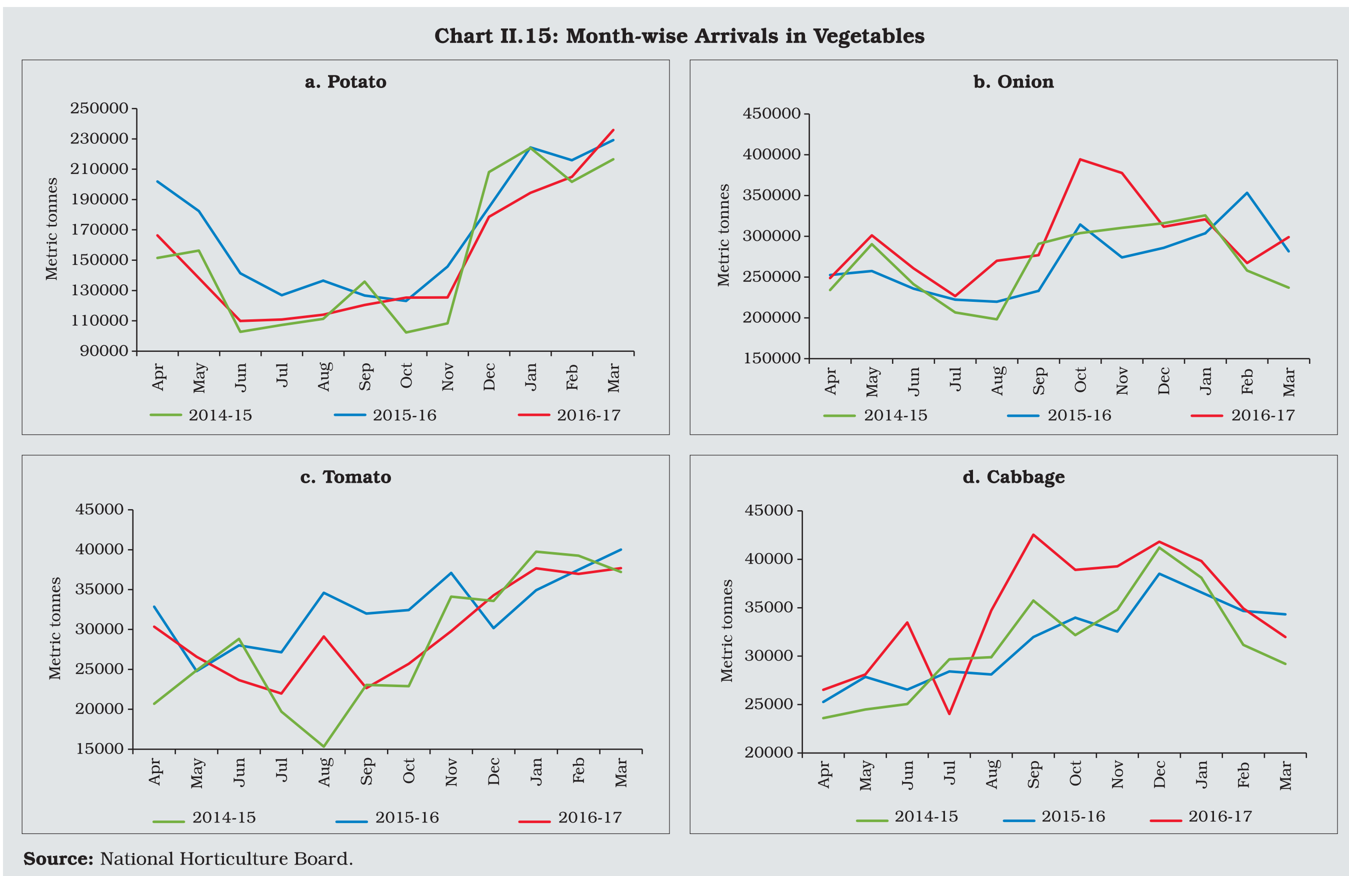
*: includes egg, milk & products and meat & fish.
#: includes sugar & confectionery, spices, non-alcoholic beverages and prepared meals.
Source: CSO and RBI staff estimates.

As stated earlier, distress sales of vegetables and other perishables following demonetisation accentuated the loss of momentum in food prices.

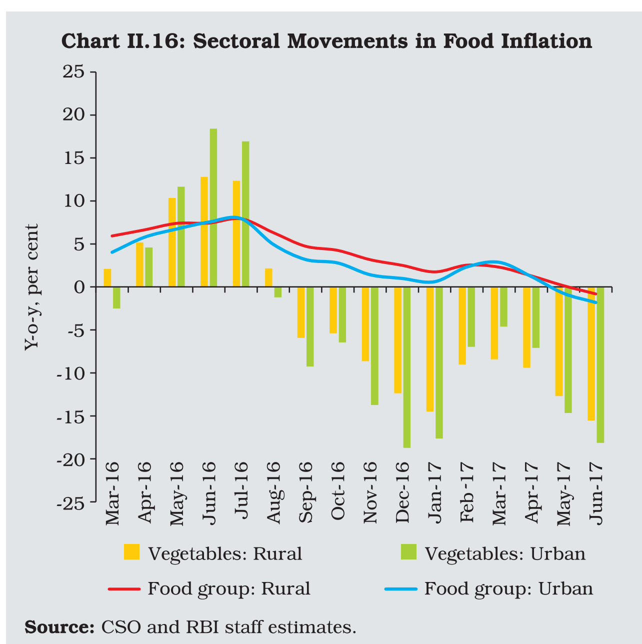
In January 2017, food inflation touched an intra-year trough of 1.4 per cent, although prints in May and June took it down even lower to (-) 0.2 per cent and (-) 1.2 per cent, respectively (Chart II.14).

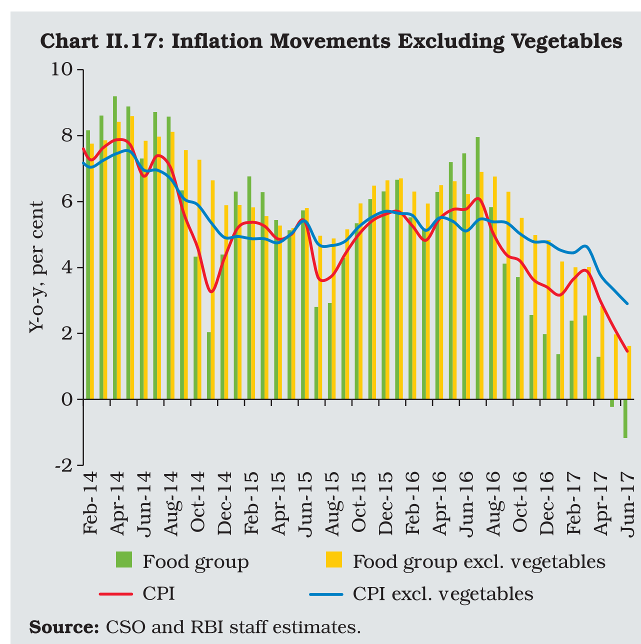
II.2.8 Perishable items - primarily vegetables - that account for 13 per cent of the food group in CPI were the principal agents driving the collapse of food inflation. Vegetable prices faced an unprecedented downturn in August 2016 following significantly higher arrivals in *mandis* relative to the seasonal pattern. The loss of momentum intensified from Q3 with demonetisation and fresh winter crop arrivals (Chart II.15).

II.2.9 While there was a sharp decline in prices of inflation-sensitive vegetables such as potatoes and tomatoes that typically provide the inflexion points in the trajectory of inflation, this time around it was the price of vegetables like



Source: National Horticulture Board.





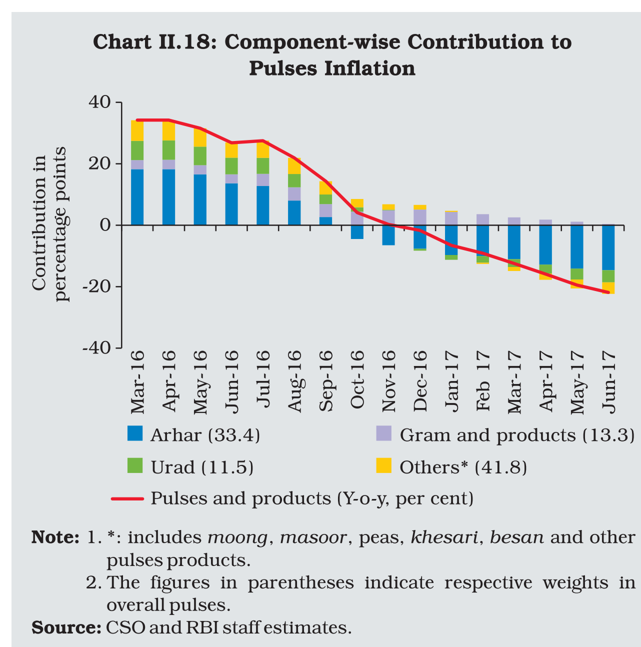
cabbages, cauliflowers and peas that plunged disproportionately providing tangential evidence of distress sales and re-deployment of supplies towards urban areas post-demonetisation. CPI-urban food inflation declined faster than its rural counterpart (Chart II.16).

II.2.10 The evolution of food prices from August 2016 points towards a possible role of non-transitory factors in bringing down inflation as reflected in a statistically significant break in the series. This was corroborated by the vegetable price series, in particular.

II.2.11 Excluding vegetables, average food inflation would have been higher by 2.2 percentage points during August 2016-January 2017 (Chart II.17).

II.2.12 Pulses, with a weight of 5 per cent in the food group, contributed substantially to the large swings in food inflation during the year. Their contribution to overall inflation shifted from (+) 12.6 per cent in the first half to (-) 3.6 per cent in the second half of the year.

II.2.13 At a granular level, inflation in terms of *arhar* and *urad* prices, which drove up inflation in the whole category during 2015-16 and in the beginning of 2016-17, slid down substantially and even deflated in the second half of the year (Chart II.18). *Arhar* prices at the *mandi* level in the major producing states of Maharashtra, Madhya



Pradesh, Gujarat and Karnataka dropped even below the minimum support price (MSP). *Gram* was an outlier with an unprecedented surge in prices during 2016-17, barring Q4. After two consecutive years of shortfalls, pulses production increased substantially to 23.0 million tonnes in 2016-17 from 16.4 million tonnes in the previous year in response to a normal rainfall and a significant increase in acreage incentivised by policy interventions, including an increase in MSP. Other supply management measures taken by the government such as imports at zero duty, extension in stockholding limits for traders and building of buffer stocks also helped to rein in pulses inflation.

II.2.14 Within the overall moderation, sugar and confectionery posted double-digit inflation, reflecting a drop in sugar production. In response, the government put in place a number of price control measures including imposition of stockholding limits on traders, discouraging exports of sugar and allowing imports of raw sugar. Cereals and prepared meals also showed upside impulses in prices during the year. The dwindling of wheat stocks below the quarterly buffer norm, beginning August 2016, prompted supply-side measures in the form of reduction in import duty to zero in December 2016 that led to an upsurge in imports.

Fuel

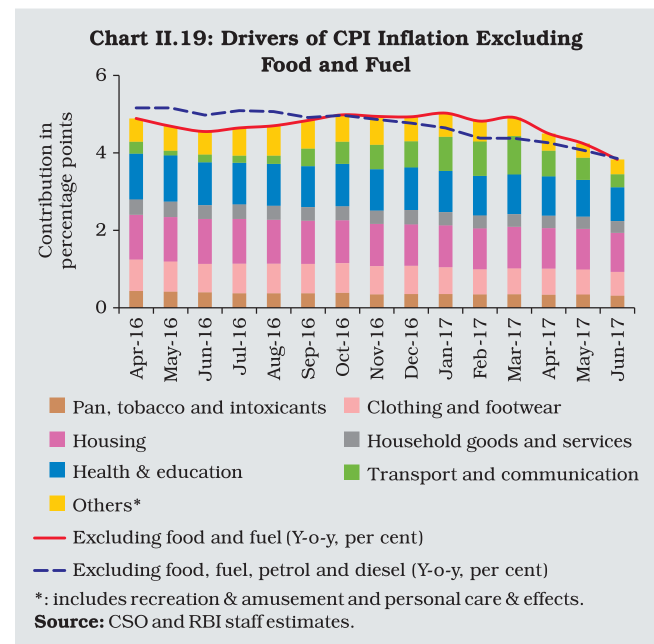
II.2.15 The fuel group (6.8 per cent weight in the CPI) contributed 4.8 per cent to headline inflation during the year, down from 7.1 per cent a year ago. Changes in administered prices of coal, electricity and LPG and hardening of prices of other household fuels including firewood and chips led to fuel inflation increasing from an average of 2.9 per cent till November 2016 to 4.1 per cent thereafter. While in the case of kerosene there was a reduction in subsidy, domestic LPG prices rose in line with international prices. As a result, input cost pressures picked up, especially with respect to raw materials and intermediates.

Non-Food, Non-Fuel

II.2.16 CPI inflation excluding food and fuel remained sticky through the year with a modest ebbing since April 2017 (Chart II.19). Inflation in transport and communication shot up from 0.7 per cent in May 2016 to 6.0 per cent in March 2017, reflecting the increase in international crude oil prices. Housing inflation increased during the year, although its contribution to inflation excluding food and fuel remained stable. Inflation in personal care and effects remained high till Q3 before declining in the last quarter.

II.2.17 Items that showed a moderation in inflation included clothing and footwear, pan, tobacco and intoxicants and services such as household goods and services, health and recreation and

Chart II.19: Drivers of CPI Inflation Excluding Food and Fuel



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

amusement. Inflation excluding food, fuel and petrol and diesel components of transportation averaged 4.9 per cent in 2016-17, down from 5.2 per cent in the previous year.

Other Indicators of Inflation

II.2.18 In April 2017, the Ministry of Commerce and Industry revised the base year for the Wholesale Price Index (WPI) from 2004-05 to 2011-12 in sync with CPI. WPI inflation, based on the new series, ruled higher than CPI inflation from January 2017, reflecting the rise in global commodity prices, particularly crude oil and metals. WPI inflation reached an intra-year peak of 5.5 per cent in February 2017 before easing under the influence of fuel and power group. As such, the narrowing of the gap between measures of inflation based on CPI and WPI, which started in October 2015, got reversed in January 2017 before its re-emergence in June 2017.

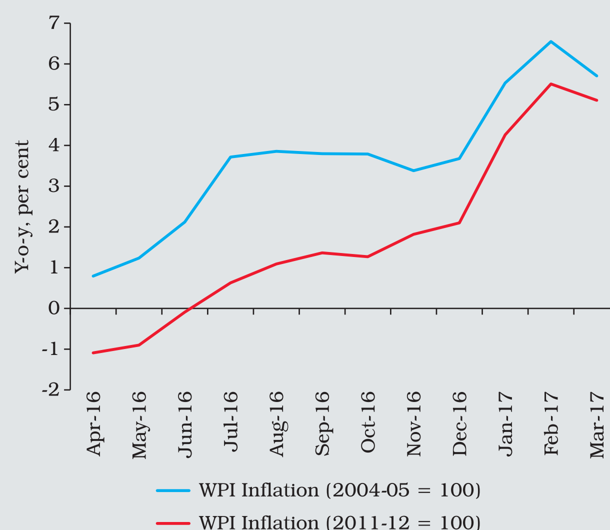
II.2.19 The WPI series is now akin to the Producer Price Index (PPI) as the former excludes indirect taxes. The coverage of WPI was raised to 697 items from 676 and the number of quotations to 8,331 from 5,482. The primary articles' group is now weighted higher while the weights of fuel and power and manufactured products have decreased. In consonance with CPI and international practices, item level aggregation for WPI is based on geometric mean as against arithmetic mean in the old series. The number of 2-digit groups in manufactured products has been increased from 12 to 22 as per the National Industrial Classification (NIC) - 2008. The index for electricity is now compiled as a unified item as against the earlier practice of separate sectoral indices such as for agriculture and industry. A high level standing Technical Review Committee, headed by Secretary, Industrial Policy and Promotion has been set up to review and dynamically update the item basket in tune with the changing structure of the economy.

II.2.20 WPI inflation as per new series was lower during 2016-17 than that based on the old series, even as trends in inflation - overall and major sub-group-wise - remained largely unchanged in the new series (Chart II.20).

II.2.21 For the year as a whole, while inflation as measured by WPI and GDP/GVA deflators increased during 2016-17, sectoral CPI inflation based on CPI-IW, CPI-AL and CPI-RL eased in line with the overall CPI inflation. Following the rise in global crude oil and metal prices, domestic farm and non-farm input costs posted considerable escalation in the second half of 2016-17. Moderate increases in MSPs were announced during the year for crops such as cereals and coarse grains, while the government continued to incentivise the production of pulses and oilseeds by raising their MSPs along with a hike in bonus for pulses.

II.2.22 Rural wage growth firmed up from August 2016, both for agricultural and non-agricultural labourers. In the corporate sector, staff costs

Chart II.20: WPI Inflation in Old and New Base Years



Source: Office of the Economic Adviser, Ministry of Commerce and Industry.

as a proportion of the value of production moved up during the year even as pricing power gradually returned with improvements in demand conditions.

II.2.23 In sum, during 2016-17 CPI inflation ebbed significantly largely reflecting the sharp downturn in the prices of pulses and vegetables following bumper production and supply management measures and later accentuated by the transitory effects of demonetisation. Nonetheless, upside risks may emerge from input costs, wages and imported inflation.

II.3 MONEY AND CREDIT

II.3.1 Several significant developments fundamentally impacted the evolution of monetary aggregates during 2016-17. Up to October 2016, market operations, intended to balance system-level liquidity, set the path of reserve money and money supply. Thereafter, demonetisation and its after-effects, *i.e.*, initial limits on cash withdrawals, war-time operations to absorb the resultant liquidity overhang and the rapid pace of remonetisation, altered their paths drastically as portrayed in sub-sections 1 and 2. Somewhat obscured underneath these tectonic shifts, was a large redemption of FCNR(B) deposits swapped with the Reserve Bank at the time of the taper tantrum, with counter-balancing operations to even out the liquidity effects. During the year, a combination of factors also restrained the demand for and supply of bank credit (as brought out in sub-section 3) and consequently, the mobilisation of deposits. Box II.5 revisits the relationship between credit and output in the context of the seismic changes in monetary conditions during the year. Since January 2017, however, the monetary aggregates are progressively realigning with their usual patterns.

1. Reserve Money

II.3.2 Over the first seven months of 2016-17, the behaviour of reserve money (RM) was largely conditioned by the stance of liquidity management– the Reserve Bank's resolve in its April 2016 bi-monthly policy statement of progressively moving *ex ante* liquidity in the system towards neutrality. In terms of components, currency in circulation (CIC) rose sharply in Q1 but fell back in Q2, reflecting the usual seasonality. Buoyed by festival demand and a bumper *kharif* harvest, a renewed pick-up in CIC was beginning to form in Q3 when demonetisation abruptly stifled it. On November 4, 2016, CIC had scaled an all-time high of ₹18 trillion taking RM to a peak of ₹22.5 trillion. During this seven-month period, bankers' balances with the Reserve Bank – the other component of RM – unwound from the usual balance sheet related build up at the end of March 2016 and banks generally economised on their holdings of excess reserves in view of the Reserve Bank's liquidity provision operations in consonance with its stance including the reduction in daily maintenance requirements with respect to the cash reserve ratio (CRR) from 95 per cent to 90 per cent.

II.3.3 Demonetisation imposed a compression on the level and path of RM. Following the withdrawal of legal tender status of specified bank notes (SBNs) on November 9, 2016, CIC fell precipitously to a low of ₹9 trillion on January 6, 2017 (around 50 per cent of the peak), a level seen more than six years ago. While banks' vault cash shot up in the immediate aftermath, it quickly dropped as the Reserve Bank mounted unprecedented liquidity absorption operations (see Chapter III) to mop up the massive influx of liquidity as SBNs were returned by the public. As a result of these large changes, a downward spiral in RM took it down to ₹13.8 trillion (61 per cent of the peak) by January 6, 2017.

II.3.4 As remonetisation gathered pace, CIC moved up week after week and reached 74.3 per cent of the peak by the end of the financial year. At end-March 2017, CIC amounted to 8.8 per cent of GDP, down from 12.2 per cent in the previous year. At this level, India's currency to GDP ratio compares well with a host of advanced and emerging market economies (such as Germany, France, Italy, Thailand and Malaysia).

II.3.5 As in the past, scheduled commercial banks (SCBs) built up sizable year-end balances, even as excess reserves maintained by them came down to 17 per cent at end-March 2017 from 23 per cent a year ago (Chart II.21). This reflected the abundance of liquidity following demonetisation.

II.3.6 For the year as a whole, RM contracted by around 13 per cent for the first time after 1952-53, as against a similar order of expansion in 2015-16. CIC declined by ₹3.3 trillion, while bankers' balances with the Reserve Bank increased by ₹423 billion. As at end-March 2017, the net Reserve Bank credit to banks and commercial sector declined by ₹6.1 trillion *vis-à-vis* an increase of ₹1 trillion in the previous year.

II.3.7 On the sources side, the year began with considerable turbulence in global financial markets amidst worries about global growth. With capital influx dwindling, accretions to net foreign assets (NFAs) through net purchases from authorised dealers (ADs) were relatively muted during Q1 (Chart II.22). Compensating variations in net domestic assets (NDAs) to ensure a neutral liquidity position took the form of net open market operations (OMOs), *i.e.*, purchases of ₹805 billion in Q1 of 2016-17 as against net OMO sales of ₹51 billion in Q1 a year ago. As financial markets priced in the Brexit referendum, capital inflows resumed in Q2 and accordingly, the pace of OMO purchases moderated to ₹200 billion. Net purchases from ADs increased from ₹78 billion in Q1 to ₹680 billion in Q2. Furthermore, the transfer of the Reserve Bank's surplus of ₹659 billion in August 2016 augmented spending by the government and added to the liquidity in the banking system.

II.3.8 During the third quarter of the fiscal year, the sources of RM underwent significant changes after demonetisation unleashed a wave of liquidity

Chart II.21: Banks' Excess Reserves with the Reserve Bank

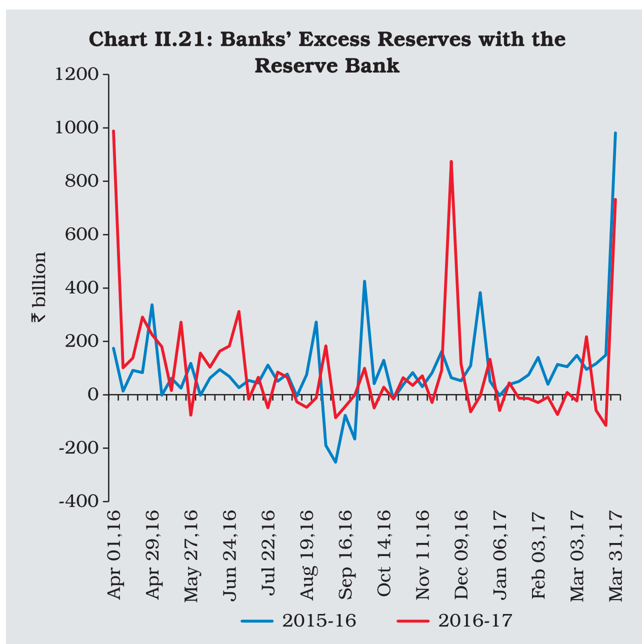
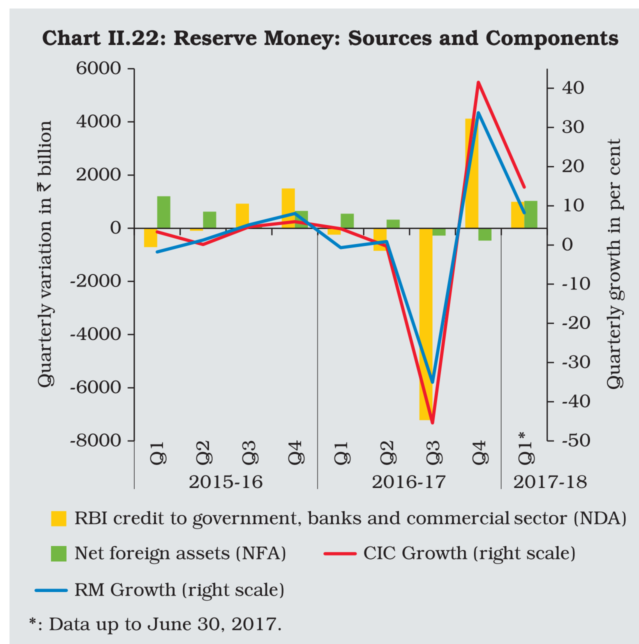


Chart II.22: Reserve Money: Sources and Components



*: Data up to June 30, 2017.

into the system. Initially, reverse repos under the liquidity adjustment facility (LAF) were the principal instrument of absorption, bringing net Reserve Bank credit to banks and the commercial sector down to ₹(–)5.2 trillion as on November 25, 2016 from ₹3 trillion at the beginning of the year. As surplus liquidity mounted, the Reserve Bank imposed an incremental CRR of 100 per cent of the increase in net demand and time liabilities (NDTL) (between September 16, 2016 and November 11, 2016) on November 26, 2016. This temporary impounding of liquidity of the order of about ₹4 trillion was withdrawn from December 10, 2016 with the enhancement of the ceiling on issuance under the market stabilisation scheme (MSS) to ₹6 trillion from ₹300 billion. As the MSS issuances grew and liquidity was sequestered, net Reserve Bank credit to the government declined from ₹4.2 trillion at the beginning of the year to a low of ₹37 billion by December 23, 2016. The outstanding MSS issuances peaked at ₹6 trillion as on January 6, 2017. While remonetisation gathered pace, MSS issuances matured by mid-March, and LAF reverse repo re-emerged as the principal instrument of liquidity absorption. The government's cash balances also declined by ₹613 billion by end-March 2017 and as a result, net Reserve Bank credit to the government increased to ₹6.2 trillion by the end of the year *vis-à-vis* ₹4.2 trillion a year ago.

II.3.9 A comparison of the Reserve Bank's balance sheet size pre- and post-demonetisation shows a decline of ₹0.8 trillion (2.4 per cent) during November 4, 2016 through March 31, 2017 as against an increase of ₹4.7 trillion (16.1 per cent) in the corresponding period a year ago. Moreover, the composition of liabilities changed significantly, with the share of the largest component, *viz.*, notes in circulation declining sharply from 54.3 per cent as on November 4, 2016 to 27 per cent as on January 6, 2017 before increasing to 41.1 per cent at end-March 2017. Furthermore, the MSS impound and other deposits (mainly LAF reverse repo with banks) increased significantly. The switch from non-interest bearing currency liabilities to interest bearing deposits, coupled with a decline in the Reserve Bank's credit to banks, has implications for the Reserve Bank's surplus.

II.3.10 In 2017-18 (upto June 30), with CIC falling short of its level a year ago by ₹2.0 trillion, RM was lower by 5.6 per cent. CIC, in fact, was placed at 85.2 per cent of its pre-demonetisation level on June 30, 2017. Bankers' deposits increased by 16.2 per cent as compared to 13.1 per cent in the corresponding period of the previous year, reflecting a surge in deposits in the banking system. Net Reserve Bank credit to the government and to the banks and the commercial sector drove down the RM, offsetting the upward push from net purchases from authorised dealers.

2. Money Supply

II.3.11 The year-on-year growth of money supply (M_3) slackened during 2016-17, reflecting subdued credit growth and a sizable redemption of FCNR (B) deposits. Barring a short-lived spike during *Diwali*, the deceleration became sharper in the second half following demonetisation.

II.3.12 Turning to the components of money supply, currency with the public largely followed the patterns of CIC discussed in the preceding section. Aggregate and demand deposits follow a seasonal pattern akin to currency with the public, while time deposits are largely stable. However, in 2016-17, aggregate deposits increased sharply in Q2 on account of the release of the 7th CPC award of salaries and pension arrears and mobilisation of deposits under the income declaration scheme. In terms of year-on-year growth, however, aggregate

Table II.4: Monetary Aggregates

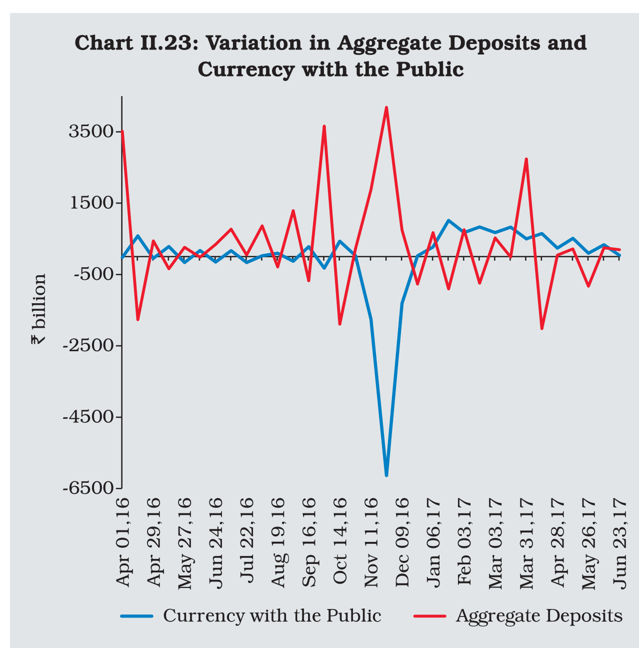
Item	Outstanding as on March 31, 2017 (₹ billion)	Year-on-year growth (per cent)		
		2015-16	2016-17*	2017-18 (as on June 23)
1	2	3	4	5
I. Reserve Money (RM)	19,005	13.1	-12.9	-5.6
II. Broad Money (M_3)	128,444	10.1	7.3	7.4
III. Major Components of M_3				
1. Currency with the public	12,637	15.2	-20.8	-12.6
2. Aggregate deposits	115,596	9.4	11.6	10.6
IV. Major Sources of M_3				
1. Net bank credit to government	38,691	7.7	21.0	14.1
2. Bank credit to commercial sector	84,514	10.7	4.7	5.7
3. Net foreign exchange assets of the banking sector	25,582	12.6	1.1	1.5
V. M_3 net of FCNR(B)	127,084	10.1	8.9	9.1
M_3 Multiplier	6.8			

Note : The data for RM pertain to June 30, 2017.
*: March 31, 2017 over April 1, 2016 barring for RM.

deposits decelerated till October 28, 2016 largely in line with subdued credit growth. Following demonetisation, deposits accelerated sharply as these substituted the currency with the public (Table II.4). The pace of deposits turned somewhat tempered by the redemption of FCNR(B) deposits mobilised under the Bank's swap scheme, which coincided with demonetisation. As a result, the increment in deposits post-demonetisation till mid-February was less than the contraction in currency with the public (Chart II.23). The M_3 growth in 2017-18 (upto June 23, 2017) at 7.4 per cent remained much lower than the growth registered in the corresponding fortnight last year (10.3 per cent).

II.3.13 On the sources side, the growth in net bank credit to the government accelerated sharply reflecting the quantum increase in banks' investment in government securities in the context of a surge in deposits following demonetisation. On the other hand, growth in credit to the commercial sector moderated during the year mainly due to lower credit growth of PSBs.

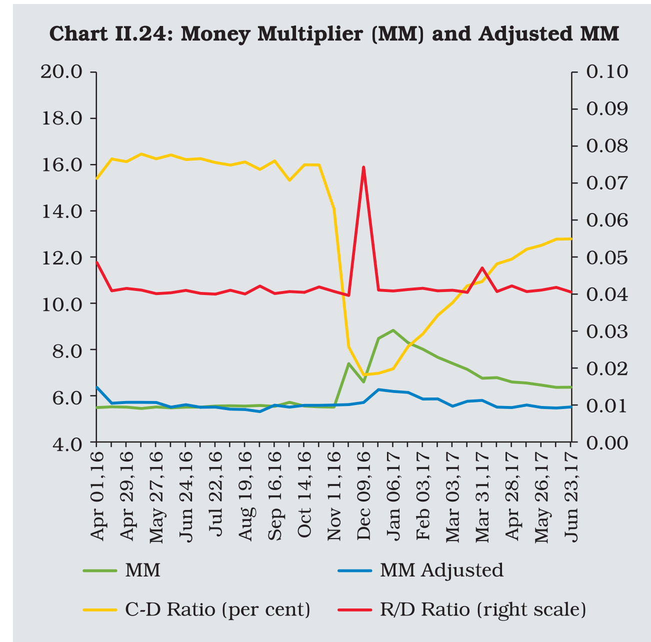
Chart II.23: Variation in Aggregate Deposits and Currency with the Public



II.3.14 The extraordinary developments during the year – exchange of notes/deposits – had a fundamental impact on the money multiplier. In contrast to the previous year, the currency-deposit (c/d) ratio underwent a steep fall due to the contraction in currency with the public and the concomitant increase in deposits. On the other

hand, the reserve-deposit (r/d) ratio remained largely stable, barring the fortnight when the incremental CRR of 100 per cent was applied and the last fortnight of the financial year. The money multiplier, which hovered around 5.5 in the pre-demonetisation phase, scaled up to peak at 8.8 by early January 2017. As remonetisation quickened, the money multiplier declined gradually but remained elevated relative to its own history at 6.8 at end-March 2017 (5.3 a year ago). Adjusted for reverse repo (net) with banks – analytically akin to banks' deposits with the central bank – the money multiplier, however, turned out to be lower and aligned to its pre-demonetisation level at 5.8 at end-March 2017 *vis-à-vis* 6.2 a year ago (Chart II.24).

Chart II.24: Money Multiplier (MM) and Adjusted MM



3. Credit

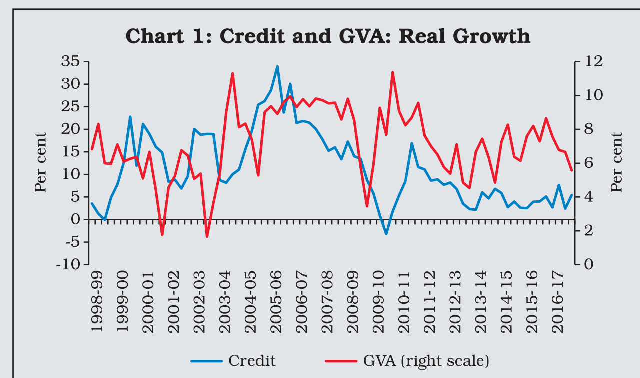
II.3.15 The growth in non-food credit extended by scheduled commercial banks (SCBs) reached a low of 5.8 per cent at end-March 2017, the lowest since 1994-95 (10.9 per cent in the previous year). Banks typically build up credit portfolios at the end of the year for balance sheet considerations. Non-food credit expansion in the last fortnight accounted for 74.2 per cent of the annual increase (38.3 per cent in the previous year). Excluding this window-dressing, non-food credit growth as on March 17, 2017 was even lower at 5.1 per cent *vis-à-vis* 10.9 per cent on the corresponding day in the previous year. A combination of factors drove down credit growth despite softening of lending rates – the subdued state of economic activity (Box II.5);

Box II.5
Credit and Output: Macro and Sectoral Dimensions

Bank lending accounted for around 50 per cent of the total flow of resources to the commercial sector in 2015-16 and about 37 per cent in 2016-17. In a bank-based economy, bank credit is considered critical in determining output (Korkmaz, 2015). Higher credit growth is expected to lead to higher GVA growth and *vice versa*. However, in recent years, there appears to be a disconnect in the growth rates of credit and GVA in India (Chart 1).

The anaemic growth in bank credit in the recent period is attributed to various factors such as stressed assets, subdued economic activity and sticky capacity utilisation. Nevertheless, the data on sectoral deployment of credit reveal divergence in credit growth across sectors

Chart 1: Credit and GVA: Real Growth



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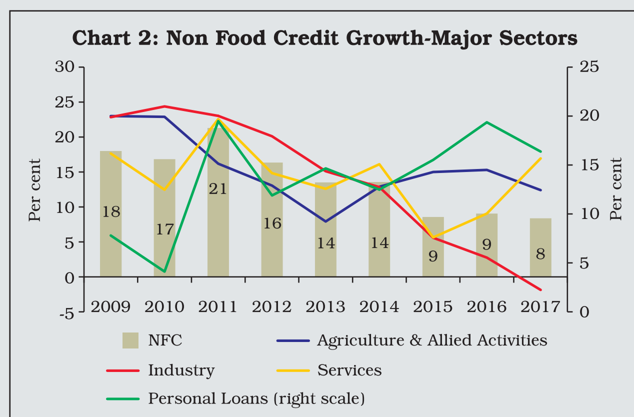

(Chart 2). For example, credit for agriculture and allied activities, and personal loans showed healthy growth, while flows to industry and services sectors were subdued.

The quarterly seasonally adjusted data on real bank credit and GVA for 1996-2017 and sectoral credit for 2007-17 were found to be non-stationary in levels but stationary in first difference. Following Izz and Ananzeh (2016), a co-integrating relationship and a significant error correction mechanism were found between GVA and credit (at aggregate and sectoral levels). A long-run co-integrating relation between credit and GVA has been estimated as:

*Log (gva)=6.99+0.64*log (bc)...........(1)*

where *gva*=real GVA; *bc*=real bank credit. Dummies for 2009-10 Q2 to 2012-13 Q1 (identified through least squares with breakpoints) and for 2015-16 Q2 to 2016-17 Q4 were used to account for the global financial crisis and asset quality review of banks by the Reserve Bank, respectively.

Equation (1) indicates that with every 1 per cent increase in real credit, real GVA increases by 0.64 per cent. Further, the error correction term has a negative sign and is statistically significant, implying that the underlying mechanism corrects disequilibrium.

The estimated long-run co-integrating relation between GVA and sectoral credit is:

*Log (gva)=5.26+0.58*log(agr_cr)-0.006*log(ind_cr) + 0.53*log (ser_cr)...........(2)*

where *agr_cr*= real credit to agriculture; *ind_cr*= real credit to industry; and *ser_cr*= real credit to services sector. Dummy was used for the period since the asset quality review of banks by the Reserve Bank.

At a sectoral level, credit to agriculture and services was associated with higher output; however, industrial credit was not found to be statistically significant, possibly reflecting substitution by other sources of finance such as commercial papers and corporate bonds (RBI 2015). The large and statistically significant coefficient of services' credit may be seen in the context of an increase in the share of the services sector's credit in total non-food credit from 23 per cent in 2007 to 26 per cent in 2017. The healthy growth in credit to the services sector in recent years was driven by professional services, retail trade, NBFCs and transport operators.

To sum up, while the relationship between credit and GVA still holds at the aggregate level, increasing substitution of industrial credit by alternative sources against the backdrop of impaired assets in banks seems to have weakened the relation between industrial credit and output.

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Izz Eddien and N. Ananzeh (2016), "Relationship between Bank Credit and Economic Growth: Evidence from Jordan", *International Journal of Financial Research*, 7(2).

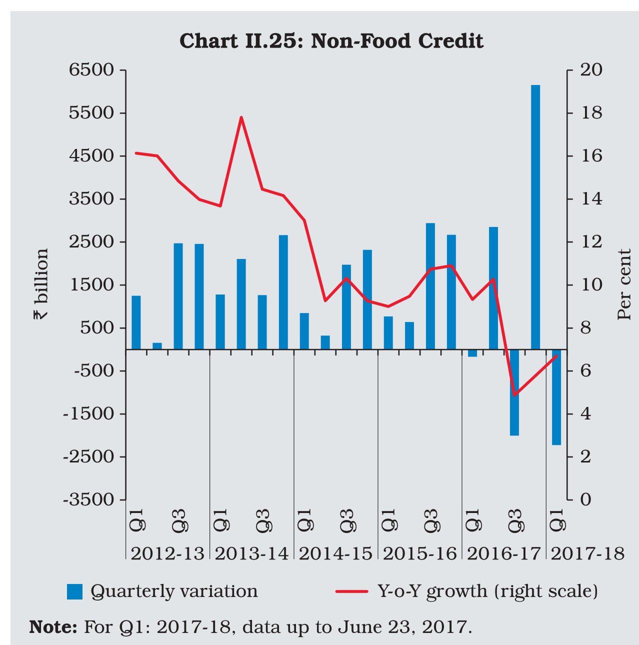
Korkmaz, Suna (2015), "Impact of Bank Credits on Economic Growth and Inflation", *Journal of Applied Finance & Banking*, 5(1).

Reserve Bank of India (2015), "Box II.4: Factors Underlying Recent Credit Slowdown: An Empirical Exploration", Annual Report 2014-15, page No. 32.

risk aversion in the banking sector with a legacy of NPAs and capital adequacy requirements acting as a binding constraint on banks; and disintermediation *via* increasing recourse to market-based instruments, such as commercial papers (CPs) and corporate bonds. Credit growth was also impacted by one-off/statistical factors such as loan write-offs, substitution of bank credit by UDAY bonds, loan repayment by use of SBNs and banks' pre-occupation with exchange of notes/deposits following demonetisation. Even inclusive of CPs, non-food credit growth during 2016-17 was lower at 6.4 per cent as against 10.2 per cent in the previous year. Real credit growth

showed a sharp deceleration to 1.8 per cent from 5.8 per cent a year ago. In terms of intra-year variations, non-food credit flow dipped *albeit* a little more than usual in the first quarter of 2016-17 before posting a sharp recovery in the next quarter – a contrast to its customary behaviour (Chart II.25). While non-food credit flows started receding thereafter, a declining momentum got entrenched in the aftermath of demonetisation. However, it recovered somewhat towards the end of the fourth quarter of 2016-17, reflecting the usual year-end window dressing. During 2017-18 (upto June 23, 2017), NFC growth remained lower at 6.7 per cent when compared with the growth of 9.3 per cent in the corresponding period of the previous year.

Chart II.25: Non-Food Credit



Note: For Q1: 2017-18, data up to June 23, 2017.

II.3.16 Among bank groups, public sector banks trailed behind private banks in terms of credit growth during 2016-17, a secular-like movement evident since 2011-12. Credit to all major sectors, barring services, decelerated/contracted during 2016-17 (Table II.5). Credit to agriculture slowed down to 12.4 per cent from 15.3 per cent in the previous year.

Table II.5: Sectoral Credit Deployment by Banks

Sectors	Outstanding as on March 31, 2017 (₹ billion)	Year-on-year growth (per cent)		
		2015-16*	2016-17#	2017-18$
1	2	3	4	5
Non-food Credit (1 to 4)	**7,0947**	**9.1**	**8.4**	**4.8**
1 Agriculture & allied activities	**9,924**	**15.3**	**12.4**	**7.5**
2 Industry (micro & small, medium and large)	**26,800**	**2.7**	**-1.9**	**-1.1**
(i) Infrastructure	9,064	4.4	-6.1	-2.5
Of which:				
(a) Power	5,254	4.0	-9.4	-1.6
(b) Telecommunications	851	-0.7	-6.8	-9.1
(c) Roads	1,800	5.2	1.4	-6.5
(ii) Basic metal & metal product	4,211	7.9	1.2	-1.0
(iii) Food processing	1,455	-12.5	-3.1	-0.7
3 Services	**18,022**	**9.1**	**16.9**	**4.7**
4 Personal loans	**16,200**	**19.4**	**16.4**	**14.1**
Priority sector	**24,357**	**10.7**	**9.4**	**4.0**

Note : Data are provisional and relate to select banks which cover about 95 per cent of the total non-food credit extended by all SCBs.
* : March 18, 2016 over March 20, 2015; #: March 31, 2017 over March 18, 2016.
$: June 23, 2017 over June 24, 2016.

II.3.17 Credit to industry, particularly infrastructure, food processing and iron and steel segments, has been contracting since October 2016. Credit to industry contracted by 1.9 per cent during 2016-17 in contrast to a growth of 2.7 per cent in the previous year. Credit to infrastructure (which accounts for about one-third of the outstanding bank credit to industry) contracted by 6.1 per cent in 2016-17 on top of a low growth of 4.4 per cent in the previous year. Within infrastructure, credit growth contracted/decelerated in respect of all major segments such as power, telecommunication and roads. Credit to textiles and engineering goods also slowed. However, credit to fertilisers, petro chemicals and construction activity accelerated sharply.

II.3.18 The overall contraction in credit to industry was due to the inter-play of several factors. First, investment activity has been weak in recent years, which has severely impacted credit offtake. Second, within industry, several sector-specific factors contributed to contraction in credit. For example, the power sector, which accounts for about 58 per cent of the outstanding credit to infrastructure, has been facing hurdles like stalled projects, operational inefficiencies and high outstanding debt. Telecommunication industries were experiencing declining revenue and a grim profit outlook due to technological innovations and stiff competition among the service providers. The iron and steel sector was stressed due to weak prices and stiff international competition.

II.3.19 Belying the general trend, personal loans continued to grow at a healthy rate, although the growth was somewhat lower (16.4 per cent *vis-à-vis* 19.4 per cent in the previous year) due to marked deceleration in housing loans which constituted more than half of the outstanding credit to this sector. Credit to consumer durables and vehicles also grew at a healthy rate. Credit flow to the services sector improved significantly to 16.9 per cent from 9.1 per cent last year led by the professional services and trade.

II.3.20 During 2017-18 (up to June 2017), overall credit slowdown has persisted with most sectors witnessing deceleration or contraction. While credit to industry continued to contract, credit growth to agriculture slowed down significantly to 7.5 per cent in June 2017 from 13.8 per cent in the corresponding period of the previous year. Credit to the services sector decelerated sharply, reflecting slowdown across all its sub-components, barring trade and other services.

II.3.21 During 2016-17, the flow of financial resources to the commercial sector declined, largely mirroring the anaemic non-food credit (Table II.6). In contrast, banks' non-SLR investment increased sharply by 47.2 per cent while the flow of resources from non-banks recorded an uptick. Within non-bank sources, notably, private placements by non-financial entities and CPs subscribed by non-banks increased during the year. Among foreign sources, external commercial borrowings (ECB)/foreign currency convertible bonds (FCCB) recorded net outflows for the second year in a row, while the flow of FDI was largely sustained.

II.3.22 The primary issuance of corporate bonds was dominated by private placements *vis-à-vis* public issues, with the former constituting 95.7 per cent of total issuance in 2016-17, up from 92.1 per cent in the previous year. Further, the share of financial entities as against non-financial entities in the resource mobilisation through corporate bonds increased to 71.7 per cent from 71.2 per cent over the same period. During 2017-18 (up to June 2017), the share of financial entities increased further to 84.6 per cent over the previous year.

Table II.6: Flow of Financial Resources to Commercial Sector

(₹ billion)

	2014-15	2015-16	2016-17	2016-17 Apr-June	2017-18 Apr-June
1	2	3	4	5	6
A. Adjusted non-food bank credit	**5,850**	**7,754**	**5,025**	**263**	**-1,927**
i) Non-Food credit	5,464	7,024	3,950	-168	-1,886#
of which: petroleum and fertiliser credit	-139	-18	134	-23	-133
ii) Non-SLR investment by SCBs	386	731	1,075	431	-41#
B. Flow from Non-banks (B1+B2)	**7,005**	**7,358**	**9,257**	**1,276**	**1,654**
B1. Domestic sources	**4,740**	**4,899**	**6,499**	**1,185**	**1,166**
1 Public issues by non-financial entities	87	378	155	29	52
2 Gross private placements by non-financial entities	1,277	1,135	2,004	240	240
3 Net issuance of CPs subscribed to by non-banks	558	517	1,002	720	148
4 Net credit by housing finance companies	954	1,188	1,346	110	225*
5 Total accommodation by 4 RBI regulated AIFIs - NABARD, NHB, SIDBI & EXIM Bank	417	472	469	15	108
6 Systemically important non-deposit taking NBFCs (net of bank credit)	1,046	840	1,245	35	285
7 LIC's net investment in corporate debt, infrastructure and social sector	401	369	277	36	108
B2. Foreign Sources	**2,265**	**2,459**	**2,758**	**91**	**488**
1 External commercial borrowings/FCCB	14	-388	-509	-167	11
2 ADR/GDR Issues excluding banks and financial institutions	96	0	0	0	0
3 Short-term credit from abroad	-4	-96	435	-23	-
4 Foreign direct investment to India	2,159	2,943	2,833	281	477*
C. Total Flow of Resources (A+B)	**12,855**	**15,112**	**14,282**	**1,539**	**-273**
Memo: Net resource mobilisation by Mutual Funds through debt (non-gilt) Schemes	*49*	*147*	*1,206*	*388*	*191*

Note: *: Up to May 2017; #: Up to June 23, 2017.
Source: RBI, SEBI, BSE, NSE, Merchant Banks, LIC, NHB and NSDL.

II.3.23 In sum, the evolution of monetary and liquidity conditions during 2016-17 were shaped by developments such as the withdrawal of SBNs, redemption of FCNR (B) deposits, liquidity management stance of the Reserve Bank and global factors. The fast pace of currency expansion was reversed by demonetisation leading to a surge in liquidity in the system and a slew of measures by the Reserve Bank to manage it. Subdued credit growth and redemption of FCNR(B) moderated money supply growth. With liquidity and currency levels progressing towards neutral/normal, the resolution of stressed assets and recapitalisation of public sector banks will be critical for improving credit off-take.

II.4 FINANCIAL MARKETS

II.4.1 Sporadic episodes of volatility buffeted global financial markets during 2016-17, largely reflecting uncertainties surrounding the materialisation of political risks such as the unexpected outcome of the Brexit referendum and the results of the US Presidential election. Market sentiment was also unsettled by increased prospects of monetary policy tightening by the US. While markets in advanced economies (AEs) generally relied on reflation trade on perceptions of better growth prospects, those in emerging market economies (EMEs) plunged on fears of capital outflows and the Fed rate hike. Subsequently,

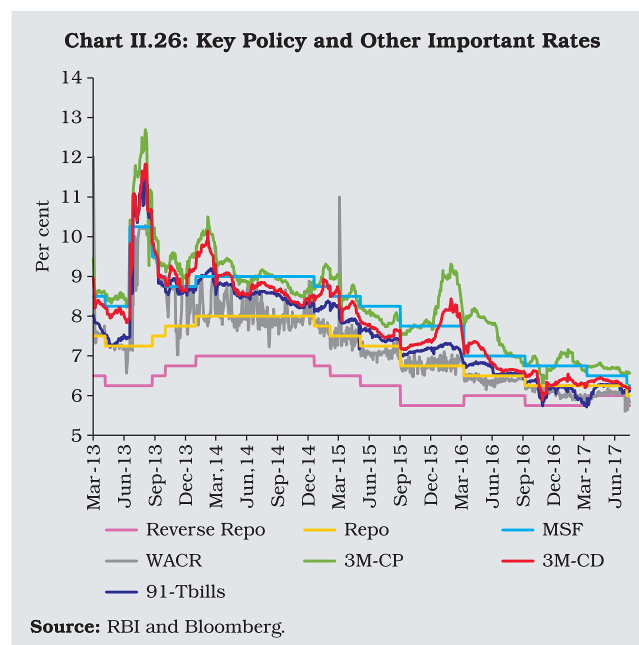
however, equity prices recovered in most EMEs as capital outflows ceased and inflows resumed as reflation exuberance subsided and the stance of the US Federal Reserve was read as being less hawkish.

II.4.2 In India, financial markets were not immune to global developments, especially in equity and foreign exchange segments but others were mostly driven by domestic factors. In the money market, interest rates remained anchored to the policy repo rate on the strength of changes in the Reserve Bank's liquidity management framework in April 2016. In the government securities (G-sec) market, yields generally softened in response to surplus liquidity conditions that were accentuated by demonetisation from November 2016. Abstracting from global spillovers, the equity market surged during the year, largely in response to domestic reforms and improved macroeconomic conditions, as depicted in Box II.6 which evaluates the bull run in the equity market and its sustainability. The domestic forex market remained stable for most part of the year with the Indian rupee (INR) mostly trading with an appreciating bias, except during episodic turbulence caused by global factors.

Money Market

II.4.3 The money market moved in close sympathy with the stance of the Reserve Bank's liquidity management framework in April 2016 engendered, *inter alia*, by (i) smoothening of the supply of durable liquidity; and (ii) progressive lowering of the average *ex ante* liquidity deficit in the system to a position closer to neutrality. The width of the liquidity adjustment facility (LAF) interest rate corridor between the reverse repo rate and the marginal standing facility (MSF) rate was also lowered from 200 bps to 100 bps in April 2016 with the objective of better aligning the

Chart II.26: Key Policy and Other Important Rates



Source: RBI and Bloomberg.

weighted average call rate (WACR) with the policy rate. Further, the minimum daily maintenance of the cash reserve ratio (CRR) was reduced from 95 per cent of the requirement to 90 per cent, effective April 16, 2016. With the introduction of the new liquidity management framework, the Reserve Bank started conducting open market operations (OMO) outright purchases. As a result, the average monthly liquidity deficit in the system consistently declined from April through June 2016. Consequently, WACR remained anchored to the policy repo rate and traded with an easing bias within the policy interest rate corridor. Other money market rates evolved in close alignment with WACR (Chart II.26).

II.4.4 During Q2, overnight money market rates continued to soften and, on an average, remained 10 bps below the policy rate, reflecting the surplus liquidity conditions emanating from a decline in government cash balances and injection of durable liquidity through OMO outright purchases. The rates moderated further following the 25 bps reduction in the policy repo rate in early October.

II.4.5 Demonetisation in November led to a significant softening of money market rates lasting till the end of the financial year. Notwithstanding the unprecedented surplus liquidity conditions, money market rates were generally aligned with the policy rate with a downward bias from December 2016, mainly on account of proactive liquidity management by the Reserve Bank involving, *inter alia*, temporary imposition of the incremental CRR (ICRR) during the fortnight beginning November 26, 2016, issuance of securities under the market stabilisation scheme (MSS) and absorption through the overnight fixed rate reverse repo and variable rate reverse repos of various tenors ranging from overnight to 91-days. The outstanding issuances under MSS peaked at ₹5,966 billion in mid-January 2017. Alongside, the average daily outstanding net liquidity absorption under LAF increased to ₹2,888 billion during November 09, 2016 to March 31, 2017 from ₹70 billion during November 01-08, 2016. Moreover, the usual financial year-end spike in money market rates remained muted in 2016-17 on account of persistence of surplus liquidity in the system.

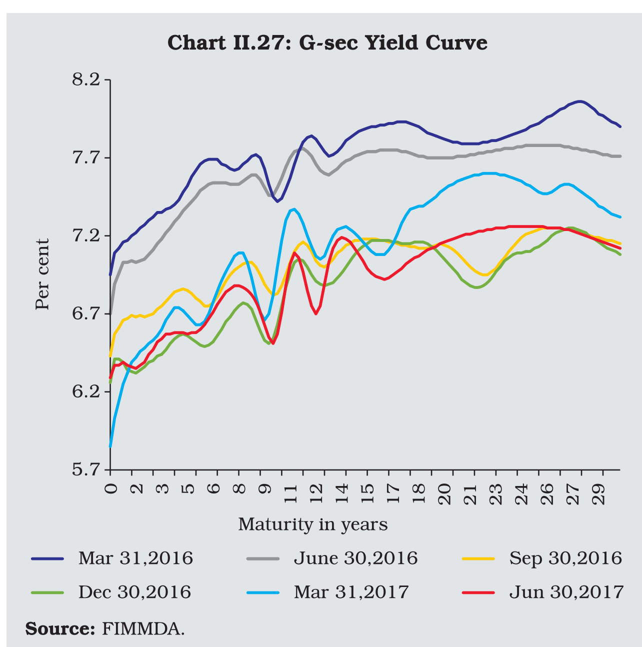
II.4.6 Average daily volume in the money market [call money, collateralised borrowing and lending obligation (CBLO) and market repo] increased significantly by 32 per cent to ₹1,441 billion during 2016-17 from ₹1,090 billion in 2015-16. Volume in call money, CBLO and market repo segments increased by 13 per cent, 32 per cent and 41 per cent, respectively, during the year. Call money, CBLO and market repo segments accounted for 11 per cent, 59 per cent and 30 per cent, respectively, of the total volume during 2016-17 compared to 12 per cent, 59 per cent and 29 per cent in 2015-16. During Q1 of 2017-18, average daily volume in money market (call money, CBLO and market repo) increased further to ₹1,575 billion.

II.4.7 Surfeit of liquidity with banks and enervated credit growth obviated the need for mobilising bulk deposits and, as a consequence, the issuance of certificates of deposit (CDs) declined substantially. The weighted average effective interest rate (WAEIR) on CDs also declined by 1.8 percentage points in 2016-17. The average fortnightly issuance during Q1 of 2017-18 was lower than Q4 of 2016-17 and there was a marginal uptick in WAEIR during the period. In contrast, issuance of commercial paper (CP) increased by around 28 per cent during 2016-17, partly reflecting the substitution of short-term bank credit with market-based funding by highly rated corporates taking advantage of the lower rates. Weighted average discount rate (WADR) on CPs generally declined during the year.

II.4.8 The persistence of easy liquidity conditions resulted in money market rates remaining below the policy rate by an average of 25 bps in April-June 2017. In order to ensure a finer alignment of the operating target with the policy rate, the Reserve Bank narrowed the policy rate corridor to 50 bps from 100 bps in its first bi-monthly monetary policy statement for 2017-18 issued in April. Furthermore, the Reserve Bank undertook issuance of treasury bills (T-Bills) under MSS and OMO sale auctions in addition to regular LAF operations. The average daily outstanding net liquidity absorption under LAF was ₹3,558 billion in Q1 of 2017-18.

G-sec Market

II.4.9 The aggregate volume of transactions in central and state governments dated securities and T-bills (outright as well as repo) increased by 56 per cent, even as yields generally softened during the year, barring some occasional upticks in Q4 (Chart II.27).



Source: FIMMDA.

II.4.10 In Q1, yields remained range-bound with a softening bias on the back of positive sentiment following a reduction in the policy repo rate on April 05, 2016, the change in the liquidity management stance and reduction in the minimum daily CRR maintenance requirements, coupled with stability in the domestic foreign exchange market, expectations of monetary easing by major central banks and an increased likelihood of a dovish stance of the US monetary policy. Yields, however, hardened transiently in the run up to the Brexit referendum on June 23.

II.4.11 Yields continued to soften in Q2 of 2016-17, tracking positive market sentiments generated by the passage of the constitutional amendment bill enabling the introduction of Goods and Services Tax (GST), coupled with comfortable liquidity conditions. The accommodative policy stance of the monetary policy in early August 2016 also helped to bring down yields, which was sustained through September and early October 2016 when the policy repo rate was reduced by 25 bps.

II.4.12 G-sec yields hardened marginally after the release of Federal Open Market Committee (FOMC) minutes in mid-October 2016, which markets read as signalling an imminent raising of rates in the US. The unprecedented surplus liquidity conditions following demonetisation in November 2016 led to a sharp decline in yields, with the 10-year benchmark touching a low of 6.26 per cent on November 24, 2016. Subsequently, yields hardened on announcement of the ICRR, a hike in the MSS ceiling and maintaining of *status quo* on the policy rate in early December 2016. Yields continued to trade in a narrow range till mid-December 2016. The hike in the Fed fund rate by 25 bps on December 14, 2016 and the perceived rising probabilities of three more such increases in 2017, pushed up yields thereafter.

II.4.13 With the policy repo rate held unchanged, a change in the policy stance from accommodative to neutral in February 2017 caused a sharp sell-off in gilts. It was only when positive market sentiments returned post-state election results and the less hawkish stance of the US Fed around mid-March 2017 that a mild softening of yields ensued which lasted till the end of the financial year.

II.4.14 Yields hardened moderately in April 2017 following the enunciation of upside risks to inflation in the minutes of the Reserve Bank's Monetary Policy Committee meeting, released on April 20, 2017. During May 2017, yields hardened initially tracking the US yields ahead of the outcome of the FOMC meeting on May 03, 2017. Subsequently, yields softened on account of a fall in crude oil prices, issuance of a new 10-year benchmark security and lower than expected inflation numbers for April 2017. Yields softened further after the monetary policy statement on June 07, 2017 and this trend continued with the yield moving in a range-bound manner following the release of lower reading on CPI inflation in June 2017.

Corporate Debt Market

II.4.15 Taking advantage of low yields, the resources mobilised through the corporate bond market increased to ₹6,700 billion during 2016-17 from ₹4,922 billion in the previous year. Corporate bond yields softened during 2016-17, tracking movements in G-sec yields and measures taken by the Reserve Bank and the Government to deepen the corporate bond market. These measures include a hike in the aggregate limit of partial credit enhancement provided by banks, permission to brokers in corporate bond repos, and authorisation of a platform for repo in corporate bonds. The 5-year AAA rated corporate bond yield softened by 0.8 percentage point during the year. However, the yield spread of the 5-year AAA rated corporate bond over 5 year G-sec increased during the year reflecting higher perception of credit risk (Chart II.28). The turnover in the corporate bond market increased by around 44 per cent during 2016-17. Foreign portfolio investment in corporate bonds increased to ₹1.9 trillion at end-March 2017 from ₹1.7 trillion in the previous year and accounted for 76 per cent of the limit as compared to 69 per cent a year ago.

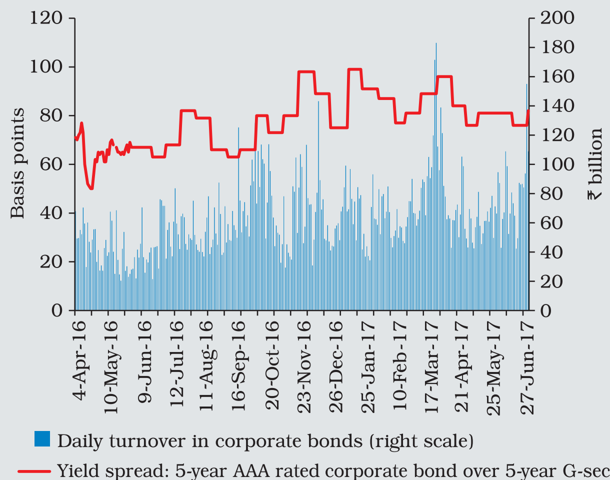
II.4.16 During Q1 of 2017-18, resources mobilised through corporate bonds increased to ₹1,747 billion from ₹1,364 billion in the corresponding period of the previous year. The turnover in corporate bonds also increased substantially to ₹4,347 billion from ₹2,610 billion over the same period. The yield of 5-year AAA rated corporate bonds softened by 16 bps in Q1 of 2017-18. Also, the yield spread of the 5-year AAA rated corporate bond over 5-year G-sec declined by 14 bps reflecting moderation in the perceived credit risk.

Equity Market

II.4.17 During 2016-17, the benchmark Indian equity indices, *i.e.,* the BSE Sensex and Nifty 50 increased by 16.9 per cent and 18.5 per cent, respectively, remaining generally resilient to multiple shocks during the year (Chart II.29).

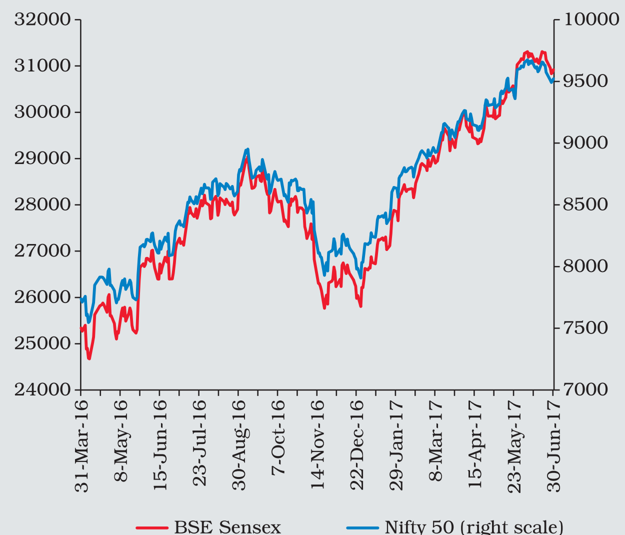
II.4.18 The stock market surged in the first half of 2016-17 on the back of positive sentiments flowing from the government's resolve to adhere to fiscal discipline in Union Budget 2016-17, the announcement of structural reform measures

Chart II.28: Corporate Bond Market Turnover and Yield Spread



Note: FIMMDA started publishing spread data on a fortnightly basis w.e.f. June 2016 as against daily basis earlier.
Source: SEBI, FIMMDA and Bloomberg.

Chart II.29: Movement of BSE Sensex and Nifty 50



Source: BSE & NSE.

(such as, the insolvency and bankruptcy code, and liberalisation of the FDI regime), a normal south-west monsoon, implementation of the 7th Central Pay Commission's (CPC's) recommendations and net purchases by foreign portfolio investors amidst favourable cues from global equity markets.

II.4.19 Following demonetisation, however, the BSE indices of cash-sensitive sectors such as realty, fast-moving consumer goods (FMCGs) and automobiles declined sharply, indicating market expectations of a fall in demand. The stock markets, however, rallied thereafter on better-than-expected Q3 earnings of companies, optimism over Union Budget 2017-18 proposals to stimulate growth while adhering to the path of gradual fiscal consolidation, revival of foreign portfolio investments with a record net buying in March 2017, better than expected Q3 GDP growth data, passage of the GST Bill in the Lok Sabha and expectations of steady progress on economic reforms. In fact, the BSE Sensex and sectoral indices, except BSE auto, surpassed their pre-demonetisation levels in Q4 of 2016-17, indicating that the impact of demonetisation was only transitory.

II.4.20 In Q1 of 2017-18, the BSE Sensex and NSE Nifty 50 increased by 4.4 per cent and 3.8 per cent, respectively in the backdrop of favourable progress in monsoon, perseverance with economic reforms, strong macroeconomic fundamentals and positive cues from global markets. However, the exuberance in the stock markets thus far, has also raised apprehensions about its durability in some quarters (Box II.6).

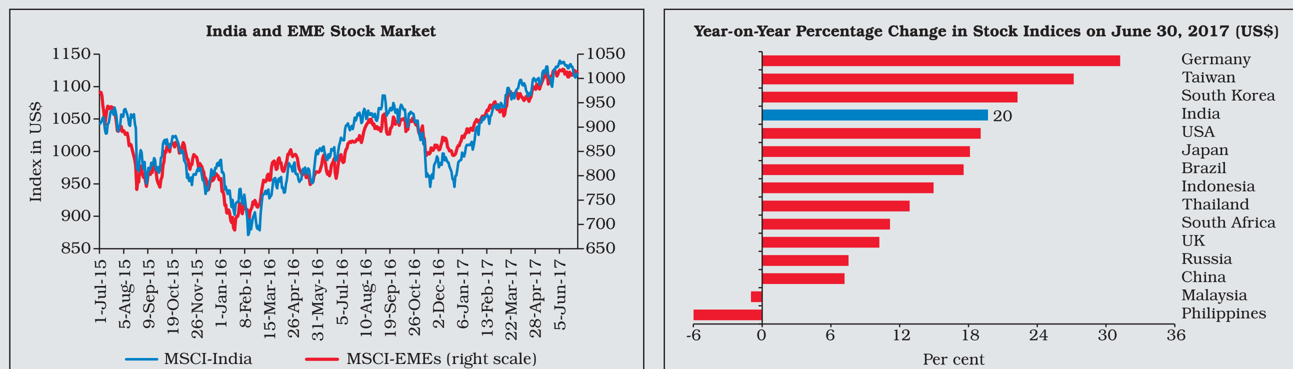
Box II.6
Indian Equity Prices: A Sustainability Analysis

The Indian stock markets surged in 2017 *vis-à-vis* their peers, with the BSE Sensex and NSE Nifty 50 trading at all-time highs with stretched valuations. This has sparked a lively debate as to whether the stock market exuberance is durable (Chart 1).

The market price of an asset consists of a fundamental component, *i.e.*, the expected discounted flow of the asset price and a bubble component, which is defined as a dramatic rise in asset prices driven by speculative behaviour, far exceeding its fundamental value. The fundamental component is expected to change fairly gradually over time, while the bubble component can increase in an explosive or exponential manner.

The empirical identification of asset price bubbles has been animatedly debated (see, Diba and Grossman 1988). Recognising the limitations of the existing methodologies to identify multiple bubbles in a data series, Phillips, *et al.* (2015) used a variant of the standard ADF unit root test, *viz.*, the generalised supremum ADF (GSADF) test on the following reduced form equation:

Chart 1: Performance of Indian Equities *vis-à-vis* Other Major Markets



Source: Bloomberg.

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$$y_t = \mu + \delta y_{t-1} + \sum_{i=1}^{p} \theta_i \Delta y_{t-1} + \varepsilon_t$$

where y is the stock price, μ is the intercept, p is the maximum number of lags; θ_i for i = 1, ..., p are the differenced lags coefficients and ε is the error term. Testing for bubble (explosive behaviour) is based on a right-tail variation of the standard ADF unit root test where the null hypothesis is of a unit root and the alternative is of a mildly explosive autoregressive coefficient, *i.e.*, it tests for H0: δ = 1 and H1: $\delta > 1$. The presence of explosive behaviour in the asset price, *i.e.*, $\delta > 1$ can be taken as evidence of a bubble.

This methodology was applied to the inflation adjusted price-to-dividend ratio of the average monthly BSE Sensex during April 1994 to April 2017, taking the ratio of April 1994 as the baseline. The GSADF test statistic was greater than the critical value at 1 per cent level, possibly indicating evidence of bubbles in the market (Table 1).

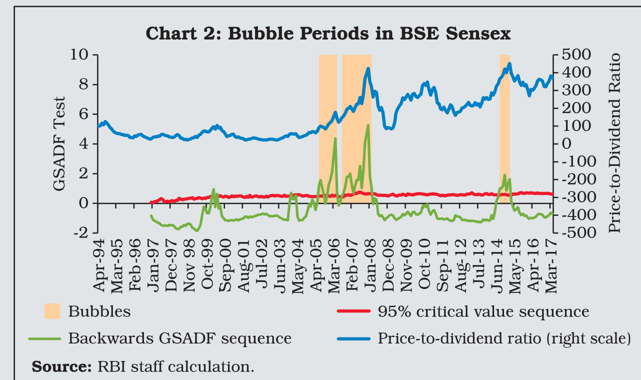
Chart 2 identifies three major asset price bubble periods during April 1994 to April 2017. The first two bubble periods (June 2005 to May 2006, and August 2006 to February 2008), coincided with the booming phase of FPI inflows and bust after the global financial crisis in 2007-08. Another bubble is identified during August 2014 to February 2015

Table 1: The GSADF Test for the Sensex 30 Index

	Test Stat (p-value)	Finite Sample Critical Values		
		90%	95%	99%
GSADF test	5.258 (0.000)	1.92	2.14	2.93

Note: Critical values of the GSADF test are obtained from the Monte Carlo simulation with 1000 replications (Caspi 2014). The smallest window has 33 observations.
Source: RBI and BSE.

Chart 2: Bubble Periods in BSE Sensex



Source: RBI staff calculation.

in the aftermath of the general election results, which ended on concerns over retrospective taxes on FPIs, high valuations and weak earnings growth. No bubble is detected currently when stock prices have reached historical highs. The current rally in stock prices seems to reflect the strong macro fundamentals of the Indian economy, easy liquidity conditions prevailing in the system and buoyancy in global markets. Nonetheless, a constant vigil of stock prices may be warranted at this juncture, keeping in view the ramifications for financial and price stability.

References:

Caspi, I. (2014), “Rtadf: Testing for Bubbles with EViews”, *MPRA Paper No.* 58791.

Diba, B.T, and H.I. Grossman (1988), “Explosive Rational Bubbles in Stock Prices?” *American Economic Review*, 78: 520-530.

Phillips, P.C.B., S. Shi and J.Yu (2015), “Testing for Multiple Bubbles: Historical Episodes of Exuberance and Collapse in the S&P 500”, *International Economic Review,* 56(4).

Primary Market Resource Mobilisation

II.4.21 The primary segment of the equity market sustained its upward momentum during 2016-17 against the backdrop of improved macroeconomic conditions and policy reforms such as passage of GST Bill. Resource mobilisation through initial public offerings (IPOs) more than doubled to ₹291 billion in 2016-17. The gains in IPO activity were marked by a few mega issues. IPO activity remained subdued during October 2016 to February 2017 in view of the volatility in the stock markets and the post-demonetisation uncertainty, but recovered in March 2017. IPO activity accelerated further during Q1 of 2017-18 as reflected in resource mobilisation of ₹78.6 billion compared to ₹58.6 billion in the same period of the previous year.

II.4.22 Resource mobilisation through mutual funds (MFs) more than doubled to ₹3,431 billion in 2016-17 on account of higher mobilisation under income and debt schemes. During Q1 of 2017-18, mutual fund resource mobilisation increased by 3.3 per cent to ₹934 billion from ₹904 billion in the same period of the previous year. Private placement of corporate bonds showed a marked improvement of 39.9 per cent in 2016-17 *vis-à-vis* 13 per cent in 2015-16. During Q1 of

2017-18, private placement of corporate bonds increased by 28.3 per cent to ₹1,725 billion from ₹1,345 billion in the corresponding period of 2016-17. Public issues of non-convertible debentures (NCDs), however, decreased by 14.0 per cent in 2016-17 as against a very high growth of 262 per cent in 2015-16. But, during Q1 of 2017-18, public issues of NCDs increased by 15 per cent over the corresponding period last year.

II.4.23 Resource mobilisation through qualified institutional placements (QIPs) declined by 42 per cent during 2016-17 on top of a decline of 50 per cent in 2015-16. However, it recovered during 2017-18 so far (upto May 2017). During April-May 2017, ₹125 billion was raised through seven QIP issues.

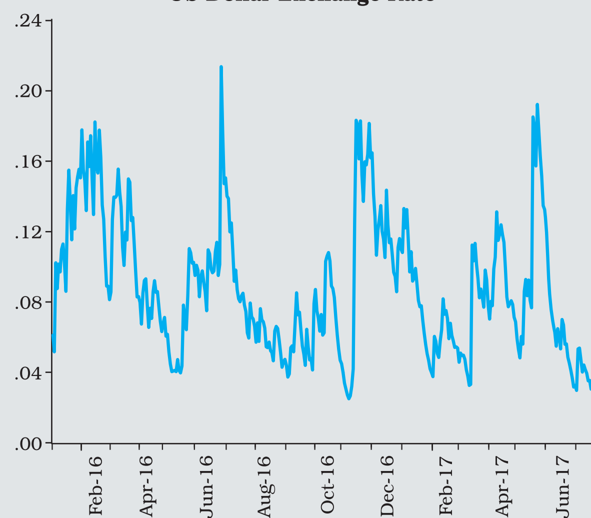
II.4.24 Indian companies mobilised US$ 3,671 million through offshore Rupee-denominated bonds (Masala Bonds) during 2016-17. The framework of Masala Bonds was harmonised with the guidelines on external commercial borrowings in June 2017 for providing an additional avenue for Indian corporates and banks to raise longer-term funds.

Foreign Exchange Market

II.4.25 The Indian foreign exchange (forex) market was generally stable during 2016-17, except for brief episodes of volatility. In March 2017, INR appreciated strongly in response to domestic political developments. The episodes of volatility can be corroborated by conditional variance from an estimated exponential generalised autoregressive conditional heteroscedastic (EGARCH) model (Chart II.30). However, viewed in relation to EME peers, the implied volatility of INR was one of the lowest and hovered in a narrow range (Chart II.31).

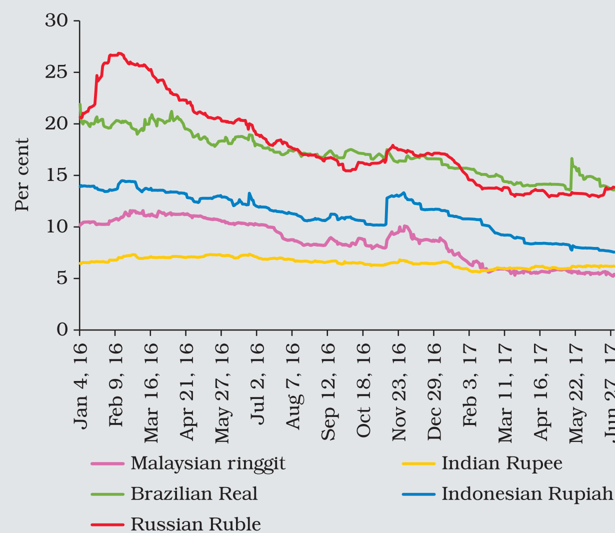
II.4.26 During the first half of 2016-17, INR traded mostly in a range bound manner, except during mid-May to mid-July 2016 when it came under pressure due to the uncertainty surrounding the Brexit referendum. In fact, INR, which stood at 66.33 per US dollar at end-March 2016, touched a low of 68.01 per US dollar on June 24, 2016, the day of the Brexit referendum result. However, INR recovered by early July and remained range-bound.

Chart II.30: Conditional Variance of the Indian Rupee – US Dollar Exchange Rate



Source: RBI staff calculation.

Chart II.31: One-year Implied Volatility of Selected EME Currencies



Source: Bloomberg.

II.4.27 In November 2016, INR again came under downward pressure from simultaneous impact of the result of the US Presidential election and demonetisation in India. Uncertainties surrounding the policies of the new US administration generated sharp volatility in currencies across the globe. US bond yields rose sharply on speculation that the Federal Reserve's rate hikes during 2017 might be steeper than anticipated. This led to large FPI outflows aggregating US$ 9.5 billion from the Indian debt and equity markets during November-December 2016. Notwithstanding this, repayments of the FCNR (B) swaps with banks amounting to US$ 24 billion were conducted smoothly over September - December 2016.

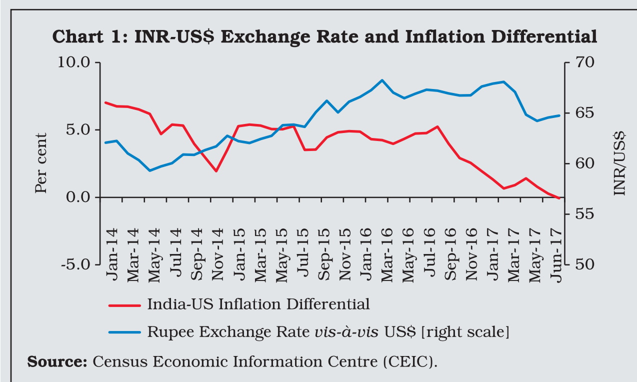
II.4.28 At the beginning of 2017, the markets turned cautious due to uncertainty over the new US President's protectionist policies. However, INR posted significant gains following the announcements in the Union Budget 2017-18 on February 01, 2017 and diminished expectations of steep rate hikes by the Federal Reserve post the FOMC meet on February 01, 2017. During March 2017, INR appreciated significantly as domestic political developments signalled stability on policy issues. This, coupled with softer inflation prints and improving macroeconomic conditions, led to large FPI inflows into debt and equity markets during the month. The strengthening bias of INR was generally sustained during April through June 2017 on continued FPI inflows. During Q1 of 2017-18, INR traded in the range of 64.00 to 65.04 per US dollar. The recent appreciation of the INR has regenerated a debate on its fair value (Box II.7).

Box II.7
Fair-value of the Rupee

The appreciation of the Indian rupee (INR) against the US dollar (US$) since January 2017 has rekindled the debate on the fair value of the INR. Relative to the long-term trend however, the recent appreciation appears to be a minor blip (Chart 1). Further, the *Dollar Index* suggests that US$ has been depreciating over the past six months (Chart 2), likely on account of inflation outlook, dovish Fed guidance, and uncertain political climate in the US.

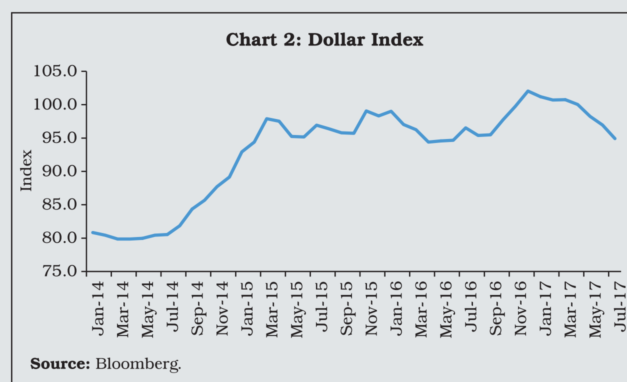
Theory suggests that the nominal exchange rate should depreciate to maintain competitiveness of Indian exports if Indian inflation is higher than those of trading partners.

Chart 1: INR-US$ Exchange Rate and Inflation Differential



Source: Census Economic Information Centre (CEIC).

Chart 2: Dollar Index



Source: Bloomberg.

But the India-US inflation differential, as seen in Chart 1, has declined significantly compared to 2014, and the INR is not the only currency that has appreciated *vis-à-vis* US$, between November 1, 2016 and August 8, 2017, amongst other currencies of emerging market economies (EMEs) (Chart 3).

To evaluate whether the INR is fairly valued, two different methodologies are adopted. The first approach is a "Productivity Based" approach, which argues that the currency will depreciate less if the economy's productivity

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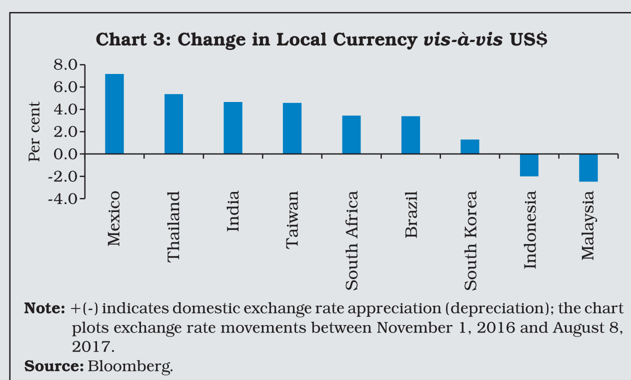


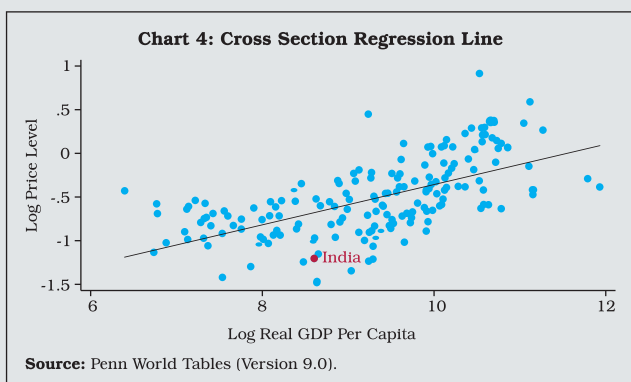
Note: +(-) indicates domestic exchange rate appreciation (depreciation); the chart plots exchange rate movements between November 1, 2016 and August 8, 2017.
Source: Bloomberg.

growth is higher than those of trading partners (the so-called Balassa-Samuelson effect).

The second approach or the "Sustainable Current Account" approach is based on a normative evaluation of the sustainable level of Current Account (CA). The equilibrium value of the currency is then estimated based on the gap between the actual and the sustainable CA and the elasticity of CA with respect to the exchange rate.

I. Productivity Based Approach

Improvement in productivity *vis-à-vis* trading partners plays a crucial role in explaining movements in equilibrium exchange rates – also known as the Balassa-Samuelson (B-S) effect. The B-S theory suggests that as EMEs grow over time, labour productivity of their traded-goods sector will tend to rise, spilling over to wages and prices in the non-traded goods, and thereby leading to an increase in the overall price level (Balassa 1964; Rogoff 1996), causing the currency to appreciate[3].



Source: Penn World Tables (Version 9.0).

In order to determine the real effective exchange rate valuation (REER) – a summary indicator of movements in the exchange rate of home currency against a basket of currencies of trading partners adjusted by the ratio of domestic to foreign prices, as implied by the B-S type growth effects, a parsimonious framework, as in Subramanian (2010) and IMF (2006) is attempted here. Eq. (1) below is estimated using the 2014 cross-section for 180 countries from the Penn World Tables (version 9.0), latest available in the database:

$$lnP_i = \alpha + \beta lnY_{i,} \qquad (1)$$

where P_i represents price level of GDP (the Real Exchange Rate) for country '*i*', and Y_i is GDP per capita in PPP terms. β measures the equilibrium impact of economic growth on the real exchange rate. The coefficient estimated for β is 0.23 for the 2014 cross-section of countries (Chart 4). The estimated coefficient is used to project the increase in REER between 2014 and 2017 for a predicted increase in Y_i for India.[4] As per the projections of the model, the 6-country INR-REER at 131.2 in June 2017 is closely aligned to its fair value.[5] A sensitivity analysis over the 90 per cent confidence interval on the estimated β also suggests that the Indian REER as of June 2017 is broadly aligned to its fair value according to this approach.

II. Sustainable Current Account Approach

Another approach to determine REER valuation relies on a normative evaluation of current accounts and exchange rates. One way to assess a sustainable level for the current account is based on the "External Sustainability" (ES) approach developed by the Consultative Group on Exchange Rate Issues (CGER, IMF). Rangarajan and Mishra (2013) applied this approach to India and estimated the sustainable current account deficit (CAD) to be 2.3 per cent of GDP. This approach, therefore, suggests that the CAD at 0.6 per cent of GDP in Q4: 2016-17 is below the level that can be sustained over the medium term. The equilibrium REER for India is then estimated using the following equation:

$$\frac{REER_{it} - REER_{it}^{eq}}{REER_{it}^{eq}} = \frac{(CA/GDP)_{it} - (CA/GDP)^{benchmark}}{\varepsilon_{it}} \qquad (2)$$

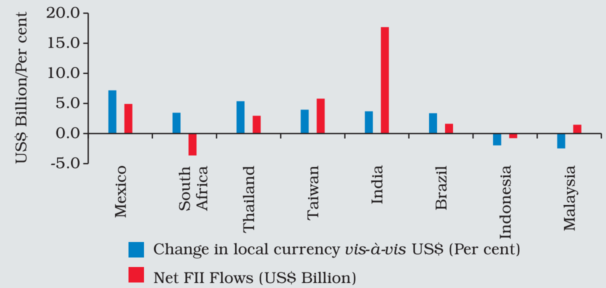
(Contd....)

[3] This is not to say however, that if Indian inflation differentials corrected for productivity differentials remain high, the INR will not need to depreciate in the future.

[4] Source: World Economic Outlook Database, International Monetary Fund, April 2017.

[5] GDP per capita in PPP terms has been used as a proxy for productivity differential in tradable and non-tradable sectors (relative to trading partners). Although the PPP approach captures simultaneity of exchange rate determination covering maximum number of countries, it could have its limitation in determining country specific fair value.

Chart 5: Exchange Rate Movements and Net FII Flows in EMEs



Note: +(-) indicates domestic exchange rate appreciation (depreciation); the chart plots exchange rate and FII movements between November 1, 2016 and August 8, 2017. FII net inflows include FII inflows into both equity and debt. "Net" inflows = Gross inflows - gross outflows.
Source: CEIC, Bloomberg.

Using a Current Account/GDP-REER semi-elasticity (ε_{lt}) of 0.18 based on CGER[6], the REER is estimated to be moderately undervalued.

A sensitivity analysis using a ± 1 percentage point band around the sustainable-CAD to GDP ratio suggests that the Indian REER as of June 2017, is broadly aligned to its fair value to being moderately undervalued. These are in line with the IMF (Article IV consultation press release 2017) observation that "*India's external position in FY2015/16 was broadly consistent with medium-term fundamentals and desirable policy settings.*"

Conclusion

To sum up, despite minor blips, the INR real exchange rate remained closely aligned to its fair value over the long term. Short run nominal exchange rate movements in EMEs (Chart 5) incorporate several other factors, capital flows perhaps being the most important among them, and require further careful analysis.

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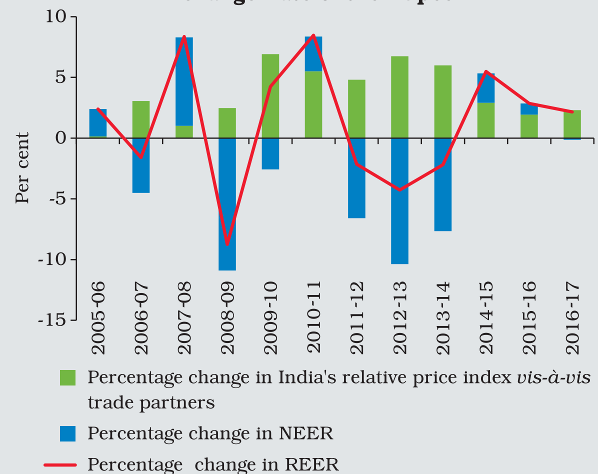
II.4.29 In nominal effective terms (a 36-currency basket), the INR remained almost stable during 2016-17. In contrast, the real effective exchange rate (REER) of the INR appreciated for the third successive year, though marginally, mirroring the increase in India's relative price index *vis-à-vis* its trade partners (Chart II.32).

Chart II.32: Decomposition of Real Effective Exchange Rate of the Rupee



Source: RBI staff calculation.

II.4.30 Notwithstanding a short-lived upsurge post-demonetisation, forward premia generally decreased during 2016-17 - mainly reflecting declining interest rate differential between India and the US. While activity in the merchant segment remained at the previous year's level, inter-bank turnover showed a slight uptick. Overall, activity in both the spot and forward/swap segments picked up during 2016-17.

II.4.31 With improved macroeconomic conditions as reflected in low inflation, continuing fiscal consolidation, moderate current account deficit and increasing capital inflows, the Indian financial markets are expected to remain resilient in the near term.

[6] Estimate of semi-elasticity for India is close to the CGER estimate.

II.5 GOVERNMENT FINANCES[7]

II.5.1 Revenue mobilisation became the cornerstone of fiscal consolidation in 2016-17, enabling the central government to achieve the targets for key deficit indicators; the immediately following subsection provides analytical details. While revenue expenditure was broadly maintained at the budgeted level, capital expenditure was stepped up over and above the budget estimates (BE). This marked a welcome departure from earlier years when capital expenditure was invariably pruned to meet deficit targets. The government has budgeted to bring down the gross fiscal deficit (GFD) and the revenue deficit (RD) further in 2017-18 (see subsection 2). At the sub-national level, all the three major deficit indicators - the consolidated GFD, the primary and revenue deficit to GDP ratios - overshot the BE for 2016-17. States plan to rein in their primary and fiscal deficits and post a revenue surplus in 2017-18 (see subsections 3 and 4 for a disaggregated analysis).

1. Central Government Finances in 2016-17

II.5.2 The fiscal strategy for 2016-17 was mainly revenue-driven, keeping in view the commitments relating to the implementation of the 7th Central Pay Commission (CPC) and the one-rank-one pension (OROP) award. Net tax revenue of the centre (*i.e.*, net of devolution to states) exceeded the budgeted amount by 4.6 per cent. While gross direct tax revenues were buoyed by collections of around ₹674 billion under the Income Declaration Scheme (IDS), higher revenues from indirect taxes were generated by an upward revision in clean environment cess, imposition of an infrastructure cess on certain motor vehicles, additional excise duty on jewellery articles and increase in excise duty on tobacco products. The imposition of the *Krishi Kalyan Cess* on services from June 1, 2016 and pruning of the negative list fortified service tax collections. Customs duty collections were, however, circumscribed by subdued imports.

II.5.3 Non-tax revenues recorded a shortfall of 15.1 per cent from budgetary targets, mainly on account of lower receipts from interest, dividends and profits. Receipts from communication services fell short of the budgeted targets as high value spectrum bands remained unsold. Proceeds from disinvestment – amounting to ₹477 billion – were the highest in any financial year so far, even though they were lower than the BE by 15.5 per cent due to a shortfall from the strategic sale target. Nonetheless, total non-debt receipts registered a growth of 14.5 per cent during the year *vis-à-vis* 9.1 per cent in the previous year.

II.5.4 Committed expenditure towards CPC and OROP awards was largely offset by scaling down provisions under interest payments, keeping the overall level of revenue expenditure close to the budgeted level. On the other hand, a sizable enhancement of capital outlay over the BE was targeted at key physical infrastructure sectors.

II.5.5 Reflecting these developments, the budgeted target for GFD-GDP ratio at 3.5 per cent was met in the Provisional Accounts (PA). Owing to robust tax revenues, the RD-GDP ratio at 2.0 per cent was lower than the budgeted 2.3 per cent (Table II.7).

[7] The discussion on central government finances for 2016-17 is based on Provisional Accounts (PA) while that on states for the same year is based on Revised Estimates (RE).

Table II.7: The Central Government's Fiscal Performance

(Per cent to GDP)

Item	2004-08	2008-10	2010-15	2013-14	2014-15	2015-16	2016-17 (RE)	2016-17 (PA)	2017-18 (BE)
1	2	3	4	5	6	7	8	9	10
Non-debt receipts	10.4	9.5	9.5	9.4	9.3	9.2	9.7	9.5	9.5
Tax revenue (gross) (a+b)	10.6	10.2	10.2	10.1	10.0	10.6	11.2	11.3	11.3
Tax revenue (net)*	7.8	7.5	7.3	7.3	7.3	6.9	7.2	7.3	7.3
a) Direct tax	5.0	5.9	5.7	5.7	5.6	5.4	5.6	5.6	5.8
b) Indirect tax	5.5	4.3	4.5	4.5	4.4	5.2	5.6	5.7	5.5
Non-tax revenue	2.1	1.8	1.8	1.8	1.6	1.8	2.2	1.8	1.7
Non-debt capital receipts	0.4	0.3	0.4	0.4	0.4	0.5	0.4	0.4	0.5
Total expenditure	13.8	15.8	14.3	13.9	13.4	13.1	13.3	13.0	12.7
Revenue expenditure	11.9	14.1	12.6	12.2	11.8	11.2	11.4	11.1	10.9
Capital expenditure	1.9	1.7	1.8	1.7	1.6	1.8	1.8	1.9	1.8
Revenue deficit	2.0	4.9	3.5	3.2	2.9	2.5	2.0	2.0	1.9
Gross fiscal deficit	3.4	6.2	4.8	4.5	4.1	3.9	3.5	3.5	3.2

BE: Budget Estimates; RE: Revised Estimates; PA: Provisional Accounts.
* Tax revenue (net) represents gross tax revenue *less* devolution to state governments.

2. Central Government Finances in 2017-18

II.5.6 The central government remains committed to fiscal consolidation, budgeting a 0.3 percentage point reduction in the GFD-GDP ratio for 2017-18. The timeline for attainment of the target of 3.0 per cent has, however, been shifted from 2017-18 to 2018-19. This deferment was also a deviation from the fiscal roadmap proposed by the Fiscal Responsibility and Budget Management (FRBM) Review Committee, 2017 (Chairman: Shri N.K. Singh) (Box II.8).

II.5.7 The budgeted reduction in deficit indicators is based on increases in tax revenues and disinvestment proceeds, and containment of the growth in expenditure. At the same time, enhanced budgetary allocations have been made for the farm and rural sectors, the social sector, infrastructure and employment generation.

II.5.8 The buoyancy of gross tax revenue is budgeted to decline to 1.03 in 2017-18 from 1.64 in 2016-17. Conservative accounting of potential revenue from the likely implementation of the Goods and Services Tax (GST) also impinged on the budget estimates. Direct tax revenues, on the other hand, are expected to be supported by a surcharge of 10 per cent on the income bracket of ₹5 million to ₹10 million. Non-tax revenues are budgeted to increase by a modest 5.3 per cent. Proceeds from disinvestment are pegged at ₹725 billion in the BE – reflecting an expected growth of 51.8 per cent – despite a significant shortfall in past realisations. This is proposed to be achieved through a ₹465 billion stake sale in Public Sector Enterprises (PSEs), ₹150 billion disinvestment in strategic and minority stake holdings and ₹110 billion by listing of insurance companies.

II.5.9 The government has merged plan and non-plan expenditure with a view to simplifying budget accounts. Total expenditure is shown as 'scheme' and 'other than scheme' expenditure. The re-classification of expenditure will facilitate effective monitoring and outcome assessments of various projects/schemes of the government.

Box II.8
Recommendations of the FRBM Review Committee

The FRBM Review Committee (Chairman: Shri N. K. Singh), constituted in May 2016 was mandated to (i) look into various aspects, factors and considerations going into determining FRBM targets; (ii) judge the merit of having a fiscal deficit range as the target in place of the existing point estimates; and (iii) examine the need and feasibility of aligning the fiscal expansion/contraction with credit contraction/expansion in the economy.

The Committee, which submitted its report in January 2017, proposed the establishment of a new fiscal framework for India designed to target the debt-to-GDP ratio, in addition to the existing deficit targets. Separate debt targets for the central and the state governments have been recommended to align with solvency considerations, following international best practices in order to avoid the threat of a debt trap. In order to improve fiscal governance, the Committee recommended setting up of an autonomous fiscal council under the Ministry of Finance. For the first time in India, the Committee outlined a well-defined escape clause as well as a buoyancy clause, clearly setting out the conditions under which these can be invoked.

The new rules include a proposal for a prudent medium-term ceiling for general government debt of 60 per cent of GDP - 40 per cent for the centre and the balance 20 per cent for the states - to be achieved no later than 2022-23. In this context, one of the earlier studies also found that a reasonable and feasible public debt ceiling for India's medium-term fiscal framework could be in the range of 60-65 per cent of GDP (Topalova and Nyberg 2010).

The fiscal deficit would remain the key operational target to achieve the medium-term debt ceiling and would be progressively brought down to 2.5 per cent by 2022-23. Concomitantly, the revenue deficit-GDP ratio is projected to decline steadily by 0.25 percentage point each year to reach 0.8 per cent in 2022-23.

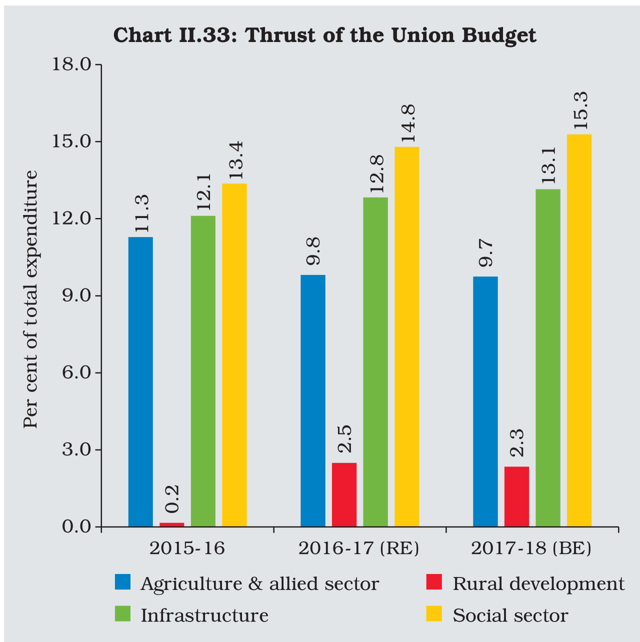
The proposed 'escape clauses' are (i) over-riding consideration of national security, acts of war; calamities of national proportion and collapse of agriculture severely affecting farm output and incomes; (ii) far-reaching structural reforms in the economy with unanticipated fiscal implications; and (iii) a sharp decline in real output growth of at least 3 percentage points below the average for the previous four quarters. Even in the above circumstances, deviations from the stipulated GFD-GDP ratio target should not exceed 0.5 percentage point in a year. In addition, there is a buoyancy clause which can be invoked by the government if there is a sharp increase in real output growth of at least 3 percentage points above the average for the previous four quarters. In this scenario, the fiscal deficit must fall by at least 0.5 percentage point below the target.

The Committee also recommended the constitution of a fiscal council comprising experts in public finance, economics, or public affairs to provide an independent assessment of the central government's fiscal performance and compliance with targets. In terms of institutional reforms in fiscal management, the Committee recommended (i) issuing detailed policy guidelines by the central government to provide proactive guidance to state governments; (ii) assigning to the 15th Finance Commission the task of determining inter-state allocations for state governments for achievement of the overall debt and fiscal targets; (iii) requesting the Reserve Bank of India to arrange for issuance of a consolidated annual prospectus of planned annual bond and loan issuances by each state government; and (iv) introducing credit ratings for each prospectus by approved credit rating agencies. With a view to enhancing fiscal transparency, the Committee recommended adoption of international best practices for compilation and presentation of fiscal accounts, as laid out in the International Monetary Fund's Government Finance Statistics Manual 2014.

Reference:

Topalova, P. and D. Nyberg (2010), "What Level of Public Debt Could India Target?", *IMF Working Paper*, WP/10/7, January.

II.5.10 Total expenditure is budgeted to grow by a modest 8.7 per cent in 2017-18 (10.3 per cent in 2016-17), led by a deceleration in revenue expenditure. Capital expenditure is budgeted to grow at 6.7 per cent, with emphasis on priority areas such as physical infrastructure and the social sector (Chart II.33). Expenditure on major subsidies, *viz*., food, fuel and fertiliser is budgeted to remain at 1.4 per cent of GDP as in the previous year. In line with the *Indradhanush* plan, ₹100 billion has been allocated towards recapitalisation of public sector banks (PSBs).



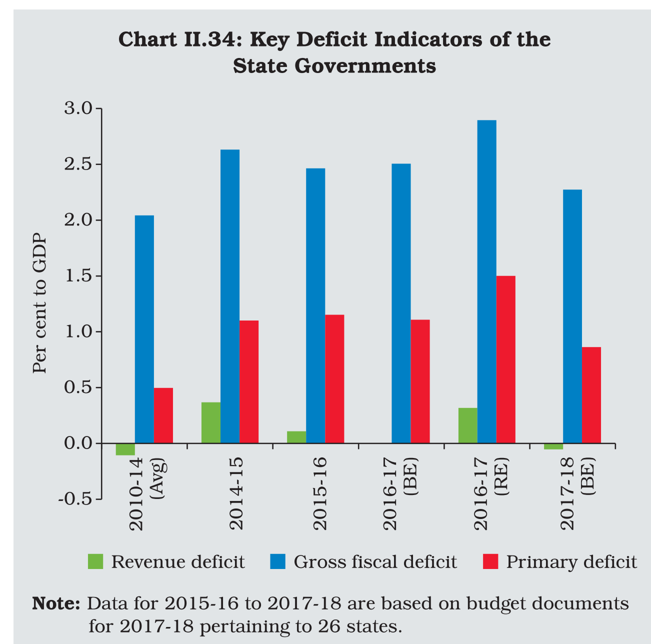
II.5.11 As per the latest information available, the fiscal position of the central government in terms of key deficit indicators deteriorated during the first quarter of 2017-18 (April-June) as compared to the corresponding quarter of the previous year. RD and GFD, both in absolute terms as well as per cent of BE, were higher than those in the corresponding quarter of the previous year. Deterioration in fiscal position was the outcome of lower growth in revenue and higher growth in expenditure. On the receipts side, growth in tax revenue decelerated sharply on account of a slowdown in all major taxes (income tax collections, customs duties, excise duty and service tax), except corporation tax. Total expenditure at 30.3 per cent of BE was higher than 25.9 per cent in the corresponding quarter of the previous year due to higher revenue expenditure and a sharp turnaround in the capital account – in conformity with the government's intention of front-loading expenditure before the onset of monsoon. Going ahead, the pickup in capital expenditure augurs well for improvement in expenditure quality.

3. State Finances in 2016-17

II.5.12 Available information pertaining to 26 state governments indicates a deterioration in GFD, revenue and primary deficits in 2016-17 (RE) *vis-à-vis* the BE. The revenue account worsened because of shortfall in revenues and expenditure overshooting. Compared with the actuals of the previous year, the consolidated GFD increased by 0.4 percentage point to 2.9 per cent of GDP in 2016-17.

4. State Finances in 2017-18

II.5.13 The GFD-GDP ratio of states is budgeted to improve to 2.3 per cent during 2017-18 (from 2.9 per cent in the RE for 2016-17), largely on the back of a projected rise in tax revenue – both own tax revenue as well as tax devolution – and moderation in revenue expenditure (Chart II.34). The revenue account is also expected to post a surplus during the year. States have, however, a weak track record of fiscal marksmanship. Moreover, several risk factors such as implementation of their own pay commission recommendations and farm



loan waivers may impact state finances in the near term (Box II.9). The flexibility for additional borrowings given by the 14th Finance Commission may encourage states to take greater recourse to market borrowings which, in turn, could exert pressure on yields, thereby raising the cost of borrowings. On the revenue side, the transition to GST may temporarily impact tax receipts, although the proposed compensation clause from the centre may provide some headroom (see Chapter III of the report on State Finances: A Study of Budgets of 2016-17).

Box II.9
Farm Loan Waiver

Recent instances of farm loan waivers in India include the Agricultural Debt Waiver and Debt Relief (ADWDR) Scheme announced by the central government in 2008 and state-specific farm loan waivers announced by Andhra Pradesh and Telangana in 2014; Tamil Nadu in 2016; and Uttar Pradesh, Maharashtra, Punjab and Karnataka in 2017, so far.

While the benefit of debt relief to individual households can be substantial, the merit of unconditional bailouts in improving productivity and enhancing welfare remains debatable. While it has been argued that debt relief measures improve the productivity of recipient households as high levels of indebtedness distort investment and production decisions, the counter narrative suggests that loan write offs are detrimental to the culture of prudent borrowing and repayment and stigmatise borrowers in default. Moreover, they do not increase productivity of beneficiaries and affect households' expectations about the reputational consequences of default leading to a decline in investment expenditure (Kanz 2012).

In the Indian context, the ADWDR of 2008-09 was expected to benefit around 37 million small and marginal farmers and around 10 million other farmers. The cost of the Scheme was estimated to be about ₹717 billion (RBI 2008). In June 2016, the government of Tamil Nadu ordered the waiver of agricultural loans outstanding as at end-March, 2016 from co-operative banks to small and marginal farmers, the cost of which was estimated at around ₹60 billion over a 5-year period ending March 2022. The budgetary provision for the same in the form of grants amounted to ₹18 billion in the revised estimates for 2016-17 and ₹18 billion in 2017-18 – both around 0.1 per cent of Tamil Nadu's gross state domestic product (GSDP). A recent direction by the Madras High Court to the state government to extend the scheme to all farmers would further add to the state's fiscal burden.

In April 2017, Uttar Pradesh (UP) announced a farm loan waiver scheme which is expected to benefit small and marginal farmers by writing off their loans of around ₹360 billion – around 2.5 per cent of UP's GSDP. Maharashtra has recently announced a loan waiver scheme for farmers; similarly, Punjab has announced a waiver on crop loans benefitting small and marginal farmers while Karnataka has announced a waiver amounting to ₹81.7 billion for farmers availing farm loans from cooperative banks.

Implications

First, the benefit of full loan waiver to farmers under the ADWDR of 2008 turned out to be highly skewed and concentrated in states where concentration of land holdings was low on account of land reforms (Ramakumar 2013). Second, waivers can have two major implications for the banking system: (i) while it may cleanse banks' balance sheets in the short-term, it may disincentivise banks from lending to agriculture in the long-term (EPW Research Foundation 2008; Rath 2008); and (ii) farmers may tend to factor in future credit constraints and reluctance of formal institutions to lend to them following waivers; hence, they may tend to shift to informal sources of credit (Kanz 2012). Consequently, loan waivers can have a dampening impact on rural credit institutions. Moreover, they impact credit discipline, vitiate credit culture and dis-incentivise borrowers to repay loans, thus engendering moral hazard.

Finally, loan waivers could add to the fiscal burden over the medium term as they are essentially a transfer from tax payers to borrowers. As per initial estimates, the total loan waivers announced during 2017-18 (upto August 2, 2017) amount around 0.4 per cent of GDP. Depending on possible cutback under other expenditure heads, this may result in an increase in the consolidated GFD-GDP ratio of states by about 20-40 basis points. An empirical exercise reveals that such random policy shocks have an enduring impact on market borrowings as evident from past episodes of such waivers. If overall government borrowings increase, yields on state development loans (SDL) may firm up posing higher interest burdens for states in the future.

(Contd....)

Concomitantly, they can also crowd out private borrowers as the general cost of borrowings increases with pressure from higher government borrowings on the finite pool of investible resources in the economy. An empirical exercise indicates that a one percentage point increase in the ratio of state debt issuance to GDP is associated with a decline of 0.067 percentage point in the ratio of corporate bond issuance to total assets of corporates. Thus, state government farm loan waivers have the potential to crowd out corporate borrowing if financed through state debt issuance.

In order to understand the forces that drive loan waivers and their long term consequences for the entire economy, the Reserve Bank is organising a seminar on 'Agricultural Debt Waiver-Efficacy and Limitations' on August 31, 2017.

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1. Rath, N. (2008), "Implications of the Loan Waiver for Rural Credit Institutions", *Economic and Political Weekly*, June 14.
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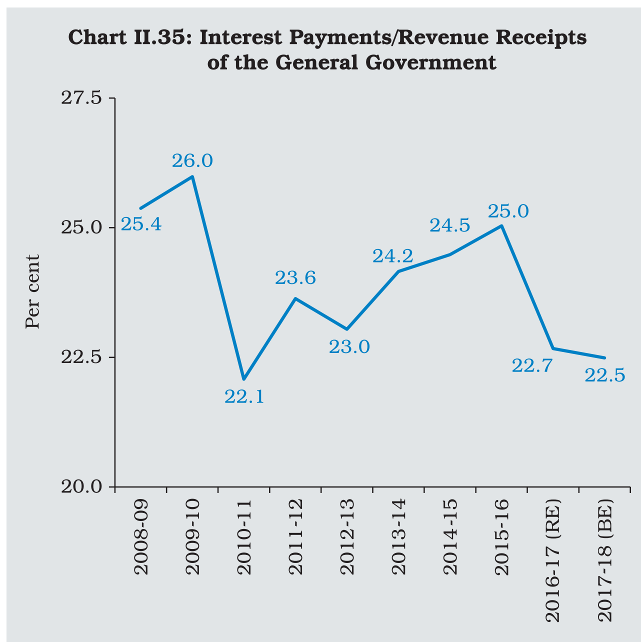
3. Kanz, M. (2012), "What Does Debt Relief Do for Development? Evidence from India's Bailout Program for Highly-Indebted Rural Households", *Policy Research Working Paper 6258*, World Bank.
4. Reserve Bank of India (2008), *Annual Report 2007-08,* Mumbai.
5. Ramakumar, R. (2013), "India's Agricultural Debt Waiver Scheme, 2008", *Review of Agrarian Studies*, 3(1): 135-146.

5. General Government Finances[8]

II.5.14 The general government GFD is expected to be brought down further to 5.5 per cent of GDP in 2017-18 from 6.4 per cent in the revised estimates for 2016-17. This reflects the rigorous intent towards consolidation by the states. Outstanding liabilities of the general government are budgeted to decline to 62.7 per cent of GDP at end-March 2018 from 63.9 per cent at end-March 2017 (RE). Moreover, the debt servicing capacity of the general government has improved over the previous two years (Chart II.35).

Chart II.35: Interest Payments/Revenue Receipts of the General Government



II.5.15 The central government's fiscal strategy for 2016-17 was mainly revenue-driven, with buoyant tax collections comfortably funding additional expenditure commitments relating to the implementation of CPC and OROP awards, signifying the unswerving commitment to fiscal consolidation. At the state level, however, there was a slippage in FD, RD and primary deficit (PD) in 2016-17 (RE) along with a deterioration in debt position, partly due to their participation in UDAY. Going forward, GST remains the best bet for states in getting back to the path of fiscal consolidation over the medium term. The cushion of compensation by the centre for any loss of revenue in the initial five years should safeguard against uncertainty about the revenue outcome from the GST implementation.

[8] Data pertain to 26 states.

II.6 EXTERNAL SECTOR

II.6.1 India's external sector remained resilient in 2016-17 amidst considerable flux in the international environment; the Box in sub-section 6 on the external vulnerability watch argues the case analytically. Shrugging off a two-year contraction, merchandise exports turned around in the face of muted global demand. Drivers of this rebound are profiled in the immediately following sub-section. This development also assumes significance in view of the decline in net invisible receipts addressed in sub-section 3. Merchandise imports remained sluggish, although a significant pick-up occurred in H2. Consequently, rising international commodity prices and the erosion in terms of trade gains notwithstanding, India's merchandise trade deficit narrowed further in 2016-17 and helped compress the current account deficit (CAD) as discussed in sub-section 4.

II.6.2 Sub-section 5 discusses external financing and the predominance of non-debt creating inflows. Considerable volatility characterised portfolio investment flows against a backdrop of turbulent global financial markets and political risks. In contrast, direct investment inflows reached an all-time high. Net outflows were recorded under other major categories of financial flows barring trade credits which picked up in H2 in tandem with import activity. At the end of March 2017, India's foreign exchange reserves covered for 11.3 months of imports and were the ninth largest in the world.

1. Merchandise Exports

II.6.3 As global trade recuperated, and international commodity prices upturned, exports weathered transient disruptions in some labour intensive sectors and returned to a trajectory of persistent positive growth from August 2016, after a largely protracted decline (Chart II.36). While the modest recovery in global trade was driven by a pick-up in imports by emerging market economies (EMEs), India's export recovery was largely led by shipments to advanced economies (AEs), notwithstanding the persistence of high tariff and non-tariff barriers in major trade partner economies (Chart II.37).

Chart II.36: Growth in Global Trade Volume and India's Nominal Exports (3-Month Moving Average)

Source: DGCI&S and CPB World Trade Monitor.

Chart II.37: Number of Protectionist measures (Red) by Select Trade Partners against India since Global Financial Crisis

*Meaures by European Commission

Note: The 'Red' measures are those measures which have been implemented and almost certainly discriminate against foreign commercial interests.

Source: Global Trade Alert.

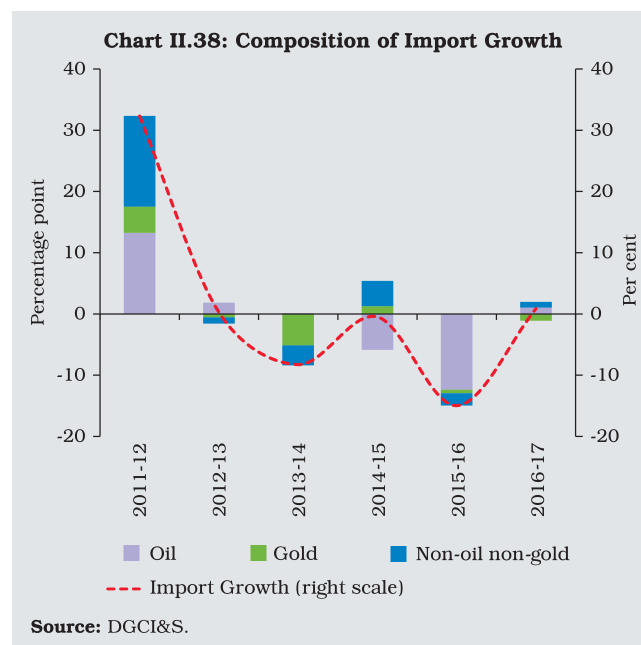
II.6.4 The upsurge in exports in H2 spanned several commodity groups with a combined weight of 87.5 per cent in the export basket. The notable drivers were engineering goods, petroleum products, iron ore, cotton yarn, chemicals, marine products, gems and jewellery and readymade garments. A few of these sectors – petroleum products; iron ore; steel; cotton; and marine products – benefitted from a surge in international commodity prices. Exports of iron ore responded to strong demand from China. Steel exports accelerated sharply on the back of trade remedial measures, and underpinned the performance of engineering goods. Notwithstanding a transitory stress post-demonetisation, exports of labour intensive sectors such as readymade garments and gems and jewellery, quickly returned to expansion mode. Export recovery continued in April-June 2017 on the back of robust growth in engineering goods, petroleum products and readymade garments, though at a softer pace than Q4 of 2016-17.

2. Merchandise Imports

II.6.5 Imports started picking up from H2 of 2016-17. However, they were largely sluggish in 2016-17, *albeit* with a marginal increase. Oil imports, in fact, turned around in 2016-17 in contrast to a large contraction in the previous year. On the other hand, there was a sharper reduction in gold imports and a slim increase in non-oil non-gold imports (Chart II.38).

II.6.6 The expansion in the oil import bill occurred on the back of an increase in volume. International crude oil prices gradually firmed up through the year on a revival in the oil market sentiment, a temporary weakening of the US dollar, large supply disruptions and production cuts by the Organisation of the Petroleum Exporting Countries (OPEC).

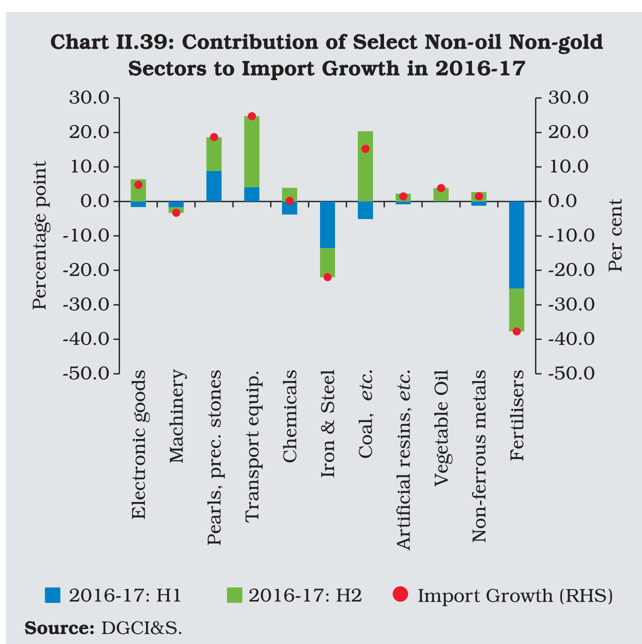
Chart II.38: Composition of Import Growth



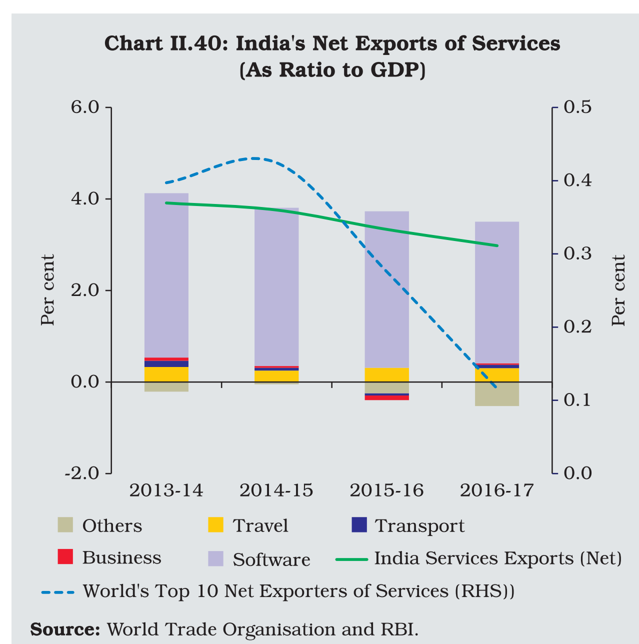
Source: DGCI&S.

II.6.7 The volume of gold imports dipped by about one-fifth over the previous year. Strikes by jewellers against the one per cent excise duty, cash shortages following demonetisation, the income declaration scheme and high gold prices took their toll translating into a decline of 13.4 per cent in value terms.

II.6.8 Non-oil non-gold imports remained muted for the year as a whole, even though a sharp pick-up was discernible across various commodity groups in H2 (Chart II.39). While the pick-up in demand for domestic coal reduced import volumes, the global surge in coal prices led to an increase in value terms. An uptick in imports of vegetable oil occurred on account of a modest increase in volume; however, this also reflected the uptrend in international prices. Imports of pearls and precious stones moved in tandem with higher exports of gems and jewellery. Import of pulses rose for the third consecutive year despite the highest ever domestic production, reflecting growing consumption and build-up of buffer stocks.



Source: DGCI&S.



Source: World Trade Organisation and RBI.

II.6.9 In contrast, a fall in raw material prices encouraged substitution of imports in the case of fertilisers, even though global prices softened sharply. Anti-dumping and safeguard measures undertaken by the government helped reduce steel imports significantly. With the improvement in the domestic production of capital goods, imports of machinery and project goods moderated.

II.6.10 During April-June 2017, merchandise imports witnessed robust growth. While high growth in gold import volume contributed significantly to the increase in imports, oil and electronics imports also aided import growth further.

3. Invisibles

II.6.11 Net receipts from invisibles, comprising services, income and transfers, declined during 2016-17 mainly due to moderation in software exports, private transfer receipts and higher net outgo on primary incomes (Chart II.40). In a phase of successive years of lowered global IT spending, domestic software companies faced pricing pressures in traditional services such as banking, financial services and insurance, and subdued growth in new businesses. Going forward, global headwinds for domestic software companies may intensify further with emphasis on local hiring, and higher demand for automation across major export markets.

II.6.12 Net travel receipts increased by 5.3 per cent during 2016-17, as gains from higher tourist arrivals offset the burgeoning demand for travel services by residents. Under transfers, in-bound remittances to India were dampened for the second successive year by the weakening of growth and labour market “nationalisation” policies that impacted hiring of foreign workers in source countries.

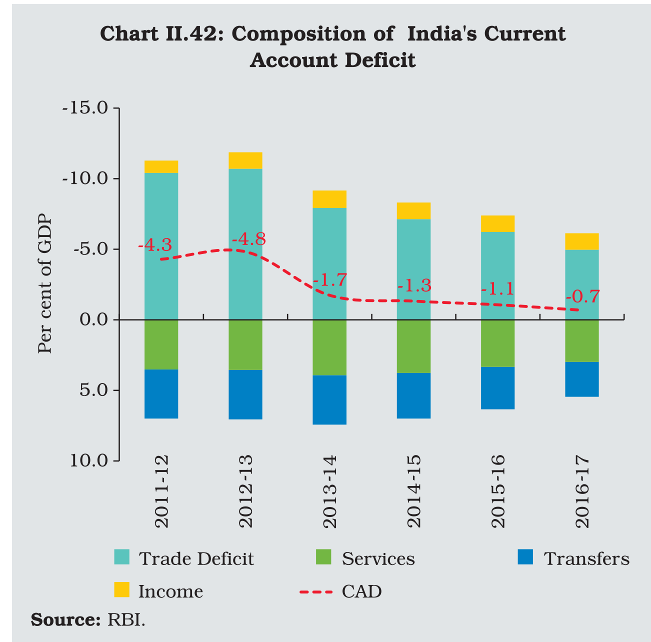
II.6.13 Net outgo with respect to profits and dividends also increased, largely reflecting higher returns that accrued to foreign investors on their investments in the domestic economy. In the aggregate, the net surplus from invisibles financed 86 per cent of the merchandise trade deficit, up from 83 per cent during the previous year, despite a contraction of 10 per cent during 2016-17.

4. Current Account Deficit

II.6.14 The bottoming out of international prices of major commodities in 2016 eroded gains in India's terms of trade *vis-à-vis* the preceding two years (Chart II.41). Another downside factor that impacted the current account deficit (CAD) was the lower order of net receipts from services and remittances as well as higher outgo on income payments during 2016-17. Nevertheless, with the trade deficit shrinking on the back of stronger exports and subdued imports, CAD shrank to 0.7 per cent of GDP in 2016-17 as against 1.1 per cent a year ago (Chart II.42).

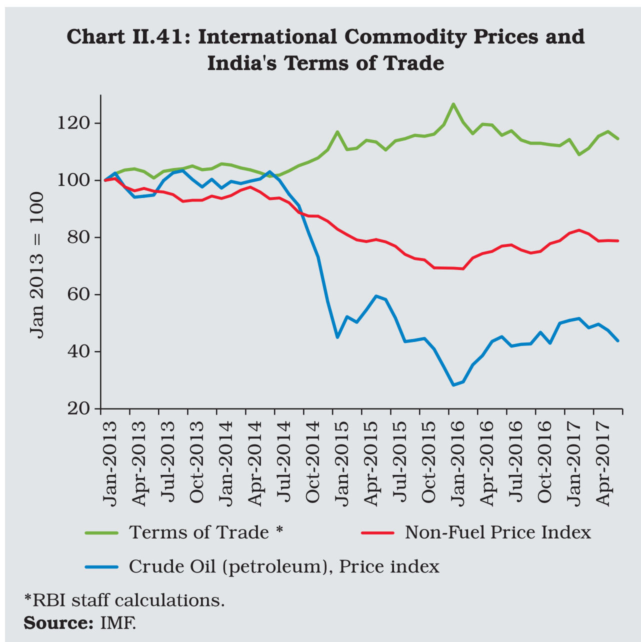
II.6.15 The gains in terms of trade realised in the preceding two years were slightly undermined by a modest upturn in international commodity prices in 2016-17. The erosion in terms of trade is estimated to have widened the merchandise trade deficit by 0.3 percentage point of GDP. The impact, however, was more than offset by compression in the trade deficit on the back of a recovery in export volumes and a modest decline in import volumes. Further, the positive impact of the trade volume also outweighed the negative contribution of software exports and remittances (Chart II.43).

Chart II.42: Composition of India's Current Account Deficit



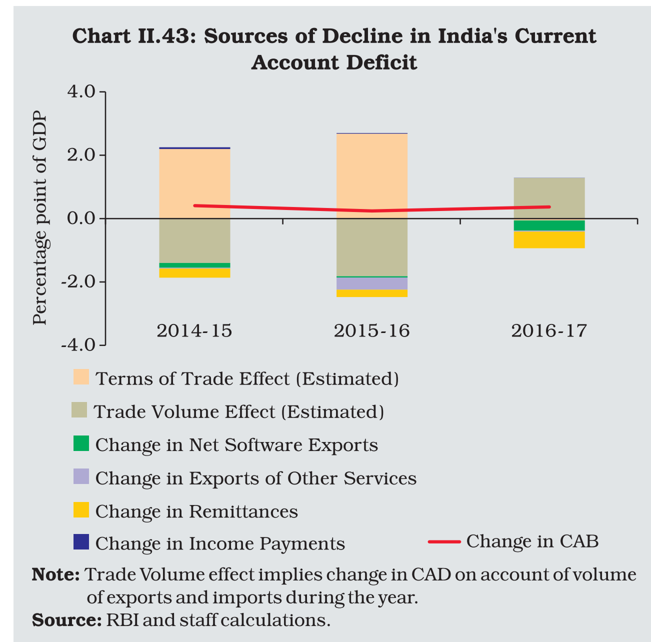
Source: RBI.

Chart II.41: International Commodity Prices and India's Terms of Trade



*RBI staff calculations.
Source: IMF.

Chart II.43: Sources of Decline in India's Current Account Deficit

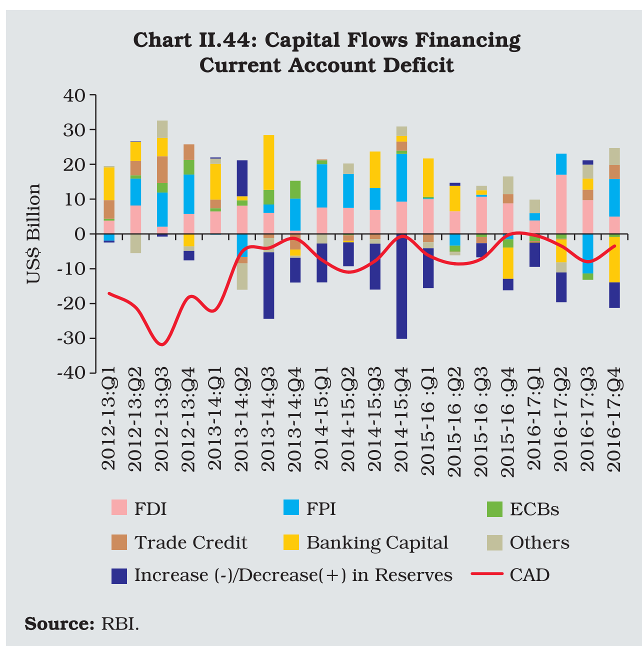


Note: Trade Volume effect implies change in CAD on account of volume of exports and imports during the year.
Source: RBI and staff calculations.

5. External Financing

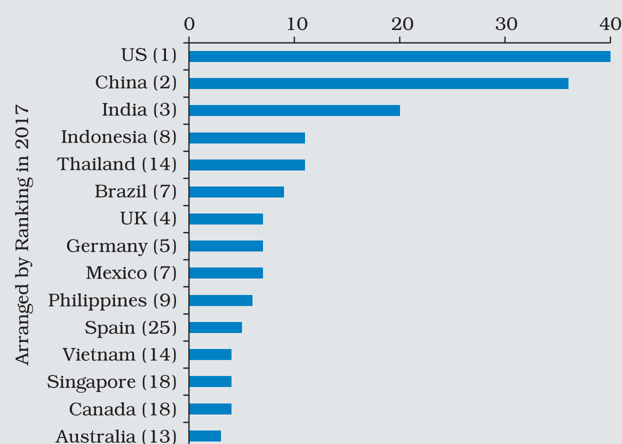
II.6.16 Net capital flows were in excess of CAD, leading to an increase in foreign exchange reserves during 2016-17 to a level of US$ 370 billion by the end of the year (Chart II.44). Gross foreign direct investments (FDI) to India reached an all-time high of US$ 60 billion in 2016-17, up from US$ 56 billion a year before. This jump was catalysed by wide ranging domestic reforms, in particular, easing of FDI norms; the Goods and Services Tax; the Insolvency and Bankruptcy Code 2016; the new corporate insolvency framework, including the National Company Law Tribunal and the National Company Law Appellate Tribunal; and ease of doing business. Services topped the list of recipient sectors, followed by manufacturing and construction. A recent report by FDI Intelligence reveals that India was ahead of China and the US as the world's top destination for greenfield FDI in 2016. Further, the UNCTAD's survey of multinational enterprises ranked India as the third most favourite host country for FDI for 2017-19 after the US and China (Chart II.45).

Chart II.44: Capital Flows Financing Current Account Deficit



Source: RBI.

Chart II.45: UNCTAD's Survey of MNEs for Prospective Host Economies for FDI during 2017-19
(Per cent of Executives Responded)



Note: Figures in brackets represent 2016 ranking of countries
Source: World Investment Report, UNCTAD.

II.6.17 Foreign portfolio investment (FPI) flows remained volatile throughout the year. With the recovery in global equity markets on expectations of expanded monetary accommodation from systemic central banks, net FPI inflows were robust up to Q2. Subsequently, global risk aversion driven by the outcome for the US Presidential elections and expectations of an increase in the Federal funds rate, culminated in intense selling pressure in domestic equity and debt segments during November 2016 through January 2017. FPI flows (net), turned positive once again thereafter – aggregating US$ 23.4 billion during February to end-June 2017.

II.6.18 Net inflows of short-term trade credit turned positive in H2 of 2016-17; this was in line with growing imports. In 2016-17, net inflows in the form of trade credit amounted to US$ 6.5 billion as against a net repayment of US$ 1.6 billion in 2015-16. Major sectors that took recourse to trade credit during the year included gold, oil, steel, edible oil and coal.

II.6.19 External commercial borrowings (ECB) (net), recorded outflows on higher repayments.

Even though ECB flows to India moderated in 2016-17, domestic companies took increasing recourse to rupee denominated bonds (RDBs) amounting to US$ 3,671 million as compared with US$ 14 million a year ago. The distribution pattern shows that one-third of the RDBs were raised for repayments of domestic rupee loans. About 41.0 per cent of the total ECB agreement amount (other than rupee denominated bonds/loans) was intended to be hedged as compared to 39.1 per cent a year ago.

II.6.20 Notwithstanding positive accretions of deposits under Non-Resident (External) Rupee (NRE) accounts; and Non-Resident Ordinary (NRO) accounts, there was a net outflow of US$ 12.4 billion from non-resident deposits during 2016-17, following a lumpy redemption of FCNR (B) deposits raised by banks under the Reserve Bank's special swap window during September to November 2013. In order to ensure a smooth redemption of FCNR(B) deposits, the Reserve Bank front-loaded liquidity provisions through open market operations and spot interventions/ deliveries of forward purchases. In the run-up to the redemption, the Reserve Bank took up short positions in the forward market for the US dollar, and reversed those positions during the redemption period.

II.6.21 India's external debt as at end-March 2017 stood much lower than a year before. This decline is mainly attributed to the fall in long-term external debt, particularly non-resident deposits reflecting the redemption of FCNR(B) deposits and commercial borrowings. As at end-March 2017, the share of US dollar denominated debt was 52.1 per cent of the total external debt, followed by the Indian rupee (33.6 per cent), SDR (5.8 per cent), Japanese yen (4.6 per cent), Euro (2.9 per cent), and others (1.0 per cent).

6. External Vulnerability Indicators

II.6.22 India's external sector vulnerability indicators are being monitored continuously. The configuration of a lower CAD, declining external debt, rising foreign exchange reserves and stable domestic fundamentals point towards greater resilience of the external sector in the recent period (Box II.10). The foreign exchange cover

Box II.10
Assessment of India's External Sector Resilience

India's external sector parameters have improved over the last few years drawing strength primarily from a lower current account deficit (CAD). In general, a lower current account deficit augurs well for lower external financing requirements, build-up of reserves and a stable currency, *albeit* there could be other factors at play impacting each indicator separately. For instance, CAD, even if lower, financed through short-term debt may alter the composition of external debt and thus worsen reserve adequacy indicators. Hence, it is important to examine the external sector's resilience in a more holistic manner by simultaneously focusing on key external indicators.

With this background, two inter-related issues relating to external sector resilience were examined, *viz.;* (i) whether and, to what extent, the resilience of India's external sector has improved over the period 2006-07:Q1 to 2016-17:Q4; and (ii) what the risks could be to the current level of resilience.

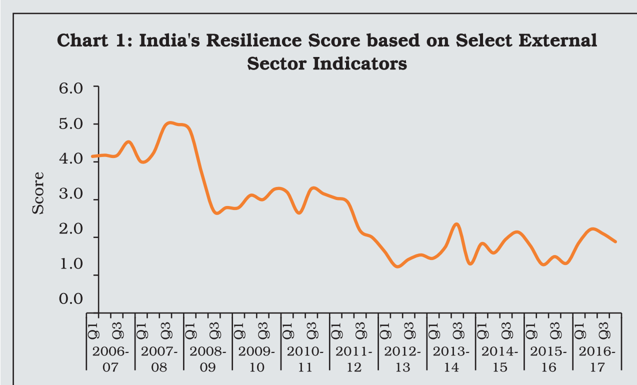
Applying the Classification and Regression Tree Approach (CART) adopted by Lau *et al* (2003), data on five external sector indicators, *viz.,* export growth, current account balance, net capital flows, reserve adequacy for short-term debt and the net international financial position were

(Contd....)

converted into probability-weighted "strong" and "weak" signs. Data points above (below) 80th (20th) percentile were assigned a probability of one of being a strong (weak) indicator. Data points within the 20th and 80th percentile were assigned probability depending on their relative closeness to either percentile values. Then, a decision matrix was drawn up to assign rating scores between 1 (weak) and 5 (strong) to each of the 32 possible combinations of the "strong" and "weak" signs of the five indicators. Finally, a fuzzy logic system was applied to the combinations to obtain an overall resilience score in a range of 1 to 5 (least resilient to most resilient) for each quarter.

India's external sector resilience score improved to 1.89 as at end-March 2017 from 1.54 as at end-March 2013, *i.e.,* during the pre-taper talk period. However, the current resilience score is not only weaker than that of 3.68 at end-September 2008, *i.e.,* just before the onset of global financial crisis but also, being closer to the lower end, it signals a general deterioration (Chart 1). For a robustness check, in an alternative specification, 'export growth' was replaced with the 'terms of trade index'. The resilience score then improved marginally to 1.79 in March 2017 from 1.11 in the pre-taper talk period, but continued to be lower than the peak observed during the pre-global financial crisis period.

Chart 1: India's Resilience Score based on Select External Sector Indicators



Weak exports, lower capital flows, higher net international financial liabilities and a lower reserve cover for short-term debt dragged down the current resilience score from the pre-global financial crisis period. However, all indicators except net capital flows/GDP were stronger during Q4 of 2016-17 than during the pre-taper tantrum period, thus translating into a higher resilience score.

Even the recent improvement in the resilience score is subject to some downside risks. If terms of trade gains turn unfavourable in tandem with projected higher international commodity prices and the global demand conditions do not improve enough to support export volumes, CAD could increase due to a widening of the merchandise trade deficit. In fact, based on data for 1980-2016, it is estimated that a one per cent positive shock in terms of trade reduces India's CAD by 0.03 per cent of GDP. Secondly, India's software exports – a major source of financing merchandise trade deficit, face heightened uncertainty from protectionist policies being envisaged in advanced economies, especially with regard to H1B visa in the US, which may stress the current balance of payment (BoP). Thirdly, the short-term outlook for remittances flows to India largely depends on income conditions in source countries, especially the Gulf region which is facing low growth and undergoing fiscal consolidation, even though the assessment of the World Bank (2017) is more optimistic on this count. Finally, robust FDI inflows which were at the forefront in financing CAD in the previous three years, entail servicing through higher income payments which could have implications for CAD.

References:

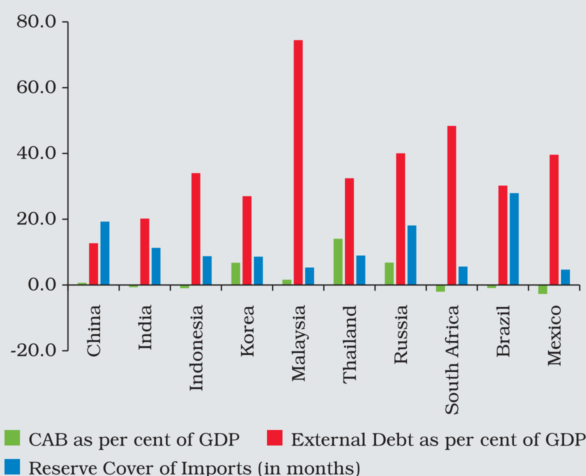
Lau, Francis, Sunny Yung and Ivy Yong (2003), "Introducing a Framework to Measure Resilience of an Economy", *Quarterly Bulletin,* Hong Kong Monetary Authority, June.

World Bank (2017), *Migration and Development Brief 27*, April.

for external debt improved during the year while the share of short-term debt (residual maturity) in total external debt fell by over a percentage point, following the redemption of FCNR(B) deposits. India's external debt to GDP ratio stood out one of the lowest amongst major peer EMEs (Chart II.46).

II.6.23 India's net international investment position (NIIP) as a ratio to GDP improved, *albeit* the stock of foreign assets held by domestic residents (assets) and domestic assets held by foreign residents (liabilities) surged during 2016-17 (Table II.8). The dominance of FDI inflows over other forms of capital flows in recent years points

Chart II.46: External Vulnerability Indicators: India *versus* select EMEs: March 2017



Note: External Debt for India pertains to end-March 2017 and end-December 2016 for other countries.
Source: CEIC and RBI.

towards a desirable qualitative compositional shift in India's net international investment position. The share of non-debt liabilities increased to 50.3 per cent as at end-March 2017 from 46.3 per cent a year ago.

II.6.24 To sum up, India's external sector benefited from lower CAD, robust FDI inflows, build-up of reserves and improvement in other vulnerability indicators. However, global factors continue to weigh on India's external sector outlook. In particular, developments in the global oil market will have implications for India's oil import bill. Further, India's IT sector could face a challenging business environment from policy changes in the US which can affect its export potential. However, domestic macroeconomic fundamentals continue to remain strong, rendering the external sector resilient to global shocks.

Table II.8: External Sector Vulnerability Indicators

(Per cent, unless indicated otherwise)

Indicator	End-Mar 2013	End-Mar 2014	End-Mar 2015	End-Mar 2016	End-Mar 2017
1	2	3	4	5	6
1. External Debt to GDP ratio	22.4	23.9	23.9	23.5	20.2
2. Ratio of Short-term to Total Debt (OM)	23.6	20.5	18.0	17.2	18.6
3. Ratio of Short-term to Total Debt (RM)	42.1	39.7	38.5	42.7	41.5
4. Ratio of Concessional Debt to Total Debt	11.1	10.4	8.8	9.0	9.3
5. Ratio of Reserves to Total Debt	71.3	68.2	72.0	74.3	78.4
6. Ratio of Short-term Debt (OM) to Reserves (%)	33.1	30.1	25.0	23.1	23.8
7. Ratio of Short-term Debt (RM) to Reserves (%)	59.0	58.2	53.5	57.4	52.9
8. Reserves Cover of Imports (in months)	7.0	7.8	8.9	10.9	11.3
9. Debt Service Ratio (Debt Service Payments to Current Receipts)	5.9	5.9	7.6	8.8	8.3
10. External Debt (US$ billion)	409.4	446.2	474.7	485.0	471.9
11. Net IIP (US$ billion)*	-326.7	-340.8	-364.3	-359.5	-392.9
12. Net IIP/GDP ratio	-17.8	-18.2	-18.3	-17.4	-16.8
13. CAD/GDP ratio	4.8	1.7	1.3	1.1	0.7

Note: OM: Original Maturity, RM: Residual Maturity, IIP: International Investment Position.
* (-) sign implies net claims of non-residents on India.
Source: RBI.

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

III MONETARY POLICY OPERATIONS

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

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

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

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

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

Agenda for 2016-17: Implementation Status

Monetary Policy

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

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

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

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

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

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

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

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

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

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

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

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

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

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

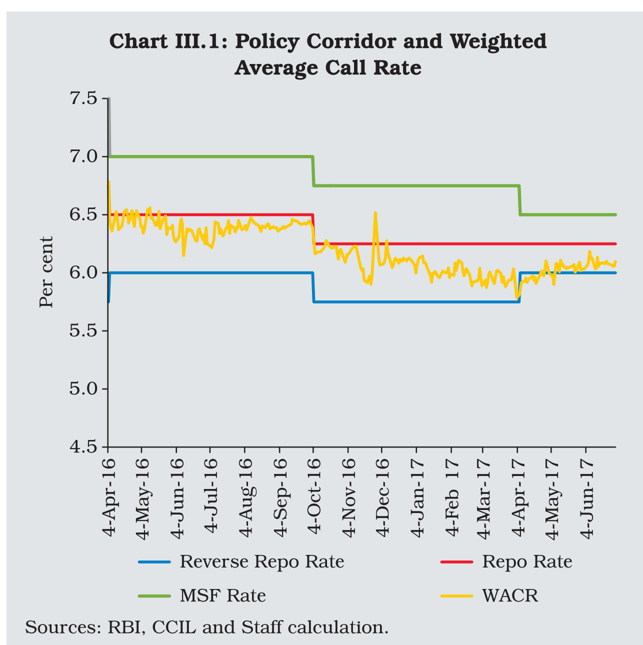
The Operating Framework: Liquidity Management

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

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

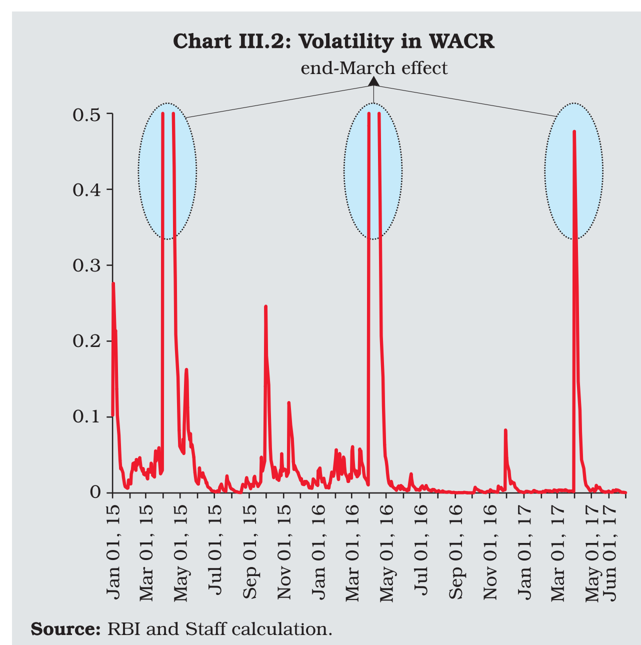
III.17 Two other changes under the modified liquidity management framework worked in combination to tightly anchor money market rates with the policy rate. First, the cash reserve ratio (CRR) maintenance requirement was reduced to a daily minimum of 90 per cent from 95 per cent earlier, which moderated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

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



Sources: RBI, CCIL and Staff calculation.

Chart III.2: Volatility in WACR



Source: RBI and Staff calculation.

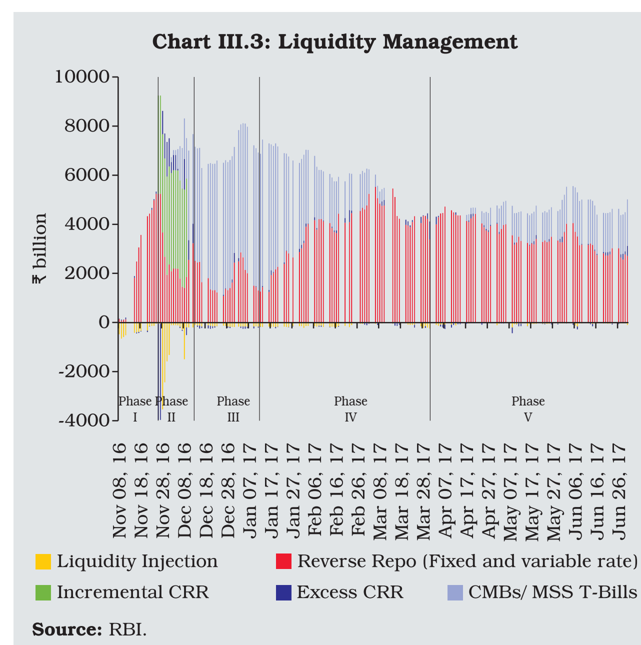
front-loading of adequate liquidity proactively in anticipation of potential pressure and market concerns arising out of scheduled redemptions of foreign currency non-resident (bank) [FCNR (B)] deposits. As a result, liquidity turned into surplus even prior to the announcement of demonetisation on November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

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

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

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

Chart III.3: Liquidity Management



Source: RBI.

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

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

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

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

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

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

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

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

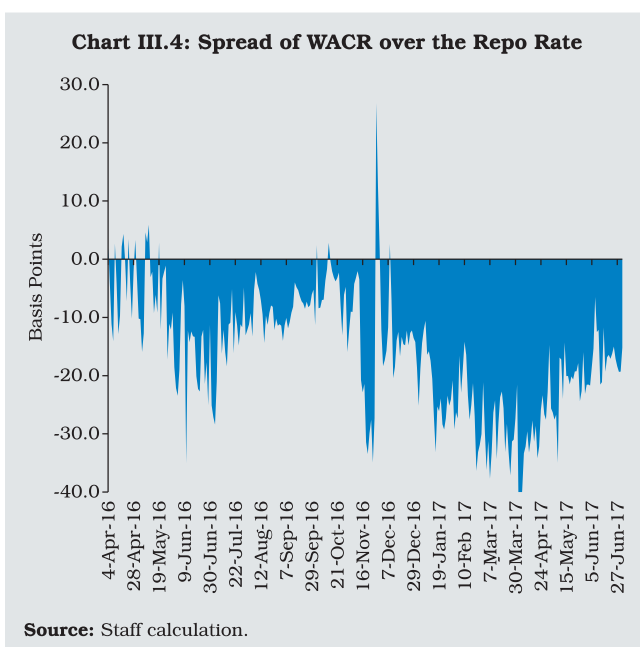
III.26 In the fourth phase (January 14 to end-March 2017), the Reserve Bank returned to the conventional reverse repo operations as the key instrument to absorb surplus liquidity, particularly the liquidity released through the maturing CMBs under the MSS.

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

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

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

Chart III.4: Spread of WACR over the Repo Rate



Source: Staff calculation.

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

Monetary Policy Transmission

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

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

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

(Per cent)

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

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

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

(Amount in ₹ billion)

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

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

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

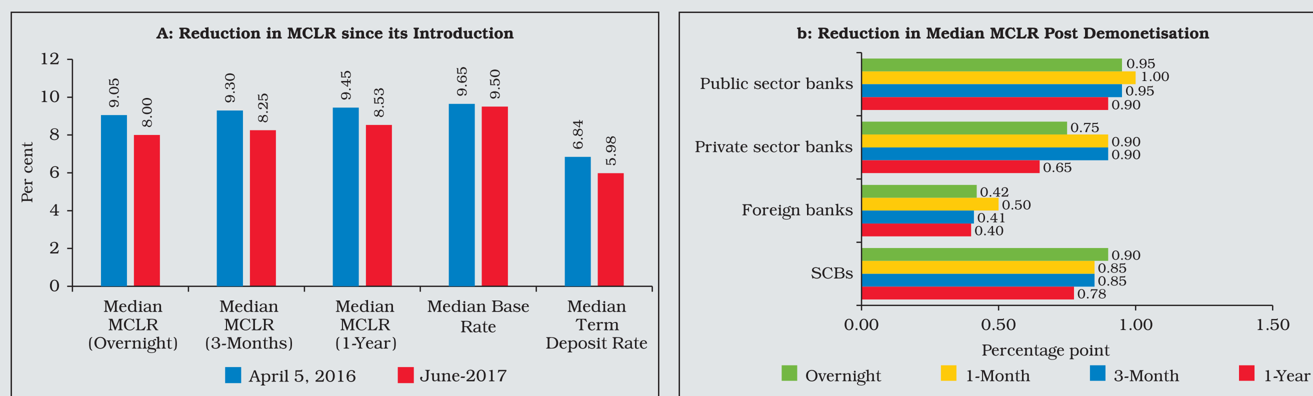
III.32 It is significant that the one-year median MCLR declined by a cumulative 77 bps from November 2016 to June 2017 even when the policy rate was unchanged. This is in sharp contrast to the decline in the median one-year MCLR by just 15 bps during the preceding seven months when the policy rate was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

Sectoral Lending Rates

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

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

Chart III.5: Transmission to MCLR



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

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

(Per cent)

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

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

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

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

(Per cent)

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

Source: Special Monthly Return VIAB, RBI.

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

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

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

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

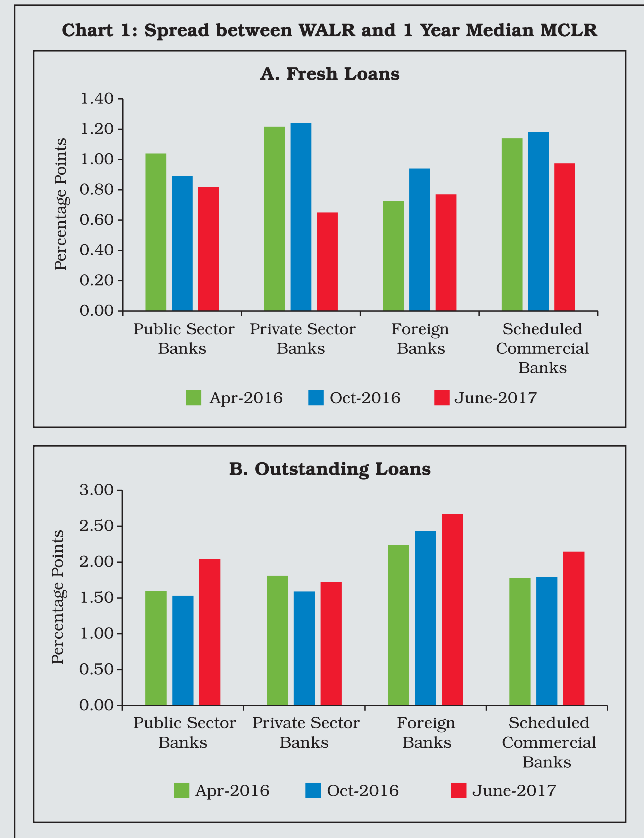
Regression analysis based on the data for the period Q1:2010-11 to Q3:2016-17 suggests that an increase in stressed assets[1] is associated with higher NIMs (Raj, *et al,* 2017)[2]. The foreign banks that experienced increase in stressed assets from relatively lower levels were also able to increase their NIMs. The coefficient of stressed assets in respect of public and private sector banks is positive but statistically insignificant (Table 2).

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

(Basis Points)

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

Source: Special Monthly Return VIAB, RBI.



(Contd....)

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

[2] $NIM_{b,t} = c + £_b + y_t + ₫_1 \cdot NIM_{b,(t-1)} + \psi * X + \varepsilon_{b,t,}$ where $£_b$ represents the bank fixed effects, and y_t represents the time fixed effects and X represents the vector of explanatory variables. In this regard, dynamic panel data regression technique has been applied following linear generalised method of moments (GMM). Asset quality apart, there are several other bank-specific, institutional, regulatory and macroeconomic factors that determine NIM. These include credit growth, bank size, capital adequacy, return on assets, operating expenses, non interest income, investment in SLR securities, GVA growth and inflation.

Table 2: Determinants of Net Interest Margin

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

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

Notes:

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

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

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

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

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

Source: Supervisory Returns, RBI.

Reference:

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

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

Agenda for 2017-18

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

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

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

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

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

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

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

IV CREDIT DELIVERY AND FINANCIAL INCLUSION

The Reserve Bank placed greater emphasis on effective credit delivery during the year by intensifying its ongoing efforts under the financial inclusion plans as well as adopting innovative approaches in expanding credit and spreading financial literacy. The major thrust was on operationalising a market mechanism for enhancing priority sector credit, strengthening the business correspondent (BC) model through BC registry and certification to promote financial inclusion, and enhancing financial literacy through a digital focus in literacy camps, experimenting with ground level camps, capacity building of financial literacy counsellors and observation of a financial literacy week. Work is also underway for the formulation of a National Strategy for Financial Inclusion.

IV.1 The role of the Reserve Bank in the area of financial inclusion involves developing policies towards ensuring the availability of banking services at affordable costs for those vulnerable sections of society who have hitherto been left outside the scope of formal financial services due to factors such as illiteracy, lack of banking infrastructure, difficulty in physical access to such services in far flung areas and perceived lack of creditworthiness. Recognising that financial illiteracy is a major impediment to the diffusion of financial inclusion, the Reserve Bank focused on the dissemination of simple messages introducing people to the benefits of active savings, prudent borrowing practices, financial planning as well as unravelling the world of digital transactions for them. Consumer protection also forms an important aspect of these messages, which are also issued in vernacular language. During 2016-17, the Reserve Bank aimed to provide a fillip to financial literacy through a digital focus in literacy camps, experimenting with ground level camps, capacity building of financial literacy counsellors and observation of a financial literacy week. In order to propel the economy onto a medium-term sustainable inclusion path, greater emphasis was placed on strengthening the business correspondent (BC) model through the creation of a BC registry and introduction of a framework for BC certification. In this context, the Financial Inclusion and Development Department of the Reserve Bank formulates policies for promoting financial inclusion.

IV.2 Given the significant role of micro, small and medium enterprises (MSMEs) in employment generation and GDP growth, a number of initiatives were undertaken to enhance the flow of credit to these sectors, including trading in priority sector lending certificates (PSLCs), expanding the scope of the 'additional working capital limit' for banks to account for possible cash flow mismatches faced by micro and small enterprises (MSEs) borrowers due to withdrawal of legal tender status of Specified Bank Notes (SBNs), scaling-up the capacity building programmes by launching Version 2 of the National Mission for Capacity Building of Bankers for Financing the MSME Sector (NAMCABS) and laying down a framework for accreditation of credit counsellors.

Agenda for 2016-17: Implementation Status

IV.3 Drawing upon the recommendations of the Committee on Medium-term Path on Financial Inclusion (Chairman: Shri Deepak Mohanty), the Reserve Bank focused on strengthening the mechanism for effective credit delivery to

the productive sectors of the economy. Major recommendations of the Committee *viz.*, creating a BC registry; formalising certification training programmes for BCs; and designing a framework for accreditation of credit counsellors are nearing the final stage of implementation.

IV.4 The Financial Inclusion Advisory Committee (FIAC) which is tasked with the preparation of the National Strategy for Financial Inclusion (NSFI) deliberated extensively on its formulation, while also drawing upon international best practices on digital financial inclusion. The strategy document is slated to be launched nation-wide in the coming year. For more effective monitoring of the financial inclusion initiatives being undertaken, granular data up to district level is being called for from the banks, as part of the third phase of Financial Inclusion Plan (FIP) progress reports. A 2-tier training programme focusing on the core competencies of financial literacy has been designed for the capacity building of financial literacy counsellors in collaboration with the College of Agricultural Banking (CAB), Pune.

CREDIT DELIVERY

Priority Sector

IV.5 Priority sector lending aims to ensure adequate and timely availability of credit for those vulnerable sections of society which are often deprived of credit due to the perceived lack of viability and creditworthiness. Priority sector loans include small value loans to farmers for agriculture and allied activities, MSMEs, poor people for housing, students for education, other low income groups and weaker sections. Social infrastructure and renewable energy are also eligible categories under this mechanism. The performance in achievement of priority sector lending targets by various groups of scheduled commercial banks (SCBs) 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
2016	19,850 (39.3)	6,480 (44.1)	1,104 (35.3)
2017*	19,889 (39.5)	7,110 (42.5)	1,238 (36.9)

*** :** Provisional.

Notes: Figures in parentheses are percentages to adjusted net bank credit (ANBC) or credit equivalent of off balance sheet exposures (OBE), whichever are higher, in the respective groups.

IV.6 An important development during 2016-17 was the operationalisation of priority sector lending certificates (PSLCs) scheme in April 2016. The PSLC scheme is a mechanism to incentivise banks having surplus in lending to different categories of the priority sector and thereby to boost overall priority sector lending. PSLCs allow the market mechanism to drive priority sector lending by leveraging the comparative strength of different banks. This scheme allows a bank to benefit by selling over-achievement of its target in a particular sector through PSLCs to another bank, which can buy it to meet its target in that sector, while selling its own over-achievement of the target in another sector to another bank and so on. A platform to enable trading in the certificates has been provided by the Reserve Bank through its core banking solution (CBS) portal (e-Kuber).

IV.7 The PSLC platform recorded active participation from all the eligible entities including urban co-operative banks and small finance banks during 2016-17. Among the four PSLC categories, the highest trading was observed in case of PSLC – Small & Marginal Farmer, and PSLC – General

Categories, with the transaction volumes being ₹229.9 billion and ₹200.2 billion, respectively. An expected cyclical trend, however, was observed in the trading volume, which peaked mostly in the last month of every quarter.

IV.8 In view of the introduction of quarterly monitoring of priority sector targets, the timing of the transactions in the earlier or later part of the year also had an impact on the premium. Accordingly, PSLCs traded during the first quarter of 2016-17 witnessed higher premiums in the range of 3-5 per cent. The total volume of PSLCs on offer was ₹1,265.5 billion, while the amount finally settled was ₹498.0 billion as on March 31, 2017. This indicates that with better information dissemination and increased awareness among all the eligible participants, the PSLC market is expected to pick-up in the future, which should lead to higher margins for all PSLC sellers, incentivising increased lending to the priority sector.

Flow of Credit to Agriculture

IV.9 The Government has been fixing the target for agricultural credit every year. During 2016-17, commercial banks over achieved the target by 28.0 per cent. All other bank groups under-performed in achieving their targets for agricultural credit though the overall flow of credit had exceeded the target as in the previous year (Table IV.2).

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
2015-16*	5,900	6,430	1,400	1,533	1,200	1,193	8,500	9,155
2016-17*	6,250	7,998	1,500	1,428	1,250	1,232	9,000	10,658

*: Provisional.
Source: National Bank for Agriculture and Rural Development (NABARD).

New Initiatives for the MSME sector

IV.10 The Government took several initiatives related to the MSME sector as it plays a crucial role in the economy both from the point of view of its employment generation and poverty alleviation potential. The Reserve Bank also accords significant importance to this sector in its agenda for financial inclusion, with its policy focused on improving access, adequacy, timeliness, and price of credit for MSMEs. The Reserve Bank took several unique initiatives, one of which was launching NAMCABS in collaboration with CAB, Pune, in August 2015. Continuing in this direction, the Reserve Bank launched Version 2 of NAMCABS by employing newer and more comprehensive training material covering the latest developments in the sector and providing professional advice to MSME entrepreneurs in the form of credit counsellors.

Sanction of Additional Working Capital Limits to Micro and Small Enterprises (MSEs)

IV.11 In August 2015, banks were advised to incorporate with their Boards' approval, a clause for fixing a separate additional limit in their lending policy to MSEs, at the time of sanction/renewal of working capital limits, specifically for meeting the temporary increase in working capital requirements arising mainly due to unforeseen/seasonal increase in demand for products produced by them. During 2016-17, keeping in view the possible cash flow mismatches likely to be faced by MSE borrowers due to the withdrawal of legal tender status of SBNs, banks were further advised to use the same facility of providing 'additional working capital limit' to their MSE borrowers to overcome such difficulties. This was announced as a one-time measure up to March 31, 2017 and to be normalised thereafter in the fresh working capital assessment cycle.

Framework for rolling out Certified Credit Counsellors (CCC) through SIDBI

IV.12 Following the recommendation of the Committee on Medium-term Path on Financial Inclusion to explore a system of professional credit intermediaries/advisors for MSMEs, the Reserve Bank had announced in its first bi-monthly monetary policy statement for 2016-17 that a framework for accreditation of credit counsellors who can act as facilitators for entrepreneurs to access the formal financial system with greater ease and flexibility would be drawn up. Credit counsellors were to also assist MSMEs in preparing project reports in a professional manner which would, in turn, help banks make more informed credit decisions. Accordingly, the Reserve Bank finalised a framework for accreditation of credit counsellors and the same was provided to Small Industries Development Bank of India (SIDBI) for rolling out the certified credit counsellors scheme by acting as their registering authority. SIDBI, after finalising the board-approved operational guidelines, launched the scheme in July 2017.

IV.13 Credit flow to the MSE sector is reflective of these measures taken by the Reserve Bank during the year and several Government initiatives undertaken during the past few years (Table IV.3).

Studies on the Efficacy of Credit Delivery Models

IV.14 The Reserve Bank conducted a study on the efficacy of the Self Help Group (SHG)-Bank Linkage Programme (SBLP) with a view to analysing in detail the inter-connectedness between SBLP and the National Rural Livelihoods Mission (NRLM) as well as the long-run feasibility and usefulness of the SHG programme so that it can serve its intended purpose without building up excessive credit risk in the system. The report is under finalisation. The Reserve Bank also conducted an impact assessment survey, modelled on a randomised control trial (RCT) basis, with the completion of a year of conducting the NAMCABS workshops for the branch managers of the specialised MSME branches through its select nine regional offices. The survey revealed that the branches with trained personnel generally outperformed those with untrained ones, especially in lending to micro enterprises. The impact on qualitative parameters also showed positive developments by way of work process innovations, *viz.,* (i) helping borrowers in preparing project reports and assisting in documentation; (ii) introduction of simplified application formats for MSME loans; (iii) branch officials going to the doorsteps of the borrowers to educate them on various schemes; and (iv) introduction of the lending automation processing system (LAPS) for speedy processing and sanction of MSME loans. It was, therefore, decided to continue with an enhanced and comprehensive capacity building programme as NAMCABS Version 2 by incorporating, *inter-alia*, newer developments in terms of government initiatives, Reserve Bank policy initiatives and use of technology in MSME financing.

Table IV.3: Credit Flow to MSEs

Year	Number of Accounts (million)	Amount Outstanding (₹ billion)	MSE credit as per cent of ANBC
1	2	3	4
2015-16	20.4	9,964.3	14.6
2016-17*	23.2	10,698.2	14.3

*: Provisional.

FINANCIAL INCLUSION

IV.15 The Reserve Bank continued with its efforts towards fulfilling the financial inclusion agenda during the year to help realise the intended economic and social objectives. In this direction, several new initiatives were undertaken during the year.

IV.16 The Committee on Medium-term Path on Financial Inclusion, which submitted its report in December 2015, sought to propel the economy on to a medium-term sustainable inclusion path. The Committee had recommended for setting up a framework for a BC registry and BC certification, following which instructions regarding the same were issued to Indian Banks' Association (IBA) during the year. As recommended by the Committee, a financial literacy week was conducted across the country from June 5-9, 2017. The literacy week focussed on four broad themes, *viz.,* Know Your Customer (KYC), Exercising Credit Discipline, Grievance Redressal and Going Digital (UPI and *99#). During the week, banks were advised to display posters on the four common themes inside branch premises and also display one message each day on the homepage of their respective websites as well as ATM screens across the country. Further, Financial Literacy Centres (FLCs) and rural branches were advised to conduct special camps during the week. A movable asset registry was also launched by the Central Registry of Securitisation Asset Reconstruction and Security Interest of India (CERSAI), as recommended by the Committee to facilitate lending to the MSME sector.

Strengthening the BC Model

IV.17 Strengthening the BC model has been one of the important development agendas, recognising the significant role played by BCs in providing last mile financial services in the under-banked and unbanked regions of the country. Having a BC registry and certification process in place would go a long way in strengthening the BC model.

BC Registry

IV.18 A BC registry is proposed to be structured as a database of comprehensive information pertaining to the existing or potential business correspondents. The BC registry will give a holistic view of under-banked and less penetrated areas in a region and accordingly the delivery of financial services can be improved in such areas through appropriate policy interventions. It will help in effective monitoring and oversight of BC operations. It is expected that banks and the regulators would utilise this database to gather critical insights and frame policies accordingly for strengthening the BC infrastructure. The Reserve Bank has developed the framework for the BC registry and IBA is in the process of setting up the online registry portal.

BC Certification

IV.19 As the customers served by the BCs are usually new to the formal financial system, it is essential to have knowledgeable business correspondents. Thus, a need was recognised to upgrade the skill sets of the BC agents thereby making them more sensitive towards the requirements of various customer groups who use the BC channel, *viz.*, small and marginal farmers, SHGs, micro, medium and small entrepreneurs, migrant labourers and retired people. Accordingly, the Reserve Bank has developed a framework for BC certification with basic and advanced level courses to enhance the functional and behavioural competencies of BCs. On the basis of this framework, IBA has set up a Governing Council comprising members each from IBA, NABARD, two members each from academics and experts from industry. The Council is in the process of developing the course curriculum.

Financial Inclusion Plans

IV.20 The Board approved Financial Inclusion Plans (FIPs) prepared by the domestic scheduled commercial banks provide a structured and

Table IV.4: Financial Inclusion Plan : A Progress Report

Particulars	End- March 2010	End- March 2016	End- March 2017
1	2	3	4
Banking Outlets in Villages – Branches	33,378	51,830	50,860
Banking Outlets in Villages>2000-BCs	8,390	98,958	105,402
Banking Outlets in Villages<2000- BCs	25,784	432,271	438,070
Total Banking Outlets in Villages – BCs	34,174	531,229	543,472
Banking Outlets in Villages- Other Modes	142	3,248	3,761
Banking Outlets in Villages -Total	**67,694**	**586,307**	**598,093**
Urban Locations covered through BCs	447	102,552	102,865
BSBDA-Through branches (No. in million)	60	238	254
BSBDA-Through branches(Amt. in ₹ billion)	44	474	691
BSBDA-Through BCs (No. in million)	13	231	280
BSBDA-Through BCs (Amt. in ₹ billion)	11	164	285
BSBDA-Total (No. in million)	**73**	**469**	**533**
BSBDA Total (Amt. in ₹ billion)	**55**	**638**	**977**
OD facility availed in BSBDAs (No. in million)	0.2	9	9
OD facility availed in BSBDAs (Amt. in ₹ billion)	0.1	29	17
KCCs -Total (No. in million)	24	47	46
KCCs -Total (Amt. in ₹ billion)	1,240	5,131	5,805
GCC-Total (No. in million)	1	11	13
GCC-Total (Amt. in ₹ billion)	35	1,493	2,117
ICT A/Cs-BC-Total Transactions (No. in million)	27	827	1,159
ICT A/Cs-BC-Total Transactions (Amt. in ₹ billion)	7	1,687	2,652

planned approach to financial inclusion. The Plans capture self-set targets of the banks on parameters such as the number of outlets (branches and BCs), Basic Savings Bank Deposit Accounts (BSBDAs) opened by bank branches and BCs, overdraft facilities availed in those accounts, transactions in Kisan Credit Card (KCC), General Credit Card (GCC) accounts and transactions through the BC-ICT channel. The progress made on these parameters is reported to the Reserve Bank by banks on a monthly basis and the progress in this regard as on end-March 2017 is set out in Table IV.4.

IV.21 During 2016-17, the banking outlets opened through BCs in villages increased by 12,243, while the number of accounts opened through BCs increased by 49 million. Similarly, the total number of transactions through the BC channel increased by 332 million, while the amount transacted increased by ₹965 billion.

IV.22 With the conclusion of the second phase of FIP on March 31, 2016, all domestic scheduled commercial banks (including RRBs) were advised to set new Board approved FIP targets for the next three years (April 2016-March 2019). Recognising the importance of granular data for effective monitoring of the progress made by banks, the third phase FIP template has been revised incorporating new parameters keeping in view the emerging financial inclusion landscape. In this phase, banks have been asked to provide data up to the district level across population groups of metro, urban, semi-urban and rural segments. Work is also underway for the formulation of a National Strategy for Financial Inclusion (NSFI) (Box IV.1).

Box IV.1
National Strategy for Financial Inclusion

The Reserve Bank had set up the Financial Inclusion Advisory Committee (FIAC) in 2012 to review financial inclusion policies on an on-going basis and to provide expert advice to the Reserve Bank in this matter. Given the renewed focus on financial inclusion by the Government of India, the on-going implementation of the Pradhan Mantri Jan-Dhan Yojana (PMJDY) and the need for convergence of the financial inclusion efforts of various stakeholders, FIAC was reconstituted in June 2015. Apart from continuous reviewing of the financial inclusion policy, monitoring the progress of financial inclusion and financial literacy, and assessing their impact, the reconstituted FIAC has been actively involved in the process of formulating the National Strategy for Financial Inclusion (NSFI), a public document.

NSFI will comprehensively present the strategy developed at the national level to systematically accelerate the level of financial inclusion. It is being developed through a broad consultative process involving, among others, public and private sector stakeholders engaged in financial sector development. Typically, it will include an analysis of the current status of, and constraints on, financial inclusion in the country; a measurable financial inclusion goal; how the country proposes to reach this goal and by when; and how it will measure the progress and achievements of the strategy.

The proposed strategy pillars for NSFI include: developing physical and digital infrastructure, regulatory framework, fostering competition, increased financial awareness, grievance redressal mechanism and scientific assessment measures.

Given the recent thrust on digital financial inclusion and in line with international best practices, NSFI also seeks to draw upon the G-20 High Level Principles on Digital Financial Inclusion, adapted to meet the India-specific requirements.

Penetration of Banking Services: Achievement of Roadmaps

IV.23 The Reserve Bank had taken several steps to provide banking facilities in all the unbanked villages in the country. A roadmap to cover villages with population more than 2,000 was first rolled out in 2010. A total of 74,414 villages with population more than 2,000 were identified and allotted to various banks (public sector banks, private sector banks and regional rural banks) through State Level Bankers' Committees (SLBCs) for coverage. All the identified villages have been provided banking services through branches or business correspondents or through other modes such as ATMs and mobile vans. In June 2012, a roadmap was rolled out to provide banking services to unbanked villages with population less than 2,000. A total of 491,825 unbanked villages across the country with a population of less than 2,000 were allotted to various banks through SLBCs for coverage. As on March 31, 2017, 96.0 per cent (472,136 villages) of the total villages allotted had been covered comprising of 19,875 villages through brick and mortar branches, 431,359 villages through BCs and 20,902 villages through other modes.

IV.24 Continuing with its efforts to provide banking services in unbanked villages, the SLBC convenor banks were advised in December 2015 to identify villages with population above 5,000 without a bank branch of a scheduled commercial bank in their State and allot these villages among scheduled commercial banks for opening branches.

IV.25 On May 18, 2017, the Reserve Bank issued revised guidelines on branch authorisation policy with a view to facilitate financial inclusion as also to provide flexibility to banks on the choice of delivery channel. Accordingly, SLBC convenor banks have been advised to review and identify the unbanked rural centres (URCs) in villages with population above 5,000 and ensure that such unbanked rural centres are banked forthwith

by opening of CBS enabled banking outlets by December 31, 2017.

Assignment of SLBC Convenorship, Telangana

IV.26 In view of the merger of State Bank of Hyderabad with State Bank of India, the SLBC Convenorship of Telangana has been assigned to the State Bank of India.

Assignment of Lead Bank Responsibility

IV.27 During the year, 21 new districts were formed in Telangana, taking the total number of districts in the State to 31. State Bank of Hyderabad, Andhra Bank, Syndicate Bank and Canara Bank were assigned lead bank responsibility of the new districts. In Manipur, seven new districts were formed taking the total number of districts in the State to 16. United Bank of India and State Bank of India were assigned lead bank responsibility of the new districts. In Haryana and West Bengal, one new district each was created and Punjab National Bank and State Bank of India were assigned lead bank responsibility of the new districts, respectively. Lead bank responsibility of the three newly created districts in Arunachal Pradesh was assigned to the State Bank of India. Further, in view of the merger of Associate Banks with the State Bank of India, the lead bank responsibility of districts hitherto held by the Associate Banks in the states of Karnataka, Kerala, Rajasthan, Telangana and Punjab have been assigned to State Bank of India. As on June 2017, lead bank responsibility has been assigned in 706 districts across the country.

FINANCIAL LITERACY

IV.28 Financial literacy has been an important element in the financial inclusion plan of the Reserve Bank. During 2016-17, added importance was attached to spreading financial literacy, given the skewed distribution and limited reach of financial literacy centres in some states as well as in view of the withdrawal of legal tender status of SBNs and the push for digital transactions. A number of initiatives were undertaken, which included conducting a pan-India Financial Literacy and Inclusion Survey (Box IV.2), Pilot Project on Setting up Centres for Financial Literacy at the block levels (Box IV.3), digital focus in literacy camps, capacity building for FLC counsellors and rural branch managers, and observation of a financial literacy week (Also see para IV.16).

Financial Literacy by Financial Literacy Centres and Rural Branches of Banks - A Policy Review

IV.29 Following withdrawal of legal tender status of SBNs, the policy on conduct of camps by FLCs and rural branches of banks was reviewed with a focus on going digital. Accordingly, banks were advised to conduct special camps through their FLCs (2 camps per month) for a period of one year on ‘Going Digital’ through UPI and *99# (USSD). Two posters on UPI and *99# have been prepared for this purpose. The Financial Awareness Messages (FAME) booklet that contains 11 institution-neutral financial awareness messages has been published in 13 languages for the benefit of the trainers and the camp participants. Rural branches of banks are required to conduct one camp per month covering all the messages that are part of the FAME booklet and the two digital platforms UPI and *99# (USSD).

Train the Trainers Programme (TOT)

IV.30 A two-tier training programme has been designed for the capacity building of FLC counsellors and rural branch managers. During Tier-1 of the program, CLOs (Chief Literacy Officer attached to the corporate office of the banks), LLOs (Lead Literacy Officers - faculty members of the Banks’ training/staff colleges) and RLOs (Regional Office Literacy Officers from regional offices of the Reserve Bank) have been trained at CAB, Pune. In Tier-2 of the programme, faculty members of the Bank’s training/staff colleges will

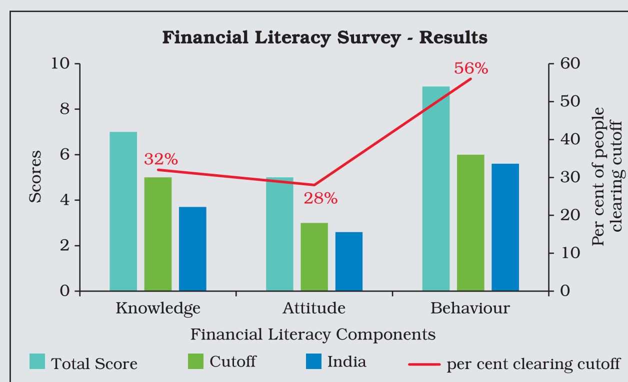
Box IV.2
Pan India Financial Literacy and Inclusion Survey

The Reserve Bank of India undertook a pan-India Financial Literacy and Inclusion Survey based on the OECD/INFE (International Network on Financial Education) Toolkit. The survey was conducted in 29 states and 5 union territories (excluding Andaman & Nicobar Islands and Lakshadweep Islands). Quotas for age, gender and socio economic classes were fixed across the locations to achieve a representative sample. The total sample size for the survey was 20,573 respondents.

As per the OECD/INFE methodology, financial literacy is measured across three components *viz.* financial knowledge, attitude, and behaviour. Questions on financial knowledge test the concepts of time value of money, calculation of interest, compounding, definition of inflation, risk and return, and diversification. Financial attitude captures the trade-off between short term gratification (consumption) and long term planning (saving). Financial behaviour questions are designed to test decision making in the household, budgeting, active saving, considered purchasing, paying bills on time and choosing financial products.

The maximum score for the three components of financial knowledge, financial attitude and financial behaviour are 7, 5 and 9, respectively. India's average scores in the three components are 3.7, 2.6 and 5.6, respectively. In India, the average score is 11.9 out of the total score of 21.

OECD/INFE considers the threshold score as 5 out of 7 for financial knowledge, 3 out of 5 for financial attitude, and 6 out of 9 for financial behaviour. The percentage of Indian population scoring above the minimum required threshold score is 32 per cent for financial knowledge, 28 per cent for financial attitude, and 56 per cent for financial behaviour. The results of the survey are presented in the chart below.



undertake training sessions for FLC counsellors and rural branch managers. A comprehensive curriculum on the core competencies of financial literacy has been prepared for the benefit of the trainers.

IV.31 As at end-March 2017, 1,376 FLCs were operational in the country. During the year ended March 2017, 96,315 financial literacy activities were conducted by the FLCs as against 87,710 activities during the preceding year.

Box IV.3
Pilot Project on Setting up Centres for Financial Literacy (CFLs)

To explore innovative and participatory approaches to financial literacy, the Reserve Bank is initiating a pilot project on financial literacy at the block level. The pilot project is being commissioned in nine states across 80 blocks by NGOs in collaboration with the sponsor banks. Six NGOs registered with the Depositors Education and Awareness Fund (DEA Fund) *viz.*, CRISIL Foundation, Dhan Foundation, Swadhaar FinAccess, Indian School of Micro Finance for Women (ISMW), Samarpit and PACE Foundation have been selected to execute the pilot project in collaboration with the banks. The pilot project will be executed with the objectives of active saving and good borrowing, financial planning and goal setting, going digital and consumer protection. CFLs would be set up under a common name and logo "Moneywise Centre for Financial Literacy".

Agenda for 2017-18

IV.32 Going forward, work related to the preparation of National Strategy for Financial Inclusion, which will comprehensively lay down the policy approach to hasten the process of financial inclusion, will be completed. Financial literacy content for certain target groups like SHGs, farmers, MSEs, students and senior citizens will be introduced. The block level CFLs are expected to begin financial literacy activities in 2017-18, following which an independent impact assessment study would be conducted by the Reserve Bank. As integrity and consistency of data are crucial for framing policy and designing strategies, an Automated Data Extraction Project (ADEPT) from banks to the Reserve Bank and a portal to capture data relating to natural calamities will be implemented to strengthen the existing processes for information and data collection from banks on a real time basis.

V FINANCIAL MARKETS AND FOREIGN EXCHANGE MANAGEMENT

During 2016-17, the Reserve Bank undertook a number of measures for developing various segments of the financial markets. In the money market, the Reserve Bank undertook proactive liquidity management operations, with a view to aligning money market rates with the policy rate for better transmission of monetary policy. Orderly conditions were maintained in the spot, forward and futures segments of the forex market, alongside further liberalisation of the capital account and rationalisation of the reporting requirements to promote ease of doing business.

V.1 The Reserve Bank has been developing financial markets in tune with the evolving needs of a growing economy. During the year, the Bank provided more operational flexibility to market participants and conducted market operations to align money market rates with the stance of monetary policy. Interventions in the forex market were also carried out in pursuance of the stated objective of maintaining orderly conditions. In an endeavour to facilitate external trade and payments, and promote ease of doing business, many existing rules on foreign investment in India and external commercial borrowings (ECBs) were rationalised and reporting was simplified.

FINANCIAL MARKETS REGULATION DEPARTMENT (FMRD)

V.2 The mandate of the FMRD is to regulate and develop money, government securities (G-sec), foreign exchange and related derivatives markets. The department undertook a number of measures during 2016-17, aimed at easing norms for market participants, improving accessibility, increasing the number of financial products, strengthening market infrastructure apart from harnessing market analytics and pursuing richer surveillance for policy formulation.

Agenda 2016-17: Implementation Status

V.3 Final directions on introduction of money market futures and interest rate options were issued in October and December, 2016 respectively, with the objective of developing the interest rate market. These directions are intended to enhance flexibility and product development in line with market requirements. Exchanges as well as over-the-counter (OTC) participants are free to propose any product that meets the broad requirements set in these directions.

V.4 The report of the Working Group on development of the corporate bond market in India (Chairman: Shri H R Khan) was submitted in August 2016. The department has taken concerted efforts to implement the various recommendations of the Group.

V.5 In line with these recommendations, foreign portfolio investment (FPI) was permitted in unlisted corporate debt securities and securitised debt instruments in November 2016 up to ₹350 billion within the extant investment limits for corporate bonds. Further, with a view to easing access to the G-sec market, foreign portfolio investors were allowed from December 2016 to trade G-sec in the secondary market directly on the negotiated dealing system-order matching (NDS-OM), without involving brokers.

V.6 Repo directions were further liberalised during the year with the objective of deepening the market and widening the participation base. Effective September 06, 2016, listed companies

were allowed to borrow or lend in the repo market without the minimum seven-day restriction. Gilt account holders (GAHs) were permitted to enter into a repo transaction with their custodians or with another GAH. Further, in August 2016, brokers undertaking market-making activities in corporate bonds were permitted access to corporate bond repo market to meet their liquidity requirement.

V.7 In order to stimulate retail participation in the G-sec market, an implementation group with representation from all stakeholders was constituted to recommend specific measures to enable seamless movement of securities from the Subsidiary General Ledger (SGL) form to demat form and *vice versa* and to provide demat account holders a functionality to put through trades on NDS-OM. Accordingly, demat account holders of National Securities Depository Limited (NSDL) and Central Depository Services Limited (CDSL) were permitted from August 2016 to put through trades in G-sec on the NDS-OM platform through their respective Depository Participant (DP) bank which should also be an SGL account holder and a direct member of NDS-OM and the Clearing Corporation of India Limited (CCIL).

V.8 Existing directions on commercial paper (CP) were reviewed with a view to broadening access to it, strengthening disclosure requirements by issuers, and reviewing the role of issuing and paying agents while putting in place an information dissemination mechanism, and revised draft directions were placed on the Bank's website for public comments. The final directions were issued on August 10, 2017.

V.9 Draft directions on the introduction of tri-party repo were placed on the Bank's website in April 2017 for public comments, with the objective of enabling market participants to use the underlying collateral more efficiently and to facilitate the development of term repo market. Taking into account the feedback received from the market, final directions were issued on August 10, 2017.

V.10 With a view to providing operational flexibility to multinational entities and their Indian subsidiaries exposed to currency risk, the non-resident centralised or regional treasury of such entities was permitted in March 2017 to enter into foreign exchange derivative contracts with authorised dealer (AD) banks in India to hedge the exposure of their Indian subsidiaries by entering into tri-partite agreement involving the Indian subsidiary, its non-resident parent or treasury and the AD bank.

Agenda for 2017-18

V.11 Initiatives currently under consideration include a framework for authorisation of trading platform for OTC markets under the Reserve Bank's ambit, introduction of a comprehensive code of fair practices for debt market in line with global standards and framing of guidelines on financial markets in the International Financial Service Centre (IFSC), *viz.,* Gujarat International Finance Tec-City (GIFT).

V.12 Draft guidelines for simplified hedging facility for residents and non-residents were released in April 2017 for comments and feedback from the stakeholders. Under the proposed facility, documentary evidence of forex exposure would not be required for booking derivative contracts and net gains on the derivative positions would be passed on to the customer on delivery. To begin with, entities with forex exposure of up to US$ 30 million would be permitted under the facility.

V.13 In fulfilment of the G20 mandate for shifting OTC derivatives on to exchanges or electronic trading platforms, a framework for authorisation

of such platforms would be put in place. The implementation of the legal entity identifier (LEI) regime for financial market entities would begin during the year.

FINANCIAL MARKETS OPERATIONS DEPARTMENT (FMOD)

V.14 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 2016-17: Implementation Status

Money Markets and Liquidity Management

V.15 The department continued its efforts to maintain an appropriate level of liquidity in the financial system through liquidity management operations, using fixed and variable rate repo and reverse repo under the liquidity adjustment facility (LAF), the marginal standing facility (MSF) and outright open market operations (OMOs), with a view to aligning money market rates with the policy rate for more efficient transmission of monetary policy signals. In line with the change in the monetary policy stance from a deficit to a position close to neutrality, as enunciated in the monetary policy statement of April 05, 2016, the department conducted nine OMO purchase auctions during April-October 2016, injecting liquidity amounting to ₹1.1 trillion into the banking system. The Government of India's decision on November 8, 2016 to withdraw ₹500 and ₹1000 notes resulted in a huge influx of deposits into the banking system. This led to exceptional surplus liquidity conditions in the banking system, which was managed by imposing an incremental cash reserve ratio of 100 per cent, with effect from the fortnight beginning November 26, 2016, on the increase in net demand and time liabilities (NDTL) between September 16, 2016 and November 11, 2016. This was a temporary measure and was withdrawn from the next fortnight, *i.e.*, the fortnight beginning December 10, 2016. The liquidity surplus was also managed through (1) issuance of cash management bills (CMBs) under the market stabilisation scheme (MSS), which touched a peak outstanding level at ₹5,966 billion during the first half of January 2017; and (2) undertaking multi-tenor variable rate reverse repos. The liquidity absorbed by the Reserve Bank (including through MSS) during this period touched a high of ₹7,956 billion on January 04, 2017.

V.16 The department also introduced measures to facilitate the development of the term money market that included security substitution, market-based valuation of collateral securities in LAF operations and re-repo of collateral received by market participants under term reverse repo with the Reserve Bank.

Foreign Exchange Market

V.17 Orderly conditions were maintained in the forex market during the year through operations in the spot, forward and futures segments. The Reserve Bank's foreign exchange market operations, aimed at containing excessive volatility and maintaining orderly conditions in the forex market, resulted in net purchase of foreign currency amounting to US$ 12.3 billion during 2016-17 (US$ 10.2 billion in 2015-16) and US$ 8.9 billion during April-June 2017. Outstanding net forward purchases, which stood at US$ 10.8 billion as at end-March 2017, increased to US$ 17.1 billion at end-June 2017. India's foreign exchange reserves increased to US$ 386.54 billion as at

end-June 2017 from US$ 360.18 billion as at end-March 2016.

V.18 During 2016-17, there was smooth unwinding of concessional foreign exchange swaps undertaken by market participants with the Reserve Bank in 2013. These concessional swaps were executed against foreign currency non-resident (bank) [FCNR(B)] deposits maturing from September 2016 onwards. Some of the outflows also pertained to concessional swaps against overseas foreign currency borrowings (OFCBs) of banks. The Reserve Bank's forward forex assets were consciously matched with the FCNR(B) and OFCB liabilities. This helped avoid a sharp fall in the foreign exchange reserves and also neutralised the impact on liquidity which was also managed by appropriately timed OMO purchase operations.

V.19 The department also carried out a number of research studies on market movements and behaviour over the year which helped in shaping the policy and operational framework.

Agenda for 2017-18

V.20 The department aims to carry out liquidity management operations effectively in line with the stance of monetary policy by absorbing excess liquidity and maintaining system liquidity at the desired level over the year. The department will continue to closely monitor evolving liquidity conditions and the impact of the narrowing of the corridor (with effect from April 06, 2017) on money markets and will modulate market operations to ensure alignment of the weighted average call rate (WACR) with the policy rate. The expansion of currency in circulation will drain most of the surplus liquidity associated with demonetisation. The residual surplus liquidity, coupled with evolving liquidity inflows and outflows from other sources, will be managed by a judicious mix of the following: (i) variable rate repo and reverse repo auctions with a preference for longer tenors; (ii) operations under the MSS using CMBs, Treasury Bills and dated securities; and (iii) OMO sales and purchases to manage durable liquidity and move the system liquidity to a neutral level, if required.

V.21 The department will continue to conduct foreign exchange intervention operations in an effective manner to curb undue volatility in the exchange rate.

V.22 The department also proposes to continue policy-oriented research on financial markets.

FOREIGN EXCHANGE DEPARTMENT (FED)

V.23 The FED aims at facilitating external trade and payments while enhancing ease of doing business. The department leveraged on information technology for effective monitoring of trade transactions. In pursuance of greater capital account convertibility, the extant rules and regulations under the Foreign Exchange Management Act (FEMA), 1999 were rationalised further during 2016-17. Alongside, the reporting to the Reserve Bank was also simplified. Further, ADs were delegated with greater operational flexibility in the areas of trade and ECBs.

Agenda 2016-17: Implementation Status

Rationalisation of Regulations

V.24 As per FEMA, regulations on capital account transactions are notified in consultation with the central government. In the past two years, the Reserve Bank has rationalised a number of regulations in sync with evolving business practices and models relating to, *inter alia*, export and import of currency; acquisition of immovable property outside India by persons resident in India; realisation, repatriation and surrender of foreign

exchange; foreign currency accounts by a person resident in India; possession and retention of foreign currency; insurance; remittance of assets; manner of receipt and payment; establishment in India of a branch office or a liaison office or a project office or any other place of business; and export of goods and services. The regulations on acquisition and transfer of immovable property in India by a person resident outside India, borrowing and lending between residents and non-residents, and inward and outward investments are being finalised in consultation with the central government.

Import Data Processing and Monitoring System

V.25 A Working Group on Import Data Processing and Monitoring System (IDPMS) was constituted towards effective monitoring of import payments and, based on its recommendations, a centralised system in the form of IDPMS went live on October 10, 2016 to facilitate efficient data processing for payment of import transactions and its effective monitoring. The IDPMS provides end-to-end monitoring of import transactions from shipment to final payment, thereby doing away with current monitoring on a stand-alone basis by the custom authorities, AD banks and the Reserve Bank.

Startups

V.26 Considering that startups have the potential to play a significant role in economic growth and job creation, their access to foreign funds was eased. Startup companies were permitted to raise funds by issuing convertible notes to persons resident outside India for an amount of ₹2.5 million or more in a single tranche. Further, foreign venture capital investors (FVCIs) were permitted to invest in (a) startups, irrespective of the sector in which the startup operated and (b) in any category-I alternative investment fund. Startups were also allowed to raise ECB up to US$ 3 million or equivalent per financial year either in rupees or any convertible foreign currency or a combination of both.

Easing of Foreign Investment Regime

V.27 The policy on foreign investment was oriented towards greater capital account convertibility and facilitating flow of capital. A comprehensive regulation was issued on receipt of foreign investment by e-commerce entities which clearly defined an e-commerce entity as also inventory based and market place models of e-commerce. Under the regulations, while foreign investment is permitted up to 100 per cent under automatic route for market place model, foreign investment is prohibited in inventory-based model of e-commerce.

V.28 Foreign investment in pension funds was enabled under the automatic route up to 49 per cent. The ownership and control of the Indian pension fund should, however, remain at all times in the hands of resident Indian entities.

V.29 Foreign investment up to 100 per cent was permitted under the automatic route in 'other financial services', *viz.*, activities regulated by a financial sector regulator, subject to certain conditions including minimum capitalisation norms.

V.30 A wholly owned subsidiary in India, set up by a non-resident entity (in a sector where 100 per cent foreign investment was allowed in the automatic route with no FDI-linked conditionalities), was permitted to issue FDI-compliant instruments to the said non-resident entity against pre-incorporation/ pre-operative expenses incurred. The instruments were permitted to be issued up to a limit of five per cent of its capital or US$ 0.5 million whichever was less, subject to certain conditions.

V.31 Persons resident outside India were permitted to invest in the equity of asset reconstruction companies (ARCs) up to 100 per cent under the automatic route. FIIs/ FPIs were permitted to invest up to 100 per cent in security receipts (SRs) issued by ARCs.

Liberalising External Commercial Borrowings

V.32 With a view to developing the market for Rupee-denominated bonds overseas as also for providing an additional avenue to Indian banks to raise capital/long term funds, Indian banks were permitted, within the limit set for foreign investment in corporate bonds, to issue (i) perpetual debt instruments (PDI) qualifying for inclusion as additional tier 1 capital, and debt capital instruments qualifying for inclusion as tier 2 capital, by way of Rupee-denominated bonds overseas; and (ii) long term Rupee-denominated bonds overseas for financing infrastructure and affordable housing. Further, to provide a fillip to Indian entities issuing Rupee-denominated bonds abroad, multilateral and regional financial institutions in which India is a member country have been permitted to invest in Rupee-denominated bonds. Certain conditions, pertaining to maturity period, all-in-cost ceiling and recognised investors were added to Rupee-denominated bonds in order to harmonize the instrument with ECBs.

V.33 To simplify procedures relating to ECBs, powers have been delegated to designated AD category-I banks to deal with extension of matured but unpaid ECB, provided that (i) no additional cost is incurred; (ii) lender's consent is available; and (iii) reporting requirements are fulfilled. Further, powers were delegated to AD category-I banks to approve cases of conversion of matured but unpaid ECB into equity, subject to certain conditions.

BRICS Seminar

V.34 A BRICS seminar on 'Investment Flows: Challenges, Opportunities and Road Ahead' was organised on October 13, 2016 in Mumbai in collaboration with the Ministry of Finance and the Securities and Exchange Board of India. Panel discussions in the seminar deliberated on topics such as loan and equity capital and investment flows in BRICS, portfolio investment and capital flows from low tax jurisdictions. The department conducted a number of 'Forex for You' programmes across the country to spread awareness and clarify issues on FEMA for AD banks and the general public.

Agenda for 2017-18

V.35 Changing trends in global trade and investment flows require calibrated responses, both from Indian companies and regulators, necessitating rapid evolution of regulations. During 2017-18, the Reserve Bank proposes to put in place, in due consultation with the central government, regulations pertaining to export in services and succession planning through Indian trusts and cross border mergers and acquisitions.

V.36 On-line payment gateway service provider (OPGSP) guidelines will be reviewed to facilitate e-commerce business and simplify the steps involved in physical fund transfer.

V.37 The Reserve Bank will continuously review current regulations to sync with dynamic market conditions. Towards containing the costs of regulatory compliance, merger of certain forms, *viz.*, advance remittance form (ARF) and foreign currency gross provisional return (FC-GPR), is proposed to be completed apart from introducing a Master form online encompassing all FDI reporting.

VI REGULATION, SUPERVISION AND FINANCIAL STABILITY

During 2016-17, the Indian banking sector had to cope with the concerns about deteriorating asset quality, on the one hand, and a sharp decline in credit growth, on the other, while supporting the government in its initiatives to further reach out to the public and in promoting digitalisation of the modes of payments in the economy. The branch authorisation policy was revised to harmonise the treatment of different forms of bank presence for the purpose of opening banking outlets in under-served areas. Empowered by requisite legislative provisions put in place by the government, the Reserve Bank focused on strengthening the institutional framework to address asset quality concerns by improving the recovery process and the early response mechanism. Having gained experience with the licensing of small finance and payments banks, the Reserve Bank explored the scope of introducing more differentiated banks such as 'wholesale and long-term finance banks' and also examined the regulatory challenges posed by innovations by Fin Tech entities in the financial landscape. Apart from focusing on the supervision of financial conglomerates and early response to asset quality deterioration, the Reserve Bank formalised a framework for taking enforcement action against banks for non-compliance with guidelines and instructions issued by it. For ensuring timely and effective redressal of customer grievances in non-banking financial companies (NBFCs), the Reserve Bank proposes to formulate an appropriate Ombudsman Scheme for NBFCs.

VI.1 The banking sector continued to grapple with the challenge of rising non-performing assets (NPAs) during 2016-17. In view of the mounting stress on asset quality, the banking sector's performance in terms of profitability and return on assets came under pressure in 2016-17. To deal with stressed assets, the existing regulations were revised in consultation with the stakeholders. Subsequent to promulgation of the Banking Regulation (Amendment) Ordinance, the Reserve Bank has taken several steps to expedite the process of resolution of certain large value stressed accounts. The market perception of this Ordinance seems to be positive for banks with relatively high level of non-performing assets (NPAs) and for firms with greater capacity to meet their interest obligations (Box VI.1). Further, in order to bring in greater transparency, banks were mandated to make suitable disclosures in the Notes to Accounts to Annual Financial Statements for 2016-17 and onward with regard to divergences in asset classification and provisioning from the Reserve Bank's supervisory assessment.

VI.2 Keeping in view the entry of differentiated banks and their role in financial inclusion, the branch authorisation policy was revised to harmonise the treatment of different forms of a bank's presence for the purpose of opening banking outlets in under-served areas. Licenses were issued to more players in the banking sector and some small finance banks (SFBs) and payments banks (PBs) began operations during the year. The Reserve Bank also explored the scope for operations of other types of differentiated banks to cater to the sector-specific financing needs of the economy.

VI.3 The Reserve Bank continued the process of harmonising the regulatory framework for cooperative banks and NBFCs with that of commercial banks. Apart from strengthening cooperative banks through mergers and licensing, there was also a move towards reducing the tiers

Box VI.1
Market Reaction to the NPA Ordinance*

The President approved the Banking Regulation (Amendment) Ordinance, 2017, on May 5, 2017. This ordinance empowers the Reserve Bank to direct banking companies to initiate insolvency proceedings in respect of corporate borrowers in default, under the provisions of the Insolvency and Bankruptcy Code, 2016 (IBC). It also enables the Reserve Bank to constitute committees to advise banking companies on resolution of stressed assets.

Following this, the Reserve Bank released a detailed action plan to implement the Ordinance on May 22, 2017. An Internal Advisory Committee (IAC) constituted by the Reserve Bank held its first meeting on June 12, 2017. The IAC recommended that all accounts with an outstanding amount greater than ₹50 billion, and with more than 60 per cent classified as non-performing by banks as on March 31, 2016 be resolved using the new IBC. Using these criteria, 12 accounts aggregating to around 25 per cent of the current gross NPAs were referred to the National Company Law Tribunal (NCLT), a statutory body responsible for judging insolvency proceedings under the new IBC law[1].

Against this backdrop, the following two events are analysed *viz.,* (i) the manner in which the market perceived the passage of the Ordinance empowering the Reserve Bank, and (ii) the reaction of stakeholders to the news of identification of default accounts.

With regard to the first event, *the event date* is defined as the date on which the Ordinance was approved (May 5, 2017). The *event window* around which the market response is analysed starts nine trading days before the event date and ends nine trading days after the event date. However, one week prior to the approval of Ordinance, the Finance Minister hinted at empowering the Reserve Bank to address the problem of non-performing assets (NPAs) in the Indian banking system. Since, it was likely that the stock market might have reacted prior to the actual event date, hence the principal empirical analysis here is based on the response of the stock market from five trading days prior to the event till the event date.

The response of the market is analysed by computing *abnormal returns (ARs),* which are defined as the difference between realised returns and expected returns. Expected returns are estimated by using the market model wherein for each company or bank, its stock returns are regressed on market returns separately over the *estimation window* starting 250 days prior to the event window and ending 30 days before the announcement date. The equation used for estimation is given below.

$$R_{i,t} = \alpha_i + \beta_i \times R_{M,t} + \epsilon_{i,t} \quad (1)$$

where, R_i is the individual stock returns over the estimation period, and R_M is the NIFTY 50 index return. The coefficients α_i and β_i computed over the estimation window are used to compute expected returns during the event window. The daily abnormal return is computed as a difference between the actual stock return and expected return calculated from Equation 1.

$$AR_{i,t} = R_{i,t} - E[R_{i,t}] \quad (2)$$

The aggregate abnormal returns are computed by cumulating up the abnormal returns across time during the event window.

$$CAR_{i(t_1\, t_2)} = \Sigma_{t=t_1}^{t_2} AR_{i\,t} \quad (3)$$

The analysis focuses on the 36 scheduled commercial banks for which stock market data are available. Those banks that have a non-performing asset to advances ratio (NPAR) above the sample median value for NPAR for all banks in 2015-16 are classified as *stressed* banks. The remaining are classified as *non-stressed* banks.[2] While a greater proportion of public sector banks are classified as stressed, almost all private sector banks are classified as non-stressed banks. The firm sample is divided into three sets on the basis of interest coverage ratio (ICR) in 2015-16: (i) low quality (ICR < 1), (ii) intermediate quality ($1 \leq$ ICR $\leq$ 2), and (iii) high quality (ICR $\geq$ 2).[3]

The event study analysis for all firms and associated banks is structured as follows: (i) comparison of stressed

* Based on CAFRAL research.

[1] Under the IBC, once a case is admitted to the NCLT, creditors have a maximum of 270 days to agree on a restructuring plan for the debtor, failing which the NCLT can order liquidation of the debtor.

[2] Bank-level data are obtained from the Database on Indian Economy (DBIE), RBI.

[3] Data for firms are from CMIE ProwessDx.

(Contd....)

banks and non-stressed banks, (ii) comparison of low quality, intermediate quality, and high quality firms, and (iii) comparison of low and high quality firms, segregated on whether their lead banks are stressed or non-stressed banks.[4]

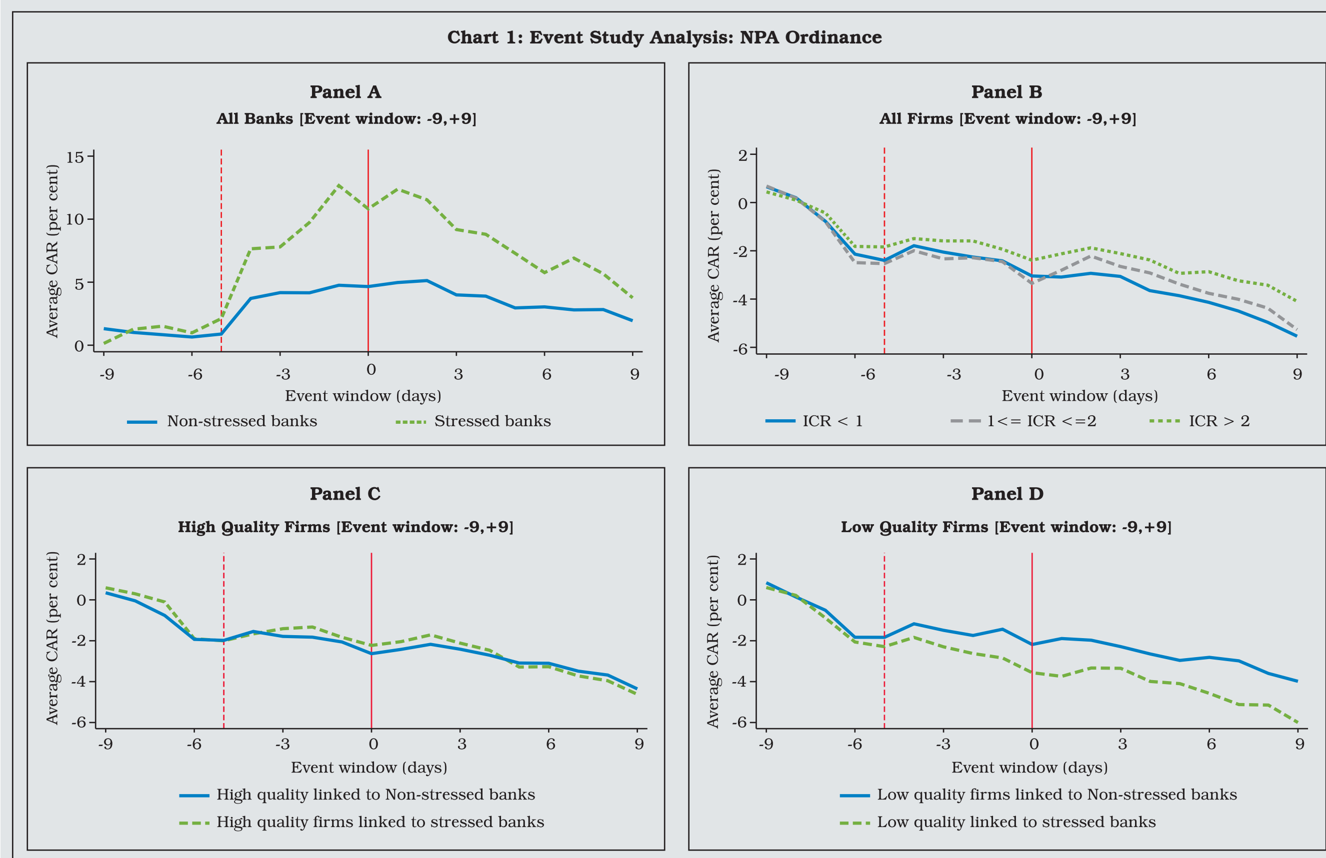
The second event study uses June 12, 2017 - the date of the IAC's first meeting - as the event date. It examines stock price reactions of the twelve firms that were referred to NCLT for resolution, and the lead banks of these firms. To study the relative market perception of these firms, all exchange listed firms in the same industry as the defaulter firms are used as *control* firms.[5] For the bank analysis, the thirty-six banks in the sample are divided into those that are the lead banks of any of these twelve defaulter firms and the remaining banks.

Results and Inference

Figure 1 displays the market response to the President's approval of the Banking Amendment Ordinance. Abnormal returns of stressed banks increased sharply following the Finance Minister's announcement (dashed red line at -5 in Chart 1, Panel A). This pattern continues till the event date which is the passage of the Ordinance. In contrast, non-stressed banks witnessed a more modest increase in abnormal returns. Strikingly, abnormal returns between stressed and non-stressed banks widened to almost 5 per cent indicating that markets perceived the amendment would help stressed banks in resolving their NPA problem. Panel B shows that low and intermediate quality firms performed worse than high quality firms. Overall, these results indicate that the recent amendment to the existing Banking Regulation Act is perceived by the market as being more positive for stressed banks, but negative for low and intermediate quality firms.

The remaining panels in Chart 1 further explore which firms are driving these results, based on whether the firm's lead bank is classified as stressed or non-stressed. Panel C and Panel D examine the market reaction of low and high quality firms, separating firms that are related to stressed

Chart 1: Event Study Analysis: NPA Ordinance

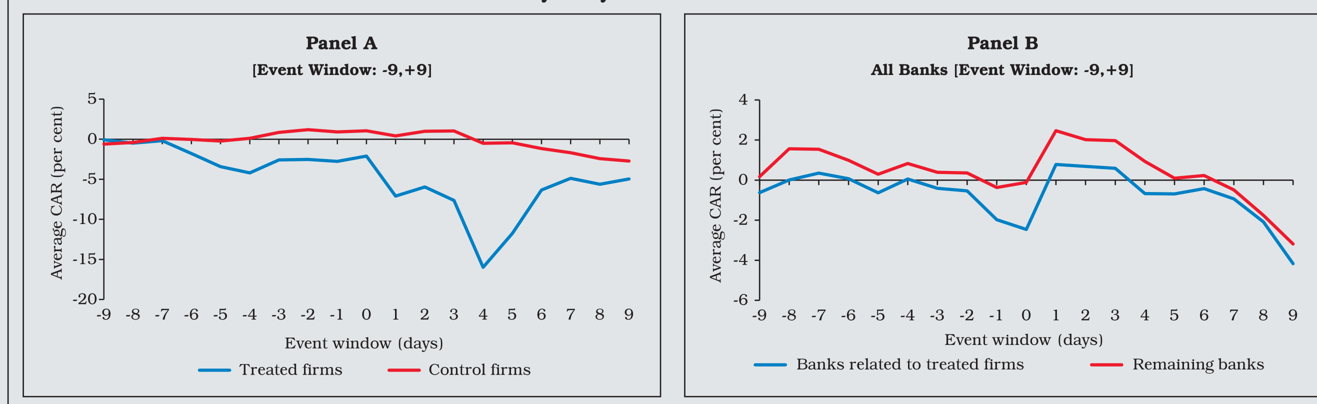


[4] The lead bank data are from CMIE.

[5] Firms with insufficient stock trading data are excluded from the control sample.

(Contd....)

Chart 2: Event Study Analysis: Identification of Default Accounts



banks *vis-à-vis* non-stressed banks. Low quality firms linked to stressed banks performed worse than low quality firms linked to non-stressed banks. In contrast, high quality firms linked to stressed banks performed better than high quality firms linked to non-stressed banks at least in the days immediately following the event date. It appears that the market lost confidence in low quality firms linked to stressed banks but high quality firms linked to stressed banks are seen in a positive light. One possible explanation is that high quality firms linked to stressed banks benefit from a balance sheet clean-up of stressed banks. The market may also be reflecting long term benefits to high quality firms possibly through the reallocation of resources away from low quality firms (Hsieh and Klenow, 2009 and Kulkarni, 2017).

The second event study focuses on the date of the IAC's first meeting on June 12, 2017 when defaulter accounts were identified. Chart 2 displays the response of the market to the announcement in reference to defaulter accounts. Panel A shows that defaulter firms realised a decline in abnormal stock returns relative to other firms belonging to the same industry as the defaulter firm. The identification of these firms by the Reserve Bank was a clear indication of their poor financial health, and it is evident that market stakeholders lost confidence in these firms. Panel B displays how the market responded to the lead banks of defaulter firms relative to other banks. In general, the abnormal returns increased for both the sets of banks immediately after the event.

In summary, both event studies point to a positive market reaction for banks but a negative market reaction for distressed firms. Thus, based on the market reaction, the Ordinance is good news for stressed banks as well as high quality borrowers. It has the potential to increase efficiency of capital allocation in the Indian economy with significant positive spillover effects on healthy firms and to rejuvenate the banking sector.

References:

1. Hsieh, C. and Klenow, P. (2009). "Misallocation and manufacturing TFP in China and India." The Quarterly Journal of Economics, 1124(4), 1403-1448.

2. Kulkarni N. (2017). "Creditor rights and allocative distortions: Evidence from India." CAFRAL Working Paper.

in the cooperative structure with a view to bringing down the cost of borrowings for final borrowers. Keeping in view the greater role envisaged for asset reconstruction companies (ARCs) in resolving stressed assets, regulatory norms for them were revised.

VI.4 With the entry of new forms of differentiated banks, the Reserve Bank began the process of developing a suitable framework for supervising payment banks and small finance banks. The Reserve Bank also identified a revised set of 11 financial conglomerates (FCs) for monitoring purposes. The Reserve Bank formalised a framework for taking enforcement action against banks for non-compliance with guidelines and instructions issued by it.

FINANCIAL STABILITY UNIT (FSU)

VI.5 FSU is responsible for analysing the risks to financial stability, undertaking macro-prudential surveillance through systemic stress tests and other tools, and disseminating information relating to the status of and challenges to financial stability through the bi-annual Financial Stability Report (FSR). FSU also acts as secretariat to the sub-committee of the Financial Stability and Development Council (FSDC), a coordination council of regulators for maintaining financial stability and monitoring macro-prudential regulation in the country.

Agenda for 2016-17: Implementation Status

VI.6 As planned, FSR was published in December 2016 along with the Report on Trend and Progress of Banking in India (RTP) and in June 2017. Towards strengthening the stress testing framework, a methodology for estimating sectoral probability of defaults to model the dynamics of risk weighted assets was developed and its output is being assessed.

VI.7 FSU is coordinating the macro-level stress testing exercise of all commercial banks as part of the Financial Sector Assessment Programme (FSAP) conducted jointly by the International Monetary Fund (IMF) and the World Bank. The Unit carried out stress tests based on the scenarios agreed upon under FSAP so as to broaden the scenario-based stress test analysis. The key emerging sectoral vulnerabilities of banks have also been analysed.

VI.8 The FSDC sub-committee held two meetings in 2016-17 and reviewed various issues including establishing a statutory financial data management centre, developing corporate bond market, minimum assured return scheme under the National Pension System (NPS), regulation of spot exchanges, setting up of computer emergency response team for the financial sector (CERT-Fin), roadmap for the National Centre for Financial Education, single pension regulator for the pension sector in India, extant macro-prudential framework in India, and framework for identification of systemically important financial institutions (SIFIs). The status of the recommendations of the financial stability board (FSB) peer review of India and the progress of FSAP 2017 were also discussed by the sub-committee.

VI.9 Inter-Regulatory Technical Group (IRTG), a sub-group of the FSDC sub-committee held one meeting during the year and discussed the implementation of the recommendations of Legal Entity Identifier (LEI) working group.

Agenda for 2017-18

VI.10 In the year ahead, FSU will continue to conduct macro-prudential surveillance, publish the bi-annual FSR and conduct meetings of the FSDC sub-committee. The feasibility of expanding the contagion (network) analysis to urban cooperative banks will also be examined.

REGULATION OF FINANCIAL INTERMEDIARIES

Commercial Banks: Department of Banking Regulation (DBR)

VI.11 DBR is the nodal department for regulation of commercial banks. The regulatory measures focus on ensuring a healthy and competitive banking system in the country to promote financial stability, and cost effective and inclusive banking services.

Agenda for 2016-17: Implementation Status

Financial Stress and Reinforcements

VI.12 During 2016-17, the Reserve Bank further strengthened the regulatory framework for dealing with stressed assets, *inter alia*, by revising its

guidelines on the resolution of stressed assets; *viz.*, the strategic debt restructuring (SDR) scheme, the scheme for sustainable structuring of stressed assets (S4A), flexible structuring of existing long term project loans to infrastructure and core industries; and guidelines for projects under implementation. Keeping in view the critical role of the bankruptcy and insolvency regime in shaping the business environment as well as resolution of debtors in distress, the government enacted the Insolvency and Bankruptcy Code, 2016 in May 2016. This single law will override multiple and overlapping laws and adjudicating forums dealing with financial failures and insolvency of companies and individuals in India (Box VI.2).

VI.13 With a view to further strengthening banks' ability to resolve their stressed assets effectively and to enhance transparency in the entire process, the Reserve Bank issued guidelines on sale of stressed assets by banks on September 1, 2016. The guidelines require banks to identify and list internally, at least once a year, the specific financial assets identified for sale to other institutions, including securitisation companies (SCs)/reconstruction companies (RCs).

Branch Authorisation Policy

VI.14 The Reserve Bank issued final guidelines on May 18, 2017, clarifying on what constitutes a 'banking outlet' and harmonising the treatment of different forms of bank presence for the purpose

Box VI.2
The Insolvency and Bankruptcy Code, 2016

The Insolvency and Bankruptcy Code (IBC), 2016 consolidates and amends the laws relating to reorganisation and insolvency resolution of corporate persons (excluding financial service providers), partnership firms and individuals in a time bound manner for maximising the value of assets of such entities. Some of the key aspects of the IBC are set out below.

1. IBC lays down a resolution process that is time bound (180 days) and is undertaken by professionals. It creates an institutional mechanism for the insolvency resolution process for businesses either by coming up with a viable survival mechanism or by ensuring their prompt liquidation.
2. IBC's institutional infrastructure comprises four pillars, *viz.*, insolvency professionals, information utilities, adjudicating authorities and the Insolvency and Bankruptcy Board of India (IBBI).
3. While insolvency resolution for companies will be adjudicated by the National Company Law Tribunal (NCLT), the same for firms and individuals will be adjudicated by the Debt Recovery Tribunals (DRTs). The IBBI is the apex body for promoting transparency and governance in IBC's administration.
4. Where a corporate debtor has defaulted in paying a debt, the corporate insolvency resolution process may be initiated by a financial creditor, an operational creditor or the corporate debtor itself.
5. A default-based test for entry into the insolvency resolution process permits early intervention when the corporate debtor shows early signs of financial distress.
6. On the distribution of proceeds from the sale of assets, first priority is accorded to the costs of insolvency resolution and liquidation, and second to the secured debt together with workmen's dues for the preceding 24 months. Central and state governments' dues are ranked lower in priority.

By providing an effective legal framework for timely resolution of insolvency and bankruptcy, IBC will support the development of credit and corporate bond markets, strengthen debt recovery, encourage entrepreneurship, improve ease of doing business and facilitate more investments. The code proposes a paradigm shift from the existing 'debtor in possession' to a 'creditor in control' regime. Moreover, the priority accorded to secured creditors is advantageous for entities such as banks.

IBC's success hinges to a great extent on the efficient functioning of information utilities. An adequate number of insolvency professionals will also be needed to handle the large number of cases. More benches of NCLT may also have to be set up as the volume of references increases.

of opening banking outlets in under-served areas (Box VI.3).

Diversification of Lending Base

VI.15 Towards aligning the exposure norms for Indian banks with the Basel Committee of Banking Supervision (BCBS) standards and to further diversify the banks' lending base, on December 1, 2016, the Reserve Bank issued final guidelines on large exposures framework (LEF), effective April 1, 2019. The exposure limits will consider a bank's exposure to all its counterparties and groups of connected counterparties.

VI.16 To encourage funding from sources other than bank credit for the corporate sector, the Reserve Bank, in August 2016, issued guidelines on enhancing credit supply for large borrowers through market mechanism, effective April 1, 2017.

VI.17 Scheduled commercial banks (SCBs) were advised that housing finance companies (HFCs) will be risk weighted in a manner similar to that of corporates to bring uniformity in the application of risk weights among banks on their exposures.

VI.18 Banks were allowed to invest in Real Estate Investment Trusts (REITs) and Infrastructure

Box VI.3
Rationalisation of Branch Authorisation

The first bi-monthly monetary policy statement 2016-17 announced on April 5, 2016 proposed to redefine branches and permissible methods of outreach, keeping in mind the various attributes of banks and the types of services that are sought to be provided. Accordingly, based on the report of an internal working group and public comments on the report, final guidelines clarifying what is a 'banking outlet' and harmonising the treatment of different forms of bank presence for the purpose of opening outlets in under-served areas were issued on May 18, 2017 as under:

Banking outlet: A banking outlet includes a branch as well as business correspondent (BC) outlet, among others. For a domestic scheduled commercial bank (DSCB), a small finance bank (SFB) and a payment bank (PB), it is a fixed point service delivery unit, manned by either bank's staff or its BC where services of acceptance of deposits, encashment of cheques/ cash withdrawal or lending of money are provided for a minimum of four hours per day for at least five days a week. If it provides services for less number of hours per day and days in a week, it is considered a part-time banking outlet.

Unbanked rural centre (URC): It is a rural (Tier 5 and 6) centre that does not have a core banking solution (CBS) enabled banking outlet of an SCB, a PB, an SFB or an RRB nor a branch of a local area bank or a licensed co-operative bank for carrying out customer based banking transactions. Thus, the role of technological advances in banking services is recognised as against the earlier definition based on a brick and mortar structure.

Conditions for opening banking outlets: At least 25 per cent of banking outlets opened during a financial year must be opened in unbanked rural centres. Pro-rata benefit for part-time banking outlets will also be extended. The opening of a banking outlet/part-time banking outlet in a Tier 3 to 6 centre of north-eastern states, Sikkim and left wing extremism affected districts, notified by the Government of India, will be considered as equivalent to opening a banking outlet/part-time banking outlet in a URC. A bank opening a brick and mortar branch in a rural (Tier 5 and 6) centre which – owing to the presence of a BC outlet of another bank – is not defined as a URC, will also be eligible for the same incentive. Similar treatment will be given for opening a banking outlet in a rural centre which is served only by a banking outlet of a PB.

Micro Finance Institution (MFI) structure of SFBs: Towards preserving the advantages of the MFI/NBFC structure of SFBs to promote financial inclusion, they have been allowed three years from the commencement date, to align their banking network with the extant guidelines. Till such time, the existing structure may continue and the existing branches will be treated as banking outlets though not immediately reckoning for the 25 per cent norm. Nevertheless, during this period of three years, the 25 per cent norm will be applicable for all the banking outlets opened or converted from the existing MFI branches in a year.

Role of board of directors: Financial inclusion being the overarching objective of the revised framework and given the operational flexibility being provided to banks, the boards of banks have been accorded overall responsibility to ensure that all the guidelines are complied with, in letter and spirit.

Investment Trusts (InvITs) within the overall ceiling of 20 per cent of net worth for direct investment in convertible bonds/ debentures, units of equity-oriented mutual funds and exposures to venture capital funds.

Capital and Risk Management

VI.19 With a view to developing the market for rupee-denominated bonds overseas and providing an additional avenue for raising capital, banks were permitted to issue rupee-denominated perpetual debt instruments (PDI) overseas as part of additional tier (AT)-1 capital and debt capital instruments as part of Tier 2 capital.

VI.20 The guidelines on capital requirements for banks' exposures to central counterparties, issued on November 10, 2016 and effective from April 1, 2018, specified the credit risk treatment for exposures to central counterparties arising from over the counter derivatives transactions, exchange traded derivatives transactions, securities financing transactions and long settlement transactions. The Reserve Bank also issued guidelines for computing exposure for counterparty credit risk arising from derivatives transactions.

VI.21 In line with the revised BCBS framework on interest rate risk in the banking book, the Reserve Bank issued draft guidelines on governance, measurement and management of interest rate risk in banking book on February 2, 2017 for feedback/comments.

VI.22 In April 2015, the Reserve Bank had formulated a scheme for setting up of IFSC banking units (IBUs) by banks in International Financial Services Centres (IFSCs). The instructions under the scheme were modified in light of the feedback from stakeholders (Box VI.4).

Box VI.4
Modifications in Permissible Activities of IFSC Banking Units (IBUs)

The scheme for setting up of IFSC banking units aims at enabling banks to undertake activities largely akin to those carried out by overseas branches of Indian banks. Certain activities are, however, not allowed in view of the fact that IBUs are functioning from the Indian soil and the legal and regulatory framework is still governed by domestic laws and there is no separate financial sector regulator for IFSC. Nevertheless, IBUs were allowed progressively to undertake more activities as recently as in April 2017 as summarised below:

1. IBUs may undertake derivative transactions including structured products that the banks operating in India have been allowed. However, IBUs shall obtain the Reserve Bank's prior approval for offering any other derivatives products.
2. Fixed deposits accepted by IBUs from non-banks cannot be repaid prematurely within the first year. However, fixed deposits accepted as collateral from non-banks for availing credit facilities from IBUs or deposited as margin in favour of an exchange, can be adjusted prematurely in the event of a margin call or a default in repayment.
3. An IBU can be a trading member of an exchange in the IFSC for trading in the interest rate and currency derivatives segments that banks operating in India have been allowed to undertake.
4. An IBU can become a professional clearing member of the exchange in the IFSC for clearing and settlement in any derivatives segment.
5. IBUs are allowed to extend the facilities of bank guarantees and short term loans to IFSC stock broking/ commodity broking entities.
6. Any financial institution or a branch of a financial institution including an IBU operating in IFSC can maintain special non-resident rupee (SNRR) accounts with a bank (authorised dealer) in the domestic sector for meeting its administrative expenses in Indian rupee. These accounts must be funded only by foreign currency remittances through a channel appropriate for international remittances which will be subject to extant FEMA regulations.

A Task Force (Chairman: Minister of State for Finance) is monitoring the progress in the development of IFSCs. The Reserve Bank is a member of the task force.

VI.23 After a review of the criteria for determining customer liability in unauthorised electronic banking transactions, the final guidelines on customer protection – limiting liabilities of customers – have been issued.

VI.24 A regulatory framework making elements of Basel III standards selectively applicable to the All India Financial Institutions (AIFIs) is being put in place.

VI.25 An Aadhaar enabled one time pin (OTP) based e-KYC process was allowed in December 2016 for on-boarding of customers subject to certain conditions. The Reserve Bank also prescribed a customer due diligence procedure for opening accounts of judicial persons such as the government or its departments, societies, universities and local bodies like village *panchayats*.

VI.26 The Reserve Bank issued directions to scheduled commercial banks (excluding RRBs) to comply with Indian Accounting Standards (Ind AS) for financial statements beginning April 1, 2018 onwards, with comparatives for the periods ending March 31, 2018 or thereafter. Banks were also advised to submit proforma Ind AS financial statements for the half year ended September 30, 2016. The Reserve Bank is in the process of finalising the draft guidelines on key aspects of expected credit loss (ECL) under Ind AS to ensure minimum standards as also consistency in the application of the standards to the extent possible (Box VI.5).

Box VI.5

Implementation of Ind AS - Guidance on the Expected Credit Loss Framework

The implementation of Ind AS will mark a major shift from the current accounting framework followed by banks in India which is based on a melange of accounting standards and regulatory guidelines, especially in certain key areas such as classification and measurement of financial instruments, and impairment of financial assets.

Recent developments in the banking system underscore the continued importance of adequate provisioning, commensurate with the increase in credit risk. Applying an incurred loss provisioning framework can result in impairments that are recognised after the loss event has occurred, when the probability of default is close to 100 per cent. Provisions are not made as credit risk increases significantly (although short of default) even where bank management has information about stress/future likely losses.

Ind AS 109 expresses the view that delinquency is a lagging indicator of significant increase in credit risk. Banks are, therefore, expected to have credit risk assessment and measurement processes in place to ensure that credit risk increases are detected ahead of exposures becoming past due or delinquent, for timely transfer to lifetime expected credit losses. The standard differentiates between the three stages of credit risk:

- The financial assets in Stage 1 are those with no significant increase in credit risk since initial recognition, or financial instruments that have low credit risk at the reporting date. For these assets, 12-month expected credit losses (ECLs) are recognised in profit or loss.
- The financial instruments in Stage 2 are those which have experienced a significant increase in credit risk since initial recognition, but with no objective evidence of impairment. For such assets, lifetime ECLs are recognised. This accounting treatment is based on the rationale that an economic loss arises when ECLs significantly exceed initial expectations. By recognising lifetime ECLs following a significant increase in credit risk, this economic loss is reflected in the financial statements.
- The financial instruments in Stage 3 comprise those for which objective evidence indicates impairment at the reporting date. These are typically non-performing loans where the bank considers that the borrower is unlikely

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to pay the existing debt. Lifetime ECLs are recognised for these exposures.

The estimated overall impact of Ind AS on regulatory capital is likely to be adverse mainly due to the impairment requirements under it. In view of the capital constraints already faced by many banks, particularly public sector banks, the Reserve Bank believes that it may be appropriate to introduce transitional arrangements for the impact of accounting changes on regulatory capital. The primary objective of a transitional arrangement is to avoid a 'capital shock', by giving banks time to rebuild their capital resources following a potentially significant negative impact arising from the introduction of ECL accounting.

The Reserve Bank is also considering the introduction of 'regulatory floor' for provisioning in the regulatory capital calculation, *i.e.,* when a bank makes lower accounting provisions than the standardised regulatory floor amounts, the shortfall would be deducted from the bank's common equity tier (CET)1 capital, which would incentivise robust provisioning.

VI.27 A discussion paper on wholesale and long-term finance banks was released in April 2017. It explores the scope of setting up more such differentiated banks in a backdrop of in-principle approvals and licenses issued to set up payments banks and small finance banks (Box VI.6).

VI.28 Considering payments banks and small finance banks' differentiated nature of business and their focus on financial inclusion, separate operating guidelines for these banks were issued in October 2016. The guidelines elaborate upon the areas of prudential regulations, risk management, ownership and control regulations, corporate governance, and banking operations to be adhered to by these banks.

VI.29 As part of the efforts to promote financial inclusion through a greater focus on small credit and payment/remittance facilities, the Reserve

Box VI.6

Discussion Paper on Wholesale and Long-Term Finance Banks

The proposed differentiated banks – wholesale and long-term finance (WLTF) banks – are expected to focus primarily on lending to infrastructure sector and small, medium and corporate businesses. They can mobilise liquidity for banks and financial institutions directly originating priority sector assets, through the securitisation of such assets and actively dealing in them as market makers. They may also act as market-makers in securities such as corporate bonds, credit derivatives, warehouse receipts and take-out financing. These banks can provide refinance to lending institutions and may be present in capital markets in the form of aggregators. The primary sources of funds for these banks could be a combination of wholesale and long term deposits (above a large threshold), debt/equity capital raised from primary market issues or private placement, and term borrowings from banks and other financial institutions.

Financial structures in some countries support banks concentrating on wholesale and long-term financing. Some of these institutions in the public sector, which began as part of the government-backed development policy, have begun their transition towards privatisation.

The stipulations for WLTF banks, expected to be different from universal banks, are mooted as: (i) higher initial minimum capital of ₹10 billion, (ii) negligible lending exposure to the retail sector, no savings accounts, and a higher threshold for term deposits of above ₹100 million, (iii) exemption from Statutory Liquidity Ratio (SLR) requirements and some relaxation in the prudential norms on liquidity risk, and (iv) exemption from a mandatory rural presence and priority sector lending requirements.

The issues for discussion posed by the discussion paper are: (i) whether there is a need for licensing WLTF banks when their proposed activities are currently allowed for universal banks, (ii) whether the time is opportune for this, (iii) what will be the net impact of such players on the financial system, and (iv) whether the proposed regulatory framework is appropriate.

Bank issued licenses to eight SFBs and six PBs during the year taking the number of licensees to 10 in case of SFBs and seven in case of PBs. Eight SFBs and four PBs have commenced operations.

VI.30 The Depositors' Education and Awareness (DEA) Fund, started in February 2014, had accumulated a corpus of ₹124 billion at end-March, 2017, and a total of 2,145 banks were registered for transfer of unclaimed amounts to the DEA Fund.

VI.31 The fields of specialisation for the directors on the boards of commercial banks (excluding RRBs) were broadened in May 2017 to include (i) information technology, (ii) payment and settlement systems, (iii) human resources, (iv) risk management, and (v) business management to bring in persons with professional knowledge and experience in these fields to the banks' boards.

VI.32 An inter-regulatory working group (Chairman: Shri Sudarshan Sen, Executive Director) was set up in July 2016 with members drawn from the Reserve Bank, SEBI, IRDA, PFRDA, IDRBT, select banks and rating agencies to examine the granular aspects of Fin Tech, particularly from the perspective of reorienting the regulatory framework. The report of the working group was submitted to the Reserve Bank in February 2017 for consideration.

Agenda for 2017-18

VI.33 The Reserve Bank will continue to focus on improving the institutional framework for a sound banking system in the country, particularly addressing asset quality issues. Implementation of Ind AS and the Basel III framework will be the areas of focus during 2017-18.

VI.34 In the context of Ind AS implementation, the Bank will issue guidelines on regulatory floors for asset provisioning. Guidelines on mechanics of the transitional arrangements will also be issued.

VI.35 The Reserve Bank will analyse the Ind AS financial statements submitted by banks for the quarter ended June 30, 2017 as part of the regulatory reporting. It will review other extant instructions in the light of Ind AS implementation.

VI.36 A discussion paper on margin requirements for non-centrally cleared derivatives was issued in May 2016. The final guidelines on margin requirements for non-centrally cleared derivatives will be issued, after a review of the developments globally, as also the availability of infrastructure required for exchange of such margins in India.

VI.37 The revised framework for securitisation, the minimum capital for market risk and the guidelines on corporate governance as per Basel standards shall also be issued.

VI.38 The Basel III norms prescribe two minimum standards for banks – the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) – for promoting short-term resilience of banks to potential liquidity disruptions and resilience over a longer-term time horizon, respectively. The LCR guidelines are effective in India since January 1, 2015. The draft guidelines on NSFR were issued in May 2015. The final guidelines will be issued during 2017-18.

VI.39 The revised regulatory framework for the AIFIs, including extension of various elements of Basel III standards relevant to these institutions, will be issued after due consultations with stakeholders.

Cooperative Banks: Department of Cooperative Bank Regulation (DCBR)

VI.40 The Reserve Bank continues to play a key role in the revival and strengthening of the cooperative banking sector by fortifying the regulatory and supervisory framework. In this context, DCBR, in charge of prudential regulations of cooperative banks, took the following initiatives in 2016-17.

Agenda for 2016-17: Implementation Status

Harmonisation of Regulatory Policies

VI.41 Taking the process of harmonisation of regulations forward, cooperative banks fulfilling certain criteria were allowed to issue/ redeem long term (subordinated) deposits (LTDs) without the prior approval of the Reserve Bank provided mandatory disclosure requirements were made. The guidelines on non-SLR investments by rural cooperative banks were aligned with those for urban cooperative banks (UCBs). Guidelines were issued for deployment of point of sale (POS) terminals and issuance of prepaid instruments by all cooperative banks.

Revival and Licensing of Unlicensed DCCBs

VI.42 The government launched a scheme for revival of 23 unlicensed DCCBs (Uttar Pradesh -16, Maharashtra - 3, Jammu and Kashmir - 3 and West Bengal - 1) in November 2014. Accordingly, a tripartite agreement in the form of a memorandum of understanding was signed between the central government, the concerned state government and NABARD. With the release of funds by the government, the concerned state government and NABARD, banking licenses were issued to the unlicensed DCCBs in Uttar Pradesh, Maharashtra and West Bengal, bringing down the number of unlicensed DCCBs to three by September 30, 2016. Licensing of the remaining DCCBs has been taken up with the state of Jammu & Kashmir. There is also a move towards reducing the tiers in the cooperative structure with a view to reducing the cost of borrowings for final borrowers (Box VI.7).

Box VI.7

Two-tier Rural Cooperative Structure in Jharkhand

The short term cooperative credit structure (STCCS) of the country primarily meets the crop and working capital requirements of farmers and rural artisans. The pyramid of STCCS is primarily 3-tier and is federal in nature within a state. The apex level is the state cooperative bank (StCB), at the district level there are district central cooperative banks (DCCBs) and at the village level, there are primary agricultural credit societies (PACS). Across India, there are more than 93,000 PACS having a membership base of 120 million. The structure of STCCS is not uniform across the states with a 3-tier structure in 16 states and 2-tier structure in 13 smaller states and union territories where PACS are directly affiliated to StCBs. There is a mixed structure in three states – 2-tier in some districts and 3-tier in others.

Notwithstanding the phenomenal outreach and volume of operations, the financial health of STCCS has been a matter of concern. In a 3-tier credit structure, each tier adds to cost and margins leading to an escalation in the cost of borrowings for the ultimate borrowers. The interest rate structure also varies from one state to another. Since STCCS deals with relatively larger number of small value loan accounts as compared with commercial banks and RRBs, the transaction cost also tends to be high.

The relevance of the three-tier credit structure has been examined by several committees in the past (notably, those headed by Professor V. S. Vyas, Shri Jagdish Capoor, Professor Vaidyanathan and Dr. Prakash Bakshi). The Vyas Committee argued for the elimination of one of the tiers to bring down costs for ultimate borrowers. The NABARD Act, 1981 was amended in 2003 to provide for direct refinance to DCCBs but no concrete action has been initiated towards reducing tiers in STCCS.

(Contd...)

In 2013, the Jharkhand State Cooperative Bank (JStCB) took a path breaking initiative and approached the Reserve Bank to approve establishment of a 2-tier rural cooperative structure in the state to replace the age-old 3-tier structure. The state proposed to merge all the DCCBs with JStCB. Considering the merits of the request, 'in-principle' approval was given for the amalgamation of all eight DCCBs with JStCB in October 2013. However, since the Dhanbad DCCB went to court against the state's decision of amalgamation, the state came up with a revised proposal to amalgamate seven DCCBs with JStCB. The Reserve Bank accorded 'in-principle' approval to the revised proposal in November 2014.

NABARD carried out a snap scrutiny of the amalgamated entity in March 2017 following an infusion of a ₹500 million grant by the state that enabled JStCB to achieve CRAR of more than 9 per cent. It was observed that the amalgamation of STCCS entailed a stronger structure in terms of improvements in operational, managerial and governance efficiency. Consequently, the Reserve Bank conveyed its final approval to the amalgamation proposal on March 30, 2017 and the state government issued a notification for amalgamation of seven DCCBs with JStCB on March 31, 2017. The new entity started functioning from April 1, 2017, ushering an era of 2-tier cooperative credit structure in the state, barring the pending court case of the Dhanbad DCCB.

Scheduling, Licensing, Mergers and Voluntary Conversions

VI.43 During the year, one state cooperative bank – the Telangana State Cooperative Apex Bank Ltd. – was included in the second schedule to the RBI Act, 1934. Five merger proposals received from UCBs were approved, out of which two proposals were implemented, two proposals are under process while one proposal was withdrawn by the target bank. Further, three UCBs voluntarily converted themselves into non-banking institutions under Section 36A (2) of the Banking Regulation Act, 1949.

Other Developments

VI.44 A scheme of financial assistance to UCBs for implementing the core banking solution (CBS) was announced on April 13, 2016 in consultation with IDRBT/Indian Financial Technology and Allied Services (IFTAS) (a subsidiary of IDRBT). Under the scheme, the initial setup cost of ₹0.4 million is paid by the Reserve Bank to IFTAS. During the year, 23 UCBs implemented CBS under the scheme taking the number of CBS-compliant UCBs to 1,301 out of a total of 1,561 UCBs.

Agenda for 2017-18

VI.45 Further harmonisation of the guidelines for rural and urban cooperative banks will continue to be an agenda for 2017-18. The Reserve Bank will pursue the process of recapitalisation and licensing of the remaining three DCCBs in Jammu & Kashmir under the rehabilitation scheme approved by the government to create an environment where only licensed rural cooperative banks operate in the banking space. The supervisory action framework for UCBs, framed in 2014, will be reviewed with a view to engaging with the concerned banks at an early stage for corrective action. Implementation of CBS under the scheme of financial assistance to UCBs will be taken forward during the year. The Reserve Bank will formulate certain standards and benchmarks for CBS in UCBs in consultation with IDRBT in order to make it more robust.

Non-Banking Financial Companies (NBFCs): Department of Non-Banking Regulation (DNBR)

VI.46 NBFCs play a vital role in providing credit by complementing commercial banks and also cater to some niche sectors. DNBR is entrusted

with the regulation of the NBFC sector with a view to providing a conducive environment for orderly growth of the sector as also protecting the interests of depositors and customers.

Agenda for 2016-17: Implementation Status

VI.47 During the year, the Reserve Bank issued guidelines on NBFC-account aggregators (NBFC-AAs). Subsequently, the process of registering NBFC-AAs has been initiated. The guidelines to banks for relief measures in areas affected by natural calamities, were extended *mutatis mutandis* to NBFCs.

VI.48 The guidelines on pricing of credit were issued for NBFC-microfinance institutions (NBFC-MFIs) to ensure that the average interest rate on loans sanctioned during a quarter does not exceed the average borrowing cost during the preceding quarter plus the margin, within the prescribed cap. Guidelines in respect of disbursal of loans in cash by NBFCs were amended to align these with the requirements under the Income Tax Act, 1961.

VI.49 Keeping in view the role of asset reconstruction companies (ARCs) in resolving stressed assets as also the recent regulatory changes governing the sale of stressed assets by banks to ARCs, the minimum net owned fund requirement for ARCs was fixed at ₹1 billion on an on-going basis, effective April 28, 2017 (Box VI.8). In terms of Section 30A, 30B and 30C of the SARFAESI Act, 2002, the Reserve Bank has designated Adjudicating Authority for imposing penalty on ARCs for non-compliance of any direction issued by the Reserve Bank. Further, the Reserve Bank has designated the Appellate Authority for deciding on an appeal filed by the aggrieved party. These guidelines will come into force after its notification by the central government.

VI.50 The NBFC sector has evolved over a period of time resulting in a variety of categories of NBFCs. The different categories were envisaged to promote specific sector/ asset classes and

Box VI.8

Asset Reconstruction Companies: Progress and the Way Forward

During the late 1990s, in view of the rising level of bank NPAs, the Narasimham Committee II and Andhyarujina Committee were constituted to examine the scope for banking sector reforms and the need for changes in the legal system to resolve NPAs. These committees suggested a new legislation for securitisation, empowering banks and financial institutions (FIs) to take possession of the securities and sell them without the intervention of the court. Accordingly, the SARFAESI Act (the Act) was enacted in 2002 to provide an enabling environment for resolution of NPAs and for strengthening the financial sector. It provides three alternative methods for recovery of NPAs – securitisation, asset reconstruction and enforcement of security interests. It envisaged the formation of asset reconstruction companies (ARCs) under Section 3 of the Act.

ARC's primary goal is to acquire, manage and recover the financial assets which have been classified as NPAs by the banks/FIs. Presently, there are 24 ARCs in the country. The Reserve Bank has been assigned powers under the Act to regulate and supervise ARCs. An ARC can acquire and keep the financial asset – NPAs – in its own balance sheet or transfer it to one or more trust(s) (set up under Section 7 of the Act) at a price at which the asset was acquired from the originator (secured lender). Most of the deals are structured with a 15 per cent upfront payment to the seller banks/ FIs and issue of security receipts (SRs) for the remaining amount with a defined cash-flow waterfall. Management fee, a primary source of income for ARCs, has priority (after netting the expenses) over redemption of SRs. The trusteeship of such trusts vests with the ARC.

The net owned fund requirement for ARCs was raised from ₹20 million to ₹1 billion effective April 28, 2017 with a view to attract serious players to the business. Other recent measures for encouraging the sector include 100 per cent foreign direct investment (FDI) under the automatic route, removal of the limit on shareholding by a sponsor, and inclusion of additional qualified buyers for investments in SRs.

hence different sets of regulatory prescriptions were put in place. There are NBFCs catering to asset financing, infrastructure financing, microfinance, lending, *etc*. At present, there are eleven categories of NBFCs – Asset Finance Company (AFC), Loan Company (LC), Investment Company (IC), Core Investment Company (CIC), NBFC-Factor, IDF-NBFC, Infrastructure Finance Company (IFC), NBFC-MFI, NOFHC, NBFC-AA and Mortgage Guarantee Company (MGC). In line with the Reserve Bank's medium term goal of moving toward activity-based regulation rather than entity-based regulation, the rationalisation of multiple categories of NBFCs into fewer categories is under way.

Agenda for 2017-18

VI.51 Going forward, the Reserve Bank will rationalise the NBFCs into fewer categories. The Bank will oversee the time-bound implementation of Ind AS, converged with IFRS, by NBFCs.

SUPERVISION OF FINANCIAL INTERMEDIARIES

Commercial Bank: Department of Banking Supervision (DBS)

VI.52 DBS supervises all SCBs (excluding RRBs), local area banks (LABs), payment banks, small finance banks and AIFIs within the existing legal and regulatory framework, based on supervisory inputs received through off-site monitoring and on-site inspections.

Agenda for 2016-17: Implementation Status

VI.53 During 2016-17, all SCBs operating in India (excluding RRBs and LABs) were brought under risk based supervision – Supervisory Programme for Assessment of Risk and Capital (SPARC). The Reserve Bank also started the process of developing a suitable framework for supervising PBs and SFBs. The supervisory process is being strengthened by incorporating elements of continuous supervision in off-site monitoring (Box VI.9).

VI.54 The inter-regulatory forum for monitoring financial conglomerates (IRF-FC) identified a revised set of 11 FCs in the Indian financial sector including five bank-led FCs, four insurance company-led FCs and two securities company-led FCs, based on their significant presence in two or more segments of the financial sector.

VI.55 A revised prompt corrective action (PCA) framework for banks was rolled out for implementation from 2017-18 based on the financials of banks for the year ended March 31, 2017. The PCA matrix notified under the revised framework specifies indicators and risk thresholds

Box VI.9
Asset Quality Review (AQR) in Perspective – Lessons Learnt

The Asset Quality Review (AQR), undertaken in 2015-16 for all major banks together, was aimed at making banks recognise their asset quality realistically. It provided valuable insights on asset quality at the individual bank/ system level and ensured uniformity in identification of non-performing assets (NPAs) at the system level. Further, the early finalisation and communication of divergences in provisioning gave banks more time for effecting the additional provisioning over subsequent quarters. AQR was extensively based on off-site data from the Central Repository for Information on Large Credits (CRILC). The exercise clearly brought out the importance of data analysis for effective supervision. In particular, it emphasised the importance of collecting relevant data, ensuring robust data quality and integrity and the use of IT infrastructure for carrying out an incisive off-site analysis which, in conjunction with on-site assessment, ensures an effectively continuous supervisory assessment.

Box VI.10

Revised Prompt Corrective Action Framework for Banks

The prompt corrective action (PCA) framework for banks was introduced by the Reserve Bank in December 2002 as an early intervention mechanism. The sub-committee of the Financial Stability and Development Council (FSDC-SC) in its meeting held in December 2014 decided to introduce the PCA framework for all regulated entities. Subsequently, the Reserve Bank reviewed the existing PCA framework keeping in view the recommendations of the working group on resolution regimes for financial institutions in India (January 2014), the Financial Sector Legislative Reforms Commission (FSLRC, March 2013) and international best practices. The Board for Financial Supervision (BFS) decided to implement the provisions of the revised PCA framework with effect from April 1, 2017, based on the financials for March 31, 2017.

Capital, asset quality and profitability continue to be the key areas for monitoring under the revised framework. However, common equity Tier-1(CET 1) ratio will constitute an additional trigger and leverage will also be monitored. The revised PCA defines certain risk thresholds, breach of which would lead to invocation of PCA and invite certain mandatory and discretionary actions. The PCA framework will apply to all banks operating in India including small banks and foreign banks operating through branches or subsidiaries.

under four areas – capital (breach of either CRAR or common equity tier (CET) 1 ratio), asset quality, profitability and leverage (Box VI.10).

VI.56 In line with BCBS principles on cross-border supervisory cooperation, the Reserve Bank has set up supervisory colleges for Indian banks with considerable overseas presence, *viz.*, State Bank of India (SBI), ICICI Bank Ltd., Bank of Baroda, Bank of India, Punjab National Bank and Axis Bank Ltd. The major objectives of supervisory colleges are to enhance information exchange and cooperation among supervisors to improve understanding of the risk profile of the banking group, thereby facilitating more effective supervision of the internationally active banks. The Reserve Bank held meetings of all the supervisory colleges during 2016-17.

VI.57 With a view to assessing banks' cyber security preparedness, the Reserve Bank mandated a baseline cyber security and resilience framework and conducted IT/cyber security examinations/ vulnerability assessments to evaluate their responses to cyber security incidents. It also conducted targeted inspections in the wake of certain cyber security incidents of significant concern. The Reserve Bank conducted trainings on cyber security with hands-on sessions for its IT examiners to build skills in cyber security assessment.

VI.58 In order to improve data quality, a working group was set up with members from major public sector, private and foreign banks to rationalise existing off-site returns. The group submitted its report in September 2016. The various recommendations of the group, after due consideration and approval, are being implemented in a phased manner.

VI.59 Towards enhancing supervisory focus, the department conducted some thematic studies during the year relating to derivatives portfolio and custodial services offered by foreign banks; non-credit related facilities and trade finance; and real estate exposure/housing finance. The studies were shared with the concerned departments for policy action.

VI.60 Migration of supervisory returns, other than off-site monitoring and surveillance (OSMOS) returns, to the eXtensible business reporting language (XBRL) reporting platform is

under progress. Returns relating to fraud reporting and monitoring have been migrated to the XBRL reporting platform.

VI.61 Taking the process of cross-border supervisory cooperation and exchange of supervisory information further, the Reserve Bank signed memoranda of understanding (MoUs) with seven overseas banking supervisory authorities during the year, *viz.*, the Central Bank of Myanmar, the Banking Regulation and Supervision Agency of Turkey, the Central Bank of Nigeria, the Bank of Zambia, the Bank of Guyana, the Bank of Thailand and the Royal Monetary Authority of Bhutan. Further, a letter of cooperation was executed with the Czech National Bank. With this, the Reserve Bank has signed 40 MoUs, two letters of cooperation and one statement of cooperation.

VI.62 The Reserve Bank launched a Central Fraud Registry (CFR), a web-based online searchable database in January 2016. However, usage of CFR by banks, especially PSBs, is yet to pick up on expected lines.

Agenda for 2017-18

VI.63 A joint working group of regulators constituted by IRF-FC will develop a format and structure for a data template for capturing systemic risks arising out of FC activities.

VI.64 As part of capacity building on SPARC, the Reserve Bank will continue to conduct focused workshops and orientation sessions for internal and external stakeholders. Further, specific sessions for board members and top managements of the banks as also for other external stakeholders will be on the agenda for 2017-18.

VI.65 A suitable supervisory framework for small finance banks and payment banks will be developed and implemented. Further, in view of the implementation of Ind AS by banks, its impact on their quantitative and qualitative reporting will be reviewed, aligned and integrated with the supervisory framework.

VI.66 Taking into account concerns arising from examination of IT risks in banks, thematic studies and assessments will be undertaken on specific domains for appropriate policy and supervisory interventions (Box VI.11). Based on the off-site

Box VI.11
Standing Committee on Cyber Security

In the wake of exponential growth of digitalisation in banks, cyber risks have emerged as a major area of concern. Conscious of the rising threats to the cyber infrastructure in its regulated entities, the Reserve Bank has taken a number of measures, particularly over the last two years. Based on the recommendations of the Expert Panel on Cyber Security and Information Technology Examination (Chairperson: Smt. Meena Hemchandra), guidelines were issued to banks in June 2016, mandating cyber security preparedness. Banks' progress in strengthening their cyber resilience and response is being monitored. Recognising the increasing frequency and complexity of cyber security incidents, the monetary policy statement of February 8, 2017 announced that an Inter-disciplinary Standing Committee will be set up to conduct an ongoing review of the cyber security landscape and emerging threats.

The remit of the committee, *inter alia*, includes reviewing the threats inherent in existing/emerging technology; studying adoption of various security standards/protocols; interfacing with stakeholders; and suggesting appropriate policy interventions to strengthen cyber security and resilience.

The committee was constituted on February 28, 2017 (Chairperson: Smt. Meena Hemchandra, Executive Director). Members of the committee include experts on cyber security in the Reserve Bank as well as from outside. The committee is meeting regularly and, as per its recommendations, sub-groups have been formed on certain focus areas for an in-depth examination.

assessment of the key risk indicators in cyber security, IT examinations with a risk based approach will be conducted in 2017-18. The findings will be factored in the overall assessment of risks in banks. Assessment of IT risks in other regulated entities such as major urban cooperative banks will be covered in a phased manner. A back office support system (BOSS) has been established for this. With a view to enabling a more efficient supervisory assessment of banks, BOSS will develop standard data templates on major concern areas under various risk categories.

Cooperative Banks: Department of Cooperative Bank Supervision (DCBS)

VI.67 DCBS is entrusted with the supervisory responsibility of primary (urban) cooperative banks (UCBs) to ensure a safe and well managed cooperative banking sector. The department undertakes supervision of these banks on an on-going basis through periodic on-site inspections and continuous off-site monitoring.

Agenda for 2016-17: Implementation Status

VI.68 The Reserve Bank began focused attention on select weak UCBs by way of intensive hand-holding and periodic training in the identified areas of weakness. It organised a conference on '*Building Banks Co-operatively - Professionalise and Progress*' in Ahmedabad inviting participation from the state government, other stakeholders and the top management of the Reserve Bank. During the year, several training programmes for capacity building were conducted by regional offices for CEOs/directors/officials of UCBs and auditors of UCBs.

Agenda for 2017-18

VI.69 The department will continue to identify select UCBs for hand-holding and impart focused training to them for all round improvement in their functioning. In addition, the Department will take initiatives for capacity building for both supervisors and supervised entities – UCBs – in the coming year. In this direction, conferences on cooperative banking as organised last year will be conducted. As the development of software package for DCBS returns has been completed under XBRL-based reporting platform, the Department will focus on stabilising the package and ensuring submission of timely and reliable data through the platform by all UCBs.

NBFCs: Department of Non-Banking Supervision (DNBS)

VI.70 DNBS supervises the NBFC sector in the country, which is a fast growing sector with significant diversity in terms of size and operational dimensions. The department supervises more than 11,500 NBFCs of which 222 are non-deposit taking systemically important ones.

Agenda for 2016-17: Implementation Status

VI.71 The role of statutory auditors in the certification process was enhanced by enabling on-line filing of statutory auditors certificate (SAC). Further, the Institute of Chartered Accountants of India (ICAI) agreed to digitally authenticate the returns of small NBFCs on the XBRL platform, which will be operationalised soon. The Reserve Bank focused on improving adherence to the fair practices code by NBFCs through levy of penalties. The Bank is in the final stages of incorporating risk factors in the existing CAMELS model of inspection of NBFCs. The project for automation of all regulatory approvals of NBFCs has been initiated and this will be operationalised in 2017-18. The Reserve Bank also operationalised a formal PCA framework for NBFCs.

Agenda for 2017-18

VI.72 The department will put in place a supervisory rating system for ARCs. The *Sachet*

Box VI.12
***Sachet* Portal**

The Reserve Bank launched a mobile friendly portal *Sachet* (sachet.rbi.org.in) on August 4, 2016 to help the public as well as regulators to ensure that only regulated entities accept deposits from the public. The portal can be used by the public to share information including through uploading photographs of advertisements/publicity material, raise queries on any fund raising/investment schemes that they come across and lodge and track complaints. The portal has links to all regulators and the public can easily access information on lists of regulated entities. The portal has a section for a closed user group – the state level coordination committees (SLCCs), inter-regulatory forums for exchange of information and coordinated action on unauthorised deposit collection and financial activities. It will help in enhancing coordination among regulators and state government agencies and will serve as a useful source of information for early detection and curbing of unauthorised acceptance of deposits. The portal is designed to place the entire proceedings of SLCCs on an IT platform. It facilitates comprehensive MIS with respect to complaints received, referred to regulators / law enforcement agencies and for monitoring the progress in redressal of such complaints. Complaints relating to unauthorised deposit collection and financial activities that have been lodged in *Sachet* have been taken up expeditiously with respective regulators for resolution.

portal on NBFCs will be refurbished by improving readability and functionalities (Box VI.12). A detailed standard operating procedure for non-compliant and/or inactive small NBFCs will also be operationalised.

Enforcement Department (EFD)

VI.73 Taking note of the changes in the global and domestic financial sector environment, with a view to separate the function of identification of contravention of respective statutes/guidelines and directives by the regulated entities from imposition of punitive action and to make this process endogenous, formal and structured, a separate Enforcement Department was created within the Reserve Bank with effect from April 3, 2017 (Box VI.13).

VI.74 The core function of the department is to enforce regulations with the objective of ensuring financial system stability and promoting public interest and consumer protection. The department will, *inter alia*, (i) develop a sound policy framework for enforcement consistent with international best practices; (ii) identify actionable violations on the basis of inspections/supervisory reports and market intelligence reports received/generated by it, conduct further investigations/verifications, if required, on the actionable violations thus identified and enforce them in an objective,

Box VI.13
Supervisory Enforcement Framework

An effective system of banking supervision, *inter alia*, depends on effective enforcement of supervisory policies which, in turn, needs a unified and well-articulated supervisory enforcement policy and institutional framework. Taking cognisance of such a need, the Board for Financial Supervision approved a Supervisory Enforcement Framework for action against non-compliant banks. Following a subsequent announcement in the 6th bi-monthly monetary policy statement of February 2017, a separate Enforcement Department was established in April 2017.

Over time, the framework is expected to make the Reserve Bank's enforcement actions more transparent, predictable, standardised, consistent and timely, leading to improvement in the banks' overall compliance with the regulatory framework.

consistent and non-partisan manner; (iii) deal with the complaints referred to it by the Bank's top management for possible enforcement action, and (iv) act as a secretariat to the Executive Directors' Committee constituted for adjudication.

VI.75 To begin with, the department will focus on the enforcement of penalty provisions under the Banking Regulation Act. In the medium-term, the entire enforcement function of the Reserve Bank will be migrated to EFD. In 2017-18, the department will develop a policy framework for enforcement; put in place detailed protocols for information sharing with other regulatory and supervisory departments of the Reserve Bank, other regulators and the government; create channels for generating actionable market intelligence; and initiate enforcement action.

CONSUMER EDUCATION AND PROTECTION

Consumer Education and Protection Department (CEPD)

VI.76 The Reserve Bank has always recognised protection of consumers' interests as a key area and has accorded high priority to providing safe and efficient services to the customers of banks. CEPD is the nodal department in the Bank for monitoring the function of protection of consumer interests.

Agenda for 2016-17: Implementation Status

VI.77 The Reserve Bank operationalised the Charter of Customer Rights in 2014-15 for strengthening customer protection in banks. During the year, the Reserve Bank advised the banks to furnish a certificate in the specified proforma under the signature of the MD or CEO certifying that their customer service policy was fine-tuned to incorporate the principles of the Charter of Customer Rights. All the banks have submitted the certificate.

VI.78 The Reserve Bank's Banking Ombudsman (BO) Scheme – a dispute redressal mechanism notified under Section 35(A) of the Banking Regulation Act, 1949 – has been in existence since 1995. The scheme has been reviewed periodically and its latest comprehensive review was undertaken in 2015-16 covering pecuniary jurisdiction of the BO, compensation and grounds of complaint and rationalisation of certain clauses of the scheme. The scheme was amended accordingly. The government, during the year, conveyed its concurrence to the amended Banking Ombudsman Scheme. The amended scheme came into effect from July 1, 2017. The Reserve Bank also opened and operationalised five new offices of the BO in Dehradun, Jammu, Ranchi, Raipur and an additional office in New Delhi. At present, the total number of BO offices has reached 20.

VI.79 The Reserve Bank in consultation with the Indian Banks' Association (IBA) reviewed the forms commonly used by customers in banks and suggested standardisation of these forms. Accordingly, IBA released modified and user friendly specimens of ten commonly used forms during the year to banks for implementation.

VI.80 Aspects and modalities of setting up of an Ombudsman Scheme (OBS) for NBFCs were examined and discussed with concerned regulatory and supervisory departments (Box VI.14).

Agenda for 2017-18

VI.81 The Reserve Bank will formulate an appropriate OBS for NBFCs and operationalise it by establishing the offices of the ombudsman for NBFCs at select centres. It will also conduct surveys on: (i) charges levied by banks for basic banking services; (ii) KYC compliance; and (iii) mis-selling by banks. With a view to creating

Box VI.14
The Ombudsman Scheme for Non-Banking Financial Companies

A pressing need has been felt for setting up a cost effective, expeditious and easily accessible alternative dispute resolution mechanism in the form of the ombudsman scheme (OBS) for customers of NBFCs.

As compared to banks, the NBFCs are relatively larger in number and vary substantially in terms of their activities and size. These aspects need to be weighed carefully before setting up an OBS for the NBFCs.

NBFCs are regulated under Chapter III-B of the RBI Act, 1934. Section 45 L of the RBI Act empowers the Reserve Bank to, *inter alia*, give directions to Financial Institutions. The OBS for NBFCs is proposed to be operationalised by the Reserve Bank under Section 45 L of the RBI Act.

The proposed scheme will initially cover all deposit taking NBFCs and those with customer interface and an asset size of ₹1 billion and above. However, asset reconstruction companies, infrastructure finance companies, infrastructure debt funds, core investment companies, and NBFC factors will not be covered under the scheme for the time being. The coverage of the OBS may be reviewed over time, based on experience.

Complaints relating to non-adherence to the Fair Practices Code, infringement of customer rights, deficiencies in services, use of coercive measures, mis-selling, violation of regulatory guidelines, non-repayment/delayed repayment of deposits and/or interest are some of the categories of complaints that will be covered under the scheme.

awareness about fictitious offers of money, the Reserve Bank will undertake advertisement and publicity campaigns through print and electronic media during 2017-18.

VI.82 All the public sector banks and select private and foreign banks had appointed Internal Ombudsman (IO) in 2015-16 to examine the grievances that are not resolved by the respective bank's internal grievance redressal mechanism. During 2017-18, the Reserve Bank will conduct a review of the IO scheme to make it more effective.

VI.83 The Reserve Bank also redresses the complaints received against regulated entities from their customers through Consumer Education and Protection Cells (CEPCs) set up in every office of the Bank. Customers can also approach the offices of the BOs to lodge their complaints against banks on the grounds of complaints listed in the revised BO scheme. During 2017-18, the Reserve Bank will deploy a complaint management system (CMS) to streamline the processing of complaints (Box VI.15).

Box VI.15
Complaint Management System

The Reserve Bank has initiated the work for setting up a complaint management system (CMS) with a view to harnessing the benefits of information technology (IT) for managing the increasing volume of complaints being received by it.

The web-based CMS will replace the existing complaint tracking system (CTS) which has served for over a decade. CMS will help the Reserve Bank not only to manage the complaints more efficiently but also provide a robust management information system. CMS will also integrate the grievance redressal mechanism in the Bank by bringing the offices of Banking Ombudsman, as well as CEPCs and banks on the CMS platform for facilitating better coordination and effectiveness. The new system will also facilitate data analytics and will help to study the patterns of complaints and, where feasible, pre-empt complaints by addressing the root causes. It will also support the efforts to proactively pursue the complaint-prone areas in banking services to bring about a qualitative change in the resolution process. CMS will also help to monitor the performance of the regulated entities in the area of management and redressal of complaints.

Deposit Insurance and Credit Guarantee Corporation (DICGC)

VI.84 Deposit insurance contributes to the stability of the financial system and protects depositors' interests. In India, DICGC – a wholly-owned subsidiary of the Reserve Bank – provides insurance cover to deposits in all commercial banks including LABs, payment banks, small finance banks, RRBs and cooperative banks. With the present limit of ₹0.1 million, the number of fully protected accounts (1,737 million) as on March 31, 2017 constituted 92.1 per cent of the total number of accounts (1,885 million) as against the international benchmark of 80 per cent. In terms of amount, the total insured deposits at ₹30.5 trillion at end-March 2017 constituted 29.5 per cent of the assessable deposits at ₹103.5 trillion as compared with the international benchmark of 20-30 per cent.

VI.85 The Corporation builds its Deposit Insurance Fund (DIF) through transfer of surplus, that is, excess of income (mainly comprising *premia* received from the insured banks, coupon income from investments and cash recovery out of assets of failed banks) over expenditure (payment of depositors' claims and related expenses) net of taxes. DIF stood at ₹701.5 billion as on March 31, 2017, yielding a higher reserve ratio (DIF to insured deposits) of 2.3 per cent *vis-à-vis* 2.1 per cent at end-March 2016. During 2016-17, the corporation sanctioned total claims of ₹0.6 billion as against ₹0.5 billion during the preceding year.

VI.86 The Corporation has improved the quality of information disseminated through its website by updating FAQs and guidelines for liquidators. It has also published a primer on deposit insurances and placed on the website. With a view to accelerating the resolution of outstanding issues, DICGC held several meetings with liquidators and also requested chief secretaries of states to expedite the appointment of liquidators. The Corporation will continue to focus on adherence to core principles on effective deposit insurance systems in 2017-18.

Resolution Corporation

VI.87 The Financial Resolution and Deposit Insurance Bill, 2017, which was introduced in the Lok Sabha on August 10, 2017, prescribes setting up of a Resolution Corporation (RC) to ensure observance of the Financial Stability Board's Key Attributes on resolution of financial firms by addressing the gaps in the current resolution mechanism in India in terms of legal framework, resolution tools, liquidation, coverage of entities, cross-border cooperation and the oversight framework. The proposed RC will subsume DICGC which at present performs the 'pay box' function, that is, reimbursement of insured amounts to the depositors of failed banks. DICGC also participates in merger schemes approved by the Reserve Bank involving payment to the depositors of transferee bank. RC is being established for protection of consumers of specified service providers and of public funds for ensuring stability and resilience of the financial system.

National Housing Bank (NHB)

VI.88 The primary function of NHB – the apex institution for housing finance – is to register, regulate and supervise housing finance companies (HFCs). It also provides refinance to HFCs, SCBs, RRBs and cooperative sector institutions for housing loans and directly lends (project finance) to borrowers in the public and private sectors for extending financial support to the housing programmes for the unserved and under-served segments of the population. The entire capital of ₹14.5 billion of NHB is subscribed by the Reserve Bank.

VI.89 As on June 30, 2017, 85 HFCs were registered with NHB, out of which 18 HFCs were

eligible for accepting public deposits. Out of the total disbursement made under refinance (₹226.8 billion) in 2016-17 (July-June), 20.1 per cent (₹45.6 billion) was made under the Rural Housing Fund (RHF) and 9.8 per cent (₹22.3 billion) was made under the Urban Housing Fund (UHF). As a nodal agency for implementing the Credit Linked Subsidy Scheme (CLSS) under the 'Housing for All by 2022' mission of the government, NHB had released total subsidy claim (net of refunds) under Pradhan Mantri Awas Yojana (PMAY) CLSS (including economically weaker section (EWS)/ low income group (LIG) Old, EWS/LIG New and middle income group (MIG)) amounting to ₹7.5 billion to 96 primary lending institutions till June 30, 2017, benefitting 39,629 households.

VI.90 It had also disbursed ₹459 million for helping renovation of 1,111 dwelling units through primary lending institutions under the Refinance Assistance for Flood Affected Areas of Tamil Nadu upto June 30, 2017.

VI.91 NHB managed the Credit Risk Guarantee Fund Trust for Low Income Housing with the objective of providing guarantees with respect to low-income housing loans. As at end-June 2017, 79 PLIs had signed MoUs with the trust under the scheme. As on June 30, 2017, the trust has issued guarantee cover for 1,972 loan accounts of 14 member lending institutions (MLIs) involving total loan amount of ₹561 million provided to EWS/LIG households and guarantee cover of ₹476 million to 14 institutions.

VII PUBLIC DEBT MANAGEMENT

The Reserve Bank successfully managed the market borrowing requirements of the central and state governments during 2016-17 in an orderly manner in the face of multiple challenges such as glide path for reduction in Held to Maturity(HTM) category and Statutory Liquidity Ratio(SLR), supply concerns over increased state government issuances, issuances of UDAY bonds and global uncertainties. The borrowing programme was conducted in line with the debt management strategy of low cost, risk mitigation and market development while factoring in domestic as well as global economic and financial conditions. The maturity profile of dated securities was elongated to contain rollover risk while lowering overall borrowing cost, keeping risk at prudent levels. Despite volatility triggered by both domestic and global factors during the year, G-sec yields witnessed significant softening, particularly after demonetisation in November 2016 and the consequent surplus liquidity of the banking system. However, the yields hardened in February 2017 in response to shift in the monetary policy stance from accommodative to neutral. The agenda for 2017-18 includes elongation of maturity profile of government debt and widening the bouquet of products for diverse investors.

VII.1 The Internal Debt Management Department 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. The Reserve Bank also provides short-term credit up to three months to both central and state governments in the form of Ways and Means Advances (WMA) to bridge temporary mismatches in their cash flows in terms of Section 17(5) of the Act.

Agenda for 2016-17: Implementation Status

VII.2 During the year, the Reserve Bank successfully managed the borrowing programme of the central government and state governments, notwithstanding multiple challenges in the form of the glide path for reduction in HTM category of banks' investment portfolio and SLR requirements and supply concerns over increased issuances by state governments, including *Ujwal DISCOM Assurance Yojana* (UDAY) bonds. The borrowing programme of the central government in 2016-17, was conducted in accordance with the overall debt management strategy of low cost, risk mitigation and market development, while factoring in domestic and global economic and financial conditions. In line with the above objectives, a strategy of active consolidation through buyback/ switches was adopted and debt to the extent of ₹641.33 billion and ₹405.10 billion was bought back and switched, respectively. This had a salutary effect on the weighted average maturity of central government debt. To widen retail investments, access was given to individuals under the non-competitive bidding in the primary auction of Treasury Bills (T-Bills). Following the deliberations by the Cash Co-ordination Committee comprising officials of the Reserve Bank and the Government of India (GoI), GoI issued guidelines towards better information sharing and cash flow forecasting.

VII.3 With a view to increasing acceptability of the Sovereign Gold Bond (SGB) scheme and widening the investor base of SGBs, the scheme was modified suitably. The minimum subscription amount was reduced to one gram of gold, a discount of ₹50 offered on the face value of the security and the number of receiving agencies increased to include stock exchanges.

VII.4 As part of the ongoing endeavour to consolidate the debt in State Development Loans (SDLs) through buyback, the state of Maharashtra repurchased its high cost debt. Further, the states that do not maintain reserves in the form of consolidated sinking fund (CSF) and guarantee redemption fund (GRF) were encouraged to do so as a prudent risk management measure.

VII.5 Government securities (G-sec) yields witnessed significant softening during the year, particularly after demonetisation and the consequent surplus liquidity in the banking system. The yields, however, hardened in February 2017 in response to the shift in monetary policy stance from accommodative to neutral. The benchmark yield softened thereafter on lower inflation data, FPI buying and expectations of normal monsoon.

Debt Management of the Central Government

VII.6 The Reserve Bank in consultation with GoI followed a strategy of front loading of issuances, but modulated its market borrowings from the budget estimates during the fourth quarter, reducing thereby, the supply of sovereign paper in the market. As against gross market borrowings of ₹6,000 billion through dated securities proposed in the Union Budget 2016-17, the actual amount mobilised was modulated to ₹5,820 billion on the back of higher surplus cash balances of the central government. Net market borrowings through dated securities amounted to ₹4,082 billion in 2016-17, registering a decline of 7.4 per cent and financing 76.4 per cent of the gross fiscal deficit (GFD), as against 82.0 per cent in the previous year. On the other hand, net short term market borrowings through T-Bills increased to ₹186 billion during 2016-17 from ₹152 billion in 2015-16 mainly due to higher issuances in H1 of 2016-17. In the aggregate, however, net market borrowing through dated securities and T-Bills declined by ₹291 billion to ₹4,268 billion in 2016-17 (Table VII.1).

Table VII.1: Net Market Borrowings of the Central Government

(₹ billion)

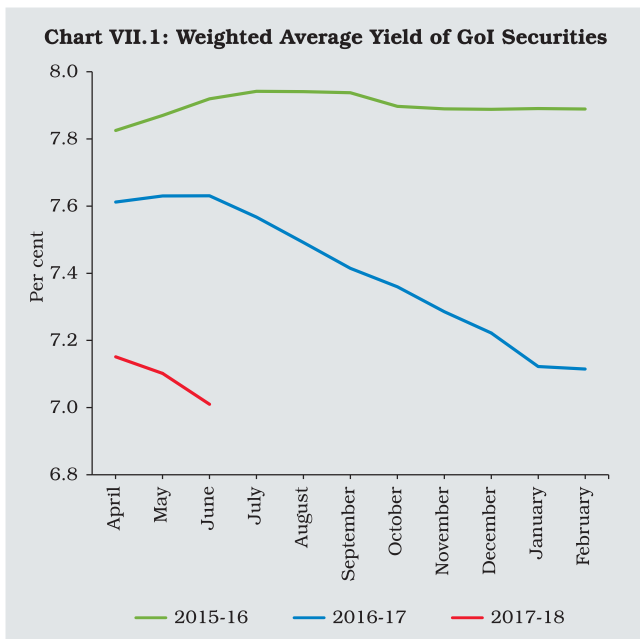
Item	2014-15	2015-16	2016-17	2017-18*
1	2	3	4	5
Net Borrowings	4635	4559	4268	2517
(i) Dated Securities	4,532	4,406	4,082	1312
(ii) 91-day T-Bills	32	39	245	885
(iii) 182-day T-Bills	9	5	57	26
(iv) 364-day T-Bills	62	109	-115	5

*: Up to June 30, 2017.

Debt Management Operations

VII.7 The weighted average yield (WAY) of dated securities of central government issued during the year declined by 73 bps to 7.16 per cent in 2016-17 while the weighted average coupon (WAC) on the outstanding stock of dated securities declined by 9 bps to 7.99 per cent as on March 31, 2017. The declining trend in yield continued in 2017-18 so far (upto June 30) reflecting benign market conditions and increased liquidity (Chart VII.1).

VII.8 The weighted average maturity (WAM) of the outstanding stock increased marginally to 10.65 years as at end-March 2017 (Table VII.2). However, the WAM of issuances during 2016-17 declined by 1.27 years to 14.76 years, reflecting relatively larger issuances in the maturity buckets below 19 years. The Reserve Bank continued its policy of passive consolidation by way of reissuances and active consolidation through



buyback/switches. Out of 164 auctions, 156 were reissuances during the year. Buyback/ switches amounted to ₹1,046 billion in 2016-17 as compared to ₹611 billion in the previous year. Furthermore, the share of issuances in the two long maturity buckets declined from 38 per cent in 2015-16 to 29 per cent in 2016-17, mirroring the relatively muted demand for long bonds.

VII.9 During 2016-17, the residual maturity of 59 per cent of the market borrowings through dated securities was 10 years and beyond, as compared with 66 per cent during the previous year, mirroring an increase in the share of maturities less than 10 years (Table VII.3). With the objective of catering to the demand for long term investors such as insurance companies and pension funds, 30 and 35-year tenor bonds were issued during the year.

Primary Dealers and Devolvement

VII.10 The elevated supply of SDLs, including UDAY bonds during 2016-17 resulted in devolvement of central government securities on Primary Dealers (PDs) on four instances for an aggregate amount of ₹53 billion, as compared with devolvement of ₹110 billion during the previous year. The share of the PDs in the subscription to primary auctions of central government securities stood at 47.6 per cent in 2016-17, down from 54.2 per cent in 2015-16. The underwriting commission paid to PDs during 2016-17 declined to ₹0.357 billion from ₹0.471 billion during 2015-16, mainly on account of ample liquidity conditions. There was only a single instance of devolvement amounting to ₹32 billion in Q1 of 2017-18. All the standalone PDs complied with their target commitments in auction bidding, secondary market turnover targets and continued to maintain capital to risk weighted assets ratio (CRAR) above the minimum requirement of 15 per cent.

Table VII.2: Market Loans of Central Government – A Profile*

(Yield in per cent /Maturity in years)

Years	Range of YTMs at Primary Issues			Issued during the Year			Outstanding stock	
	Under 5 years	5-10 years	Over 10 years	Weighted Average Yield	Range of Maturities of New Loans	Weighted Average Maturity	Weighted Average Maturity	Weighted Average Coupon
1	2	3	4	5	6	7	8	9
2012-13	8.21-8. 82	7.86-8.76	7.91-8.06	8.36	5-30	13.50	9.66	7.97
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	-	6.13-7.61	6.46-7.87	7.16	5-40	14.76	10.65	7.99
2017-18#	-	6.52-6.95	6.74-7.53	7.01	6-39	14.99	10.67	7.95

Note: YTM: Yield to Maturity; #: Up to June 30, 2017; -: No issues; *: excluding buyback/switch in GoI securities and special securities.

Table VII.3: Issuance of Government of India Dated Securities – Maturity Pattern

(Amount in ₹ billion)

Residual Maturity	2014-15		2015-16		2016-17		2017-18*	
	Amount raised	Percentage to total	Amount raised	Percentage to total	Amount raised	Percentage to total	Amount raised	Percentage to total
1	2	3	4	5	6	7	8	9
Less than 5 years	-	-	-	-	180	3.1	-	-
5 -9.99 years	2,350	39.7	2,000	34.2	2,220	38.1	880	44.7
10-15.99 years	1,510	25.5	1,600	27.4	1,710	29.4	519	26.4
16 -19.99 years	960	16.2	1,120	19.1	820	14.1	250	12.7
20 years & above	1,100	18.6	1,130	19.3	890	15.3	320	16.3
Total	**5,920**	**100.0**	**5,850**	**100.0**	**5,820**	**100.0**	**1,969**	**100.0**

*: As on June 30, 2017; -: No Issues.

Ownership of Securities

VII.11 The outstanding dated securities of central government registered 8.4 per cent year-on-year growth in 2016-17. Commercial banks, including the PD segment remained the largest holder with 40 per cent share as at end-March 2017, followed by insurance companies with a share of 22.9 per cent. The Reserve Bank held 14.7 per cent while provident funds held 6.3 per cent.

Sovereign Gold Bond Scheme

VII.12 The Reserve Bank successfully managed the issuances of SGBs during 2016-17. Four tranches of SGBs for an aggregate amount of ₹34.69 billion (11.44 ton) were issued during the year. Since the inception of the scheme in November 2015, a total of ₹60.29 billion (20.73 ton) has been mobilised and SGBs have been allotted to approximately 1.4 million retail investors including the issuances of two tranches in (May and July) 2017-18.

Medium Term Debt Management Strategy (MTDS)

VII.13 The MTDS was formulated as a debt management framework in 2015, in consultation with the Government of India, for a period of three years and rolled over each year. It is premised on three broad pillars: low cost, risk mitigation and market development. The MTDS, which is in line with international best practices, calibrates certain benchmarks on the composition of debt in terms of short and long term, floating and fixed rate, and maturity of debt. It also stipulates stress tests and scenario analysis in relation to costs, maturity and potential risks. The debt of the central government has been reviewed against the MTDS benchmarks and found to be stable and sustainable.

Treasury Bills

VII.14 With a view to encouraging wider participation and retail holding of T-Bills and in line with the first bi-monthly monetary policy statement of 2015-16, the central government in consultation with the Reserve Bank, extended the non-competitive bidding facility in T-Bills to retail investors up to a ceiling of 5 per cent of the notified amount. As mentioned earlier, net market borrowings through T-Bills increased during 2016-17. The yields on T-Bills largely mimicked the declining trend in the yields of dated securities in 2016-17. Reflecting the increase in appetite for T-Bills from market participants, the Primary Dealers' share in T-Bills auctions declined to 74.4 per cent from 75.4 per cent during 2015-16. The PDs individually achieved the stipulated minimum

success ratio of 40 per cent in bidding while the success ratio of the PD system as a whole was 58.8 per cent and 60.0 per cent during H1 and H2, respectively, of 2016-17.

Market Stabilisation Scheme (MSS)

VII.15 With a view to absorbing excess liquidity in the banking system following demonetisation in November 2016, the limit for the MSS was increased. Under MSS, the total amount of cash management bills (CMBs) issued, for tenors ranging from 14 to 63 days, amounted to ₹10,115 billion, with associated interest outgo of ₹57 billion. During 2017-18 (up to June 30), T-Bills issued under MSS for tenors ranging from 312 to 329 days amounted to ₹1,000 billion.

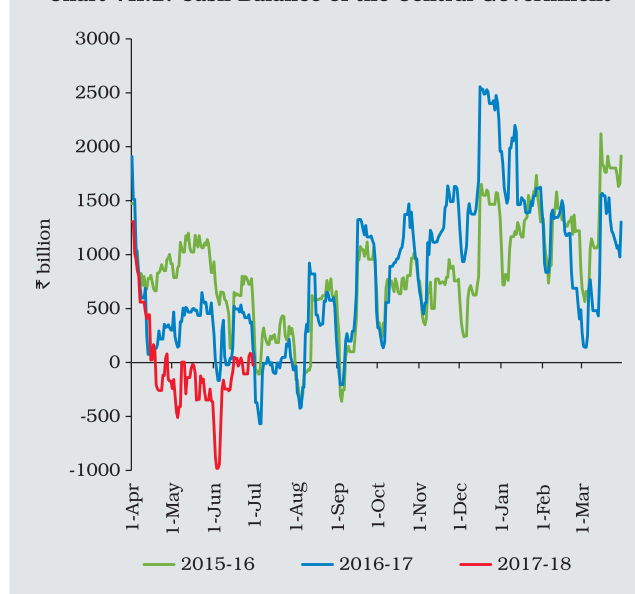
Pradhan Mantri Garib Kalyan Deposit Scheme (PMGKDS)

VII.16 In the wake of demonetisation, the central government launched the PMGKDS on December 17, 2016, as a tax amnesty scheme available from December 17, 2016 to March 31, 2017. Under this scheme, the deposits are held at the credit of the declarant of tax in the bonds ledger account (BLA) maintained with the Reserve Bank and a certificate of holding is issued to the declarant. Deposits mobilised under this scheme amounted to ₹12.4 billion.

Cash Management of the Central Government

VII.17 The WMA limits for the central government for the first and the second halves of 2016-17 were increased each by ₹50 billion to ₹500 billion and ₹250 billion, respectively. The government was in WMA for 26 days during 2016-17 *vis-à-vis* 15 days during the previous year. The accommodation to the central government under WMA was ₹1,567 billion during 2016-17 as compared with ₹838 billion in 2015-16. The government resorted to overdraft (amounting to ₹68 billion) only once during the year on July 5, 2016. The government's cash position improved subsequently, mainly on account of increased tax flows and higher investments in intermediate/auction treasury bills (ITBs/ATBs) by state governments (Chart VII.2).

Chart VII.2: Cash Balance of the Central Government



VII.18 With the advancement of budget presentation this year, the government units have started to frontload expenditure, unlike in the previous years. This combined with low net tax receipts and large redemption pressure in the first quarter of 2017-18, caused the cash balances of the central government to move into prolonged periods of deficit, warranting issue of CMBs of ₹1,300 billion during the Q1 of 2017-18. The switch operations undertaken in January, March and June 2017 helped in easing the stress in the cash balances to a certain extent. The WMA limit for the first quarter of 2017-18 was set at ₹600 billion while the same for the second quarter would be ₹700 billion.

Debt Management of State Governments

VII.19 The gross market borrowings of the state governments amounted to ₹3,820 billion in

Table VII.4: Market Borrowings of States through SDLs

(₹ billion)

Item	2014-15	2015-16	2016-17	2017-18*
1	2	3	4	5
Maturities during the year	334	352	393	74
Gross sanction under article 293(3)	2,435	3,060	4,000	2,980
Gross amount raised during the year	2,408	2,946	3,820	650
Net amount raised during the year	2,075	2,594	3,427	576
Amount raised during the year to total sanctions (per cent)	99	96	96	22
Outstanding liabilities (at the end period)#	12,757	16,389	20,896	21,472

Including UDAY and other special securities; *: Up to June 30, 2017.

2016-17 as compared with ₹2,946 billion in the previous year (Table VII.4).

VII.20 The WAY of state government securities issued during 2016-17 stood lower at 7.48 per cent than that of 8.28 per cent in the previous year. Despite softening of yield across securities, the weighted average spread of SDL issuances over the comparable central government securities increased to 60 bps from 50 bps in 2015-16. The inter-state spread which was on an average in the range of 7 bps in 2016-17 same as in the previous year though higher than 4 bps in 2014-15, however, does not reflect the fiscal strength of the states in the pricing of SDLs.

VII.21 During 2016-17, thirteen states issued UDAY bonds for ₹1,091 billion as against ₹990 billion raised by eight states in the previous year. The spreads of UDAY bonds during 2016-17 declined to 35-75 bps over the corresponding tenor/10-year FIMMDA G-Sec yield as compared with a fixed spread of 75 bps in 2015-16. Approximately 45 per cent of the total UDAY bond issuances in 2016-17 were concentrated in Q4. The large volume of SDL issuances including UDAY, was one of the major factors that resulted in weighted average spread to widen from 54 bps in Q1 to 83 bps in Q4 of 2016-17.

VII.22 In 2016-17, five states including Puducherry issued SDLs with tenors above 10 years and many states issued non-standard securities of tenors ranging from 2 to 20 years. As a strategic response to higher spreads, four states rejected all the bids in some auctions. Furthermore, the Reserve Bank has been working closely with state governments to facilitate efficient cash and liability management operations of states, with the objective of consolidation through elongation of debt, reissuances and buyback of high cost debt, while keeping an eye on redemption capacities of states. As part of the ongoing endeavour to consolidate the debt in SDLs through buybacks, the state of Maharashtra repurchased ₹10.83 billion of its debt.

Cash Management of State Governments

VII.23 The aggregate WMA limit for 28 states and the Union Territory of Puducherry was revised from ₹154 billion to ₹322 billion with effect from February 1, 2016. Eleven states resorted to WMA in 2016-17, the same number as in the previous year. Consequent to the increase in WMA limits, only 4 states resorted to overdrafts in 2016-17 as against 9 states in 2015-16.

VII.24 Outstanding investment of states in ITBs increased further to ₹1,561 billion as at end-March 2017, while that in ATBs declined for the third year

Table VII.5: Investments in ITBs and ATBs by State Governments/UT

(₹ billion)

Item	Outstanding as on March 31					
	2013	2014	2015	2016	2017	As on June 30, 2017
1	2	3	4	5	6	7
14-Day (ITBs)	1,181	862	842	1,206	1,561	1,179
ATBs	286	463	394	383	366	1,025
Total	**1,466**	**1,325**	**1,236**	**1,589**	**1,927**	**2,204**

in succession to ₹366 billion (Table VII.5). With the objective of dynamically aligning the interest rate on ITBs with market levels, effective January 30, 2017, the discount rate on 14 days ITBs was re-fixed at the reverse repo rate minus 200 bps, subject to an upper ceiling of 5 per cent. The rediscount rate has, consequently, also been re-fixed at reverse repo rate minus 150 bps, subject to an upper ceiling of 5.5 per cent.

Investments in Consolidated Sinking Fund (CSF)/ Guarantee Redemption Fund (GRF)

VII.25 Outstanding investment by states in the CSF and the GRF as at end-March 2017 stood at ₹884 billion and ₹49 billion, respectively. During the year, total investment in CSF and GRF was ₹176 billion (including fresh investment of ₹57 billion and reinvestments of ₹119 billion) as compared to ₹134 billion during 2015-16.

Agenda for 2017-18

VII.26 The Union Budget 2017-18 projected gross market borrowings of ₹5,800 billion through dated securities, a marginal decline of ₹20 billion from that in the previous year. Net short term borrowings (*i.e.,* through T-Bills) is budgeted at ₹20 billion, substantially lower than that of ₹186 billion in the previous year. Net market borrowings *via* dated securities and T-Bills would finance 77.8 per cent of the GFD in 2017-18 as compared with 79.6 per cent in 2016-17. In line with the policy of front-loading of issuances, 64 per cent (*i.e.,* ₹3,720 billion) of the gross market borrowings is slated to be raised in the first half of 2017-18. This, in turn, would also help to manage the redemption pressure during H1 of 2017-18 when 90 per cent (*i.e.,* ₹1,566 billion) of the total redemptions would fall due. The borrowing programme of the centre and state governments would continue to be guided by the pillars of low cost, risk mitigation and market development by adopting the following strategic measures :

i. Issuance/re-issuance of longer tenor bonds to help elongate the weighted average maturity of debt.

ii. Host a single web link on the Reserve Bank website for public debt through consolidation of various links pertaining to internal and external public debt information.

iii. Preparation of draft compendium for state governments on best practices in cash management and a model cash flow statement on pilot basis.

iv. Capacity building programmes for Finance Departments/AG Offices of state governments/other central banks.

v. Keeping in view the fiduciary risk for state governments, a Working Group on Monitoring and Reporting of Contingent Liabilities at the state level has been constituted under the aegis of 29th State Finance Secretaries Conference. The thrust of the Working Group is towards identifying contingent liabilities and standardising risk management and mitigation measures, while bringing in uniformity in disclosure across states for better peer group analysis. The Working Group is expected to submit its report shortly.

VIII CURRENCY MANAGEMENT

Currency management during 2016-17 was geared towards managing the process of demonetisation of specified bank notes effected in early November 2016 and the subsequent remonetisation by making available adequate quantity of banknotes to meet the legitimate demand of the public in the shortest possible time. Sustained efforts continued to be made towards indigenisation of banknotes production with sophisticated security features.

VIII.1 The volume of notes in circulation continued to increase till November 8, 2016 when the Government of India notified that banknotes of ₹500 and ₹1000 denominations of the existing series issued by the Reserve Bank of India till then (henceforth, specified bank notes), shall cease to be legal tender with effect from November 9, 2016 (also termed as demonetisation). Simultaneously, a new series (Mahatma Gandhi New Series) of banknotes of a different size and design, highlighting the cultural heritage and scientific achievements of the country, was introduced. In view of the withdrawal of legal tender character of nearly 86 per cent of value of notes in circulation on November 8, 2016, the focus of the Reserve Bank subsequently shifted to making available banknotes generated from printing presses to currency chests and from there to bank branches and ATMs in the shortest possible time. This process was facilitated by air lifting of notes as also direct remittances from the presses to currency chests wherever feasible and adopting a hub and spoke model of distribution. As a result, during a short span from November 9 to December 31, 2016, the Reserve Bank pumped in 23.8 billion pieces of bank notes into circulation aggregating ₹5,540 billion in value. The pace of remonetisation continued ceaselessly thereafter also and the notes in circulation (NiC) as on March 31, 2017 increased close to 74 per cent of the NiC prevailing on November 4, 2016. Sustained efforts were made towards indigenisation of banknotes production along with enhanced security features during the year. The Bank Note Paper Mill at Mysuru started commercial production. Efforts towards a greenfield project for production of security inks were also undertaken.

TRENDS IN CURRENCY

Banknotes in Circulation

VIII.2 The value of banknotes in circulation declined by 20.2 per cent over the year to ₹13,102 billion as at end-March 2017. The volume of banknotes, however, increased by 11.1 per cent, mainly due to higher infusion of banknotes of lower denomination in circulation following the demonetisation. In value terms, the share of ₹500 and above banknotes, which had together accounted for 86.4 per cent of the total value of banknotes in circulation at end-March 2016, stood at 73.4 per cent at end-March 2017. The share of newly introduced ₹2000 banknotes in the total value of banknotes in circulation was 50.2 per cent at end-March 2017. In volume terms, ₹10 and ₹100 banknotes constituted 62.0 per cent of total banknotes in circulation at end-March 2017 as compared with 53.0 per cent at end-March 2016 (Table VIII.1).

Table VIII.1: Banknotes in Circulation

Denomination (₹)	Volume (million pieces)			Value (₹ billion)		
	Mar-15	Mar-16	Mar-17	Mar-15	Mar-16	Mar-17
1	2	3	4	5	6	7
2 and 5	11,672	11,626	11,557	46	45	45
	(13.9)	(12.9)	(11.5)	(0.3)	(0.3)	(0.3)
10	30,304	32,015	36,929	303	320	369
	(36.3)	(35.5)	(36.8)	(2.1)	(1.9)	(2.8)
20	4,350	4,924	10,158	87	98	203
	(5.2)	(5.4)	(10.2)	(0.6)	(0.6)	(1.5)
50	3,487	3,890	7,113	174	194	356
	(4.2)	(4.3)	(7.1)	(1.2)	(1.2)	(2.7)
100	15,026	15,778	25,280	1,503	1,578	2,528
	(18.0)	(17.5)	(25.2)	(10.5)	(9.6)	(19.3)
500	13,128	15,707	5,882	6,564	7,854	2,941
	(15.7)	(17.4)	(5.9)	(46.0)	(47.8)	(22.5)
1,000	5,612	6,326	89	5,612	6,326	89
	(6.7)	(7.0)	(0.0)	(39.3)	(38.6)	(0.7)
2,000	-	-	3,285	-	-	6,571
	-	-	(3.3)	-	-	(50.2)
Total	**83,579**	**90,266**	**100,293**	**14,289**	**16,415**	**13,102**

Note: Figures in parentheses represent the percentage share in total volume/value.

Coins in Circulation

VIII.3 Coins in circulation witnessed a sustained increase in demand during the year. The total value of coins in circulation increased by 14.7 per cent in 2016-17 as against 12.4 per cent last year, while the total volume of coins in circulation increased by 8.5 per cent as compared with 8.2 per cent in the previous year. Coins of ₹1 and ₹2 together constituted 69.2 per cent of the total volume of coins in circulation, while in value terms, these accounted for 44.8 per cent (Table VIII.2).

CURRENCY MANAGEMENT INFRASTRUCTURE

VIII.4 The currency management infrastructure consists of a network of 19 issue offices, 4,034 currency chests (including sub-treasury offices and a currency chest of the Reserve Bank at Kochi) and 3,707 small coin depots of commercial, cooperative and regional rural banks (RRBs) spread across the country (Table VIII.3).

Table VIII.2: Coins in Circulation

Denomination (₹)	Volume (million pieces)			Value (₹ billion)		
	Mar-15	Mar-16	Mar-17	Mar-15	Mar-16	Mar-17
1	2	3	4	5	6	7
Small coins	14,788	14,788	14,788	7	7	7
	(14.9)	(13.8)	(12.7)	(3.6)	(3.2)	(2.8)
1	41,627	44,876	48,347	42	45	48
	(42.2)	(41.9)	(41.6)	(21.7)	(20.6)	(19.2)
2	27,038	29,632	32,059	54	59	64
	(27.3)	(27.7)	(27.6)	(27.8)	(27.1)	(25.6)
5	12,761	14,089	15,783	64	70	79
	(12.9)	(13.2)	(13.6)	(33.0)	(32.1)	(31.6)
10	2,750	3,703	5,205	27	37	52
	(2.7)	(3.4)	(4.5)	(13.9)	(17.0)	(20.8)
Total	**98,964**	**107,088**	**116,182**	**194**	**218**	**250**

Note: Figures in parentheses represent the percentage share in total volume/value.

VIII.5 In order to improve the currency distribution system by leveraging on technology, the Reserve Bank adopted a hub and spoke model for distribution of banknotes across the country. Fresh note remittances were sent to larger currency chests, which meet the currency needs of a designated area (such as a district), identified as hub chests and these, in turn, supplied notes to smaller currency chests in their vicinity which acted like spokes in the distribution model. Fresh

Table VIII.3: Currency Chests and Small Coin Depots as at end-March 2017

Category	No. of Currency Chest	No. of Small Coin Depot
1	2	3
State Bank of India (SBI)	1,893	1,793
SBI Associate Banks	754	722
Nationalised Banks	1,198	1,014
Private Sector Banks	168	164
Co-operative Banks	4	4
Foreign Banks	4	4
Regional Rural Banks	5	5
State Treasury Offices (STOs)	7	0
RBI	1	1
Total	**4,034**	**3,707**

Table VIII.4: Indent and Supply of Banknotes by BRBNMPL and SPMCIL (April-March)

(Million pieces)

Denomination (₹)	2014-15		2015-16		2016-17	
	Indent	Supply	Indent	Supply	Indent	Supply
1	2	3	4	5	6	7
5	0	0	0	0	0	0
10	6,000	9,417	4,000	5,857	3,000	2,785
20	4,000	1,086	5,000	3,252	6,000	4,118
50	2,100	1,615	2,050	1,908	2,125	2,700
100	5,200	5,464	5,350	4,910	5,500	5,738
500 (MG series)	5,400	5,018	5,600	4,291	5,725	2,013
500 (New design)	-	-	-	-	-	7,260
1,000	1,500	1,052	1,900	977	2,200	925
2,000	-	-	-	-	3,500	3,504
Total@	**24,200**	**23,652**	**23,900**	**21,195**	**28,050**	**29,043**

-: Not Applicable.
BRBNMPL: Bharatiya Reserve Bank Note Mudran Private Limited.
SPMCIL: Security Printing and Minting Corporation of India Limited.
@: Total excludes ₹1.

notes were distributed to every issue office of the Reserve Bank as per a planned allocation.

CLEAN NOTE POLICY

Demand Estimation and Supply of Currency

VIII.6 The Reserve Bank estimates the demand for currency using an econometric model which factor in, *inter alia*, expected real GDP growth, rate of inflation and denomination-wise disposal rate of soiled notes. However, 2016-17 was an exceptional year on account of the demonetisation and the gradual replenishment of withdrawn notes by new notes of different denominations. Accordingly, the total number of banknotes supplied was higher at 29.0 billion pieces in 2016-17 as compared with 21.2 billion pieces in 2015-16. The total supply of notes was 3.5 per cent higher than the indent placed with the printing presses for 2016-17, while the indent itself was higher by around 17.4 per cent than that of the previous year (Table VIII.4).

VIII.7 Demand for coins have increased over the years as reflected in rising indents as well as supply (Table VIII.5). During the past three years, on an average, Mints have, however, been able to supply 62.3 per cent of the indented quantity due to capacity constraints.

Table VIII.5: Indent & Supply of Coins by Mints (April-March)

(Million pieces)

Denomination	2014-15		2015-16		2016-17	
	Indent	Supply	Indent	Supply	Indent	Supply
1	2	3	4	5	6	7
50 Paise	40	20	40	30	30	30
₹1	6,000	3,247	6,100	3,753	6,300	3,548
₹2	4,000	2,367	4,000	2,899	4,200	2,461
₹5	2,000	1,091	2,100	1,492	2,270	2,429
₹10	1,800	1,187	2,000	1,084	2,200	1,223
Total	**13,840**	**7,912**	**14,240**	**9,258**	**15,000**	**9,691**

Table VIII.6: Disposal of Soiled Banknotes (April-March)

(Million pieces)

Denomination (₹)	2014-15	2015-16	2016-17
1	2	3	4
1,000	663	625	1,514
500	2,847	2,800	3,506
100	5,173	5,169	2,586
50	1,271	1,349	778
20	801	849	546
10	4,338	5,530	3,540
Up to 5	44	46	34
Total	**15,137**	**16,368**	**12,503**

Disposal of Soiled Notes

VIII.8 During 2016-17, 12.5 billion pieces of soiled notes were disposed as against 16.4 billion pieces last year; the reduction was evident across denominations of ₹100 and below, in contrast to the previous year (Table VIII.6).

COUNTERFEIT NOTES AND SECURITY PRINTING

Trends in Counterfeit Notes Detected in the Banking System

VIII.9 During 2016-17, 762,072 pieces of counterfeit notes were detected in the banking system, of which 95.7 per cent were detected by commercial banks (Table VIII.7). Detection of counterfeit notes was 20.4 per cent higher than the previous year. Barring ₹100, the detection of counterfeit notes increased across denominations – notably, ₹500 and ₹1,000 - during 2016-17 (Table VIII.8).

VIII.10 During 2016-17, the National Crime Records Bureau (NCRB), Ministry of Home Affairs designed a uniform proforma for collection of Fake Indian Currency Note (FICN) data. It also developed a web-enabled software for uploading data on FICN detected by banks and law enforcement agencies. The Reserve Bank is facilitating implementation of the system in collaboration with NCRB. A survey-based estimation of FICN carried out by the Reserve Bank is presented in Box VIII.1.

VIII.11 The trail of deposits of SBNs into bank accounts may provide valuable information to the revenue authorities in tracing unaccounted money. During 2016-17, the number of suspicious transaction reports filed by banks and other financial intermediaries with the

Table VIII.7: Number of Counterfeit Notes Detected (April to March)

(No. of pieces)

Year	Detection at Reserve Bank	Other Banks	Total
1	2	3	4
2014-15	26,128 (4.4)	568,318 (95.6)	594,446 (100.0)
2015-16	31, 765 (5.0)	601,161 (95.0)	632,926 (100.0)
2016-17	32,432 (4.3)	729,640 (95.7)	762,072 (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.

Table VIII.8: Denomination-wise Counterfeit Notes Detected in the Banking System (April to March)

(No. of pieces)

Denomination (₹)	2014-15	2015-16	2016-17
1	2	3	4
2 and 5	0	2	80
10	268	134	523
20	106	96	324
50	7,160	6,453	9,222
100	181,799	221,447	177,195
500 (MG series)	273,923	261,695	317,567
500 (New design)	0	0	199
1,000	131,190	143,099	256,324
2,000	0	0	638
Total	**594,446**	**632, 926**	**762,072**

Box VIII.1
Survey-Based Estimation of Fake Indian Currency Notes (FICNs)

Coincident with the announcement of the withdrawal of legal tender status of specified bank notes (SBNs) on November 8, 2016, the Reserve Bank launched a nation-wide exercise to estimate the density of fake Indian currency notes (FICNs) detected during the counting and verification of notes.

A two-stage cluster sampling technique was adopted to obtain the best estimate of FICNs detected at currency chests (CCs) and at the Reserve Bank in the post-demonetisation period, given the constraints, including time lags inherent in the verification processes. The currency chests located under the jurisdiction of the 19 issue offices of the Reserve Bank were classified on the basis of four population groups, *viz.*, rural; semi-urban; urban; and metro. Out of the total 76 clusters (19 issue offices x 4 population groups), 61 clusters were considered for sampling, excluding the 15 clusters with no currency chests (Table 1).

Samples were drawn from each of these clusters in two stages: in the first stage, CCs were selected randomly[1] from each cluster; in the second stage, SBNs were chosen randomly from the selected CCs[2]. As the currency verification for fake notes in the bundle is carried out at the currency chest level as well as at the Reserve Bank, the sampling

Table 1: Population and Sample: Distribution of CCs (₹500)

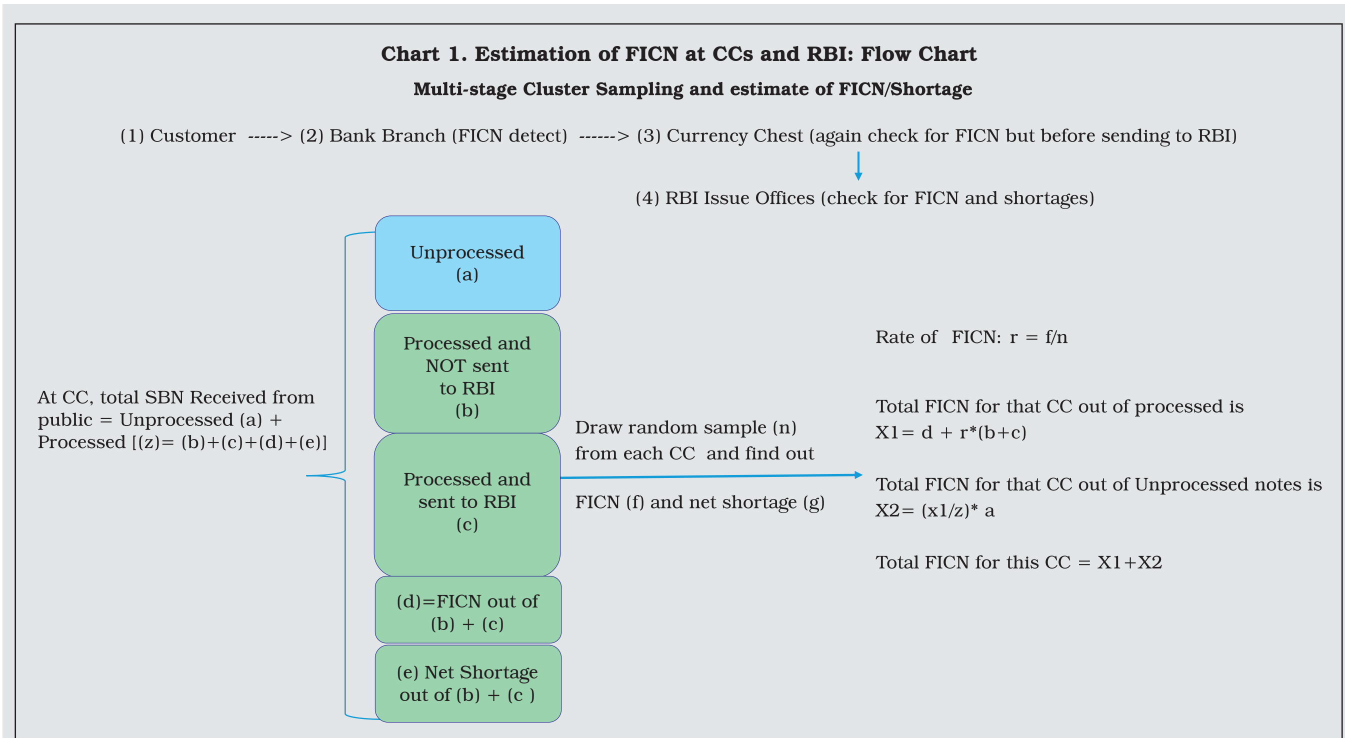
Number of CCs in Population*						Number of CCs selected in Sample					
Row Labels	Metro	Rural	Semi Urban	Urban	Grand Total	RBI Office	Metro	Rural	Semi Urban	Urban	Grand Total
Ahmedabad	59	2	130	48	239	Ahmedabad	30	No Sample	8	15	53
Belapur	30	No CC	78	82	190	Belapur	15	No CC	23	25	63
Bengaluru	36	No CC	155	75	266	Bengaluru	18	No CC	16	27	61
Bhopal	43	7	128	50	228	Bhopal	27	2	21	7	57
Bhubneswar	No CC	6	66	48	120	Bhubneswar	No CC	4	33	32	69
Chandigarh	No CC	9	167	159	335	Chandigarh	No CC	1	8	27	36
Chennai	46	12	141	68	267	Chennai	17	1	28	22	68
Delhi	58	No CC	No CC	No CC	58	Delhi	22	No CC	No CC	No CC	22
Guwahati	No CC	58	79	39	176	Guwahati	No CC	7	15	21	43
Hyderabad	246	8	69	37	360	Hyderabad	81	2	4	8	95
Jaipur	63	No CC	180	54	297	Jaipur	29	No CC	23	15	67
Jammu	No CC	5	18	14	37	Jammu	No CC	1	4	7	12
Kanpur	71	27	87	76	261	Kanpur	21	2	17	20	60
Kolkata	63	17	56	81	217	Kolkata	33	8	18	29	88
Lucknow	41	No CC	98	87	226	Lucknow	17	No CC	13	23	53
Mumbai	61	No CC	No CC	No CC	61	Mumbai	30	No CC	No CC	No CC	30
Nagpur	31	1	150	53	235	Nagpur	12	No Sample	25	9	46
Patna	7	13	93	105	218	Patna	2	3	18	32	55
Thiruvananthapuram	No CC	7	135	68	210	Thiruvananthapuram	No CC	4	40	29	73
Grand Total	855	172	1830	1144	4001	Grand Total	354	35	314	348	1051

*: Relates to CCs dealing with ₹500 banknotes and may not tally with the number mentioned elsewhere.

[1] Instead of probability proportion to size (PPS) sampling to select CCs where weights are assigned according to the rate of FICNs detected at CCs, simple random sampling was adopted as no FICN was detected in nearly 40 per cent of CCs in 2015-16. In the first stage, n_i number of CCs out of the total of N_i CCs from the ith cluster were selected using simple random sampling without replacement.

[2] In the second stage, m_j samples of SBNs were selected using simple random sampling without replacement pertaining to the jth CC (if that CC is selected in the first stage) which has total M_j SBNs. In the next stage, the proportion of FICNs in the selected sample or p_j was calculated. The following notations are used to describe the sampling design for SBNs:

Notations	Descriptions	Notations	Descriptions
i	Cluster number, *i.e.*, i=1,…,61	j	currency chests number j=1,..,4009
N_i	Number of CCs in i[th] cluster	n_i	Number of sample CCs drawn from i[th] cluster which has total N_i CCs
M_j	Number of SBNs in the jth currency chest j=1,…,4009	m_j	Number of sample SBNs checked pertaining to j[th] CC which have total M_j SBNs
p_j	Proportion of FICN detected in the sample of jth CC	q_j	$1 - p_j$



exercise was done separately at both levels[3] to arrive at the total FICNs (Chart 1).

Based on this approach, overall, 25 per cent of CCs (1,051 CCs for ₹500 and 1,018 CCs for ₹1000) and 9.2 per cent (2.2 billion pieces) SBNs were selected in the sample and subjected to statistical tests to ensure the accuracy of the estimates derived from the sample.

The result showed the rate of FICN detected per million pieces of notes processed at the CC level at 7.1 pieces for ₹500 denomination and 19.1 pieces for ₹1000 denomination, which were higher than the rate of detection at the Reserve Bank (5.5 pieces for ₹ 500 and 12.4 pieces for ₹1000).

At the Reserve Bank's currency verification and processing system, during 2015-16, there were 2.4 pieces of FICNs of ₹500 denomination and 5.8 pieces of FICNs of ₹1000 denomination for every million pieces notes processed; which rose to 5.5 pieces and 12.4 pieces, respectively, during the post-demonetisation period. As compared to 2015-16, 12 clusters for ₹500 denomination and 14 clusters for ₹1000 denomination showed statistically significant higher rate of FICN detection during the post-demonetisation period. This implies a significant pick-up in the rate of FICN detection at the Reserve Bank level in the post-demonetisation period as compared to a year ago.

Financial Intelligence Unit, Government of India, witnessed a quantum jump (Table VIII.9).

Expenditure on Security Printing and Distribution

VIII.12 The total expenditure incurred on security printing stood at ₹79.65 billion for the current year (July 2016 – June 2017) as against ₹34.2 billion during 2015-16. The upsurge in expenditure during the year was on account of change in the production plan of printing presses due to the introduction of new design notes in higher denominations as well as the requirement of larger volume of notes for replacement of the demonetised currency. Furthermore, in order to ensure availability of

[3] Population : 23.9 billion pieces of SBNs in 4009 CCs across 19 RBI issue offices; Sample size at CC: 100 per cent of CCs and at least 90 per cent of SBNs in all clusters (as all CCs have already processed 90 per cent of their SBNs); Sample size at the RBI: at least 10 per cent of CCs and at least 2.5 per cent of SBNs per CC in all clusters.

Table VIII.9: Number of Suspicious Transaction Reports Filed

Reporting Entity	2014-15	2015-16	2016-17
1	2	3	4
Banks	45,858	61,361	361,214
Financial Institutions*	10,649	40,333	94,836
Intermediaries **	2,139	4,579	16,953

*: Includes RBI-regulated eight All-India Financial Institutions (AIFIs), insurance companies, housing finance institutions, non-banking financial companies, chit funds, *etc.*

**: Includes intermediaries registered with SEBI, *viz.,* stock brokers, merchant bankers, portfolio managers, foreign institutional investors, venture capital funds, *etc.*

Source: Financial Intelligence Unit, Ministry of Finance, Government of India.

banknotes across the country at the shortest possible time subsequent to the demonetisation, banknotes had to be frequently air-lifted from the presses to the Issue Offices of the Reserve Bank as well as directly to currency chests wherever feasible, which partly contributed to the increase in the cost of distribution of banknotes.

DEPARTMENT OF CURRENCY MANAGEMENT

VIII.13 Currency management is a core function of the Reserve Bank of India. The Department of Currency Management plays a key role in meeting the legitimate demand of the public for banknotes and coins by ensuring continuous supply and circulation of notes and coins of various denominations across the country. Another major thrust during the year was to prudently manage the transition towards remonetisation following the demonetisation, through increased supply of new notes as well as proper distribution of those notes across the country in a prompt manner.

Agenda for 2016-17: Implementation Status

VIII.14 The implementation of the agenda for 2016-17 comprised (i) the accomplishment of the tasks already identified in the previous year as part of ongoing currency management operations, and (ii) new tasks that emerged following the demonetisation and the subsequent remonetisation.

(i) Accomplishment of Tasks Identified in the Previous Year

Introduction of New Series of Banknotes

VIII.15 As a standard international practice, the design and security features of banknotes are reviewed periodically. In line with this practice, a new series (Mahatma Gandhi New Series) of banknotes in new design, dimensions and denominations, highlighting the cultural heritage and scientific achievements of the country, was introduced during the year. As part of this process, banknotes in the denominations of ₹500 and ₹2000 were introduced on November 8, 2016. New design notes in other denominations are due for phased introduction.

Customer Service

VIII.16 In order to enhance customer service, the scheme of incentives and penalties for banks for provision of banknotes and coin related services has been rationalised. In this regard, a revised scheme of incentives titled Currency Distribution and Exchange Scheme (CDES) was formulated and issued to banks. The process of amending Note Refund Rules, 2009 to include the new Mahatma Gandhi series of ₹500 and ₹2000 denomination banknotes has also been initiated.

Indigenisation of Security Features for Indian Banknotes

VIII.17 The Reserve Bank continued with its medium/long term objective of indigenisation of security features for Indian banknotes during the

year. In this regard, the report of the High Level Steering Committee on indigenisation of security features of banknotes under the Chairmanship of former Deputy Governor, Shri R. Gandhi, has been submitted to the Government of India. In order to make India self-reliant in banknote paper production, indigenous production of Cylinder Mould Vat Made Watermarked Bank Note (CWBN) paper at the Bank Note Paper Mill India Private Limited (BNPMIPL), Mysuru, started during the year. A proposal to set up a security ink factory at Mysuru was accorded in-principle approval.

Mechanisation of Vaults

VIII.18 With the objective of introducing mechanised vaults, a greenfield project at the Reserve Bank, Naya Raipur, and a brownfield project at the Reserve Bank, Belapur, have been taken up on a pilot basis by the Reserve Bank.

High Level Committee on Currency Storage and Movement (HLCCSM) and Committee on Currency Movement (CCM)

VIII.19 Two committees, *i.e.,* High Level Committee on Currency Storage and Movement (HLCCSM) (Chairman: Shri N. S. Vishwanathan) and Committee on Currency Movement (CCM) (Chairman: Shri Deepak Mohanty), have been set up to review the security aspects of the storage and movement of treasure in transit up to currency chest level and further downstream.

Counterfeit Notes

VIII.20 Smuggling and circulation of high quality counterfeit notes has been brought under the ambit of the Unlawful Activities (Prevention) Act (UAPA), 1967 and the Government has framed High Quality Counterfeit Currency (Offences) Rules, 2013 as part of UAPA, 1967.

(ii) Accomplishment of New Tasks Following the Demonetisation

Withdrawal of Legal Tender Character of ₹500 and ₹1000 Old Series Banknotes and Subsequent Demonetisation thereof

VIII.21 Following the withdrawal of Specified Bank Notes (SBNs), a scheme for exchange/deposit of the SBNs was formulated by the Reserve Bank whereby members of public were advised to deposit SBNs till December 30, 2016 in their bank account or exchange these for other legal tender notes up to specified limits across the country. The offices of the Reserve Bank, bank branches and post offices offered the exchange/deposit facility to the general public.

Exchange/Deposit and Cash Withdrawal Limits

VIII.22 The exchange of SBNs for legal tender notes was allowed at commercial bank branches (barring branches of district central co-operative banks, except for four days from November 10-14, 2016) till November 25, 2016. Subsequently, the exchange facility was restricted to the Reserve Bank Offices. Limits on withdrawal from bank counters and ATMs were also imposed to gradually meet the demand for new currency following the demonetisation. However, these limits were modified and relaxed from time to time, enabling higher withdrawals for essential purposes in line with the evolving situation. To ensure availability of currency for people in remote/unbanked areas various measures, *viz.,* deployment of Micro ATMs near village panchayat offices and at military outposts, use of mobile vans, *etc.* were undertaken.

Special Measures for Agrarian/Rural Requirements

VIII.23 In order to address agricultural requirements during the *rabi* crop season, SBNs

were allowed to be used for purchase of seeds. Additional withdrawal limit for farmers and traders registered with Agricultural Produce Market Committee (APMC) markets/*mandis* were put in place. Banks were also advised to open accounts (in a camp mode) for workers, while currency chests were advised to ensure adequate cash supply to the district central co-operative banks (DCCBs)/regional rural banks (RRBs).

Allocation and Distribution of Banknotes-Special Measures

VIII.24 In view of the logistical difficulties in supplying banknotes to all currency chests in a short span, the Hub and Spoke model was adopted for distribution of notes across the country. Fresh notes were distributed to every Issue Office in accordance with a planned allocation. The Regional Office-wise allocation of notes was revised during the last quarter of 2016-17 based on the SBNs deposited and cash supplied in issue circles during the demonetisation period. The annual indent and projections for demand of banknotes and coins were also revised accordingly.

VIII.25 In order to improve availability, direct remittances were increasingly sent to various currency chests from the printing presses. More than 100 direct remittances were sent to currency chests in various issue circles. Keeping in view the necessity for urgent and timely supply of notes across the country, notes were also air lifted from presses/regional offices of the Reserve Bank to various centres as well as directly to currency chests, wherever possible. Banks managing the currency chests were allowed to make inter-circle diversions at their discretion to even out cash availability.

Evacuation of SBNs Collected

VIII.26 In order to decongest the accumulation of SBNs at bank branches, a Guarantee Scheme was re-initiated at Reserve Bank offices and a new scheme at the district level was introduced, whereunder bank branches (other than those of DCCBs) not linked to any currency chest were advised to deposit the SBNs with them in any Issue Office of the Reserve Bank or a currency chest on or before December 31, 2016.

Remonetisation

VIII.27 Keeping in view the urgent need for making 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 bank notes. Reflecting these measures, total NiC increased rapidly to ₹15.06 trillion as on June 30, 2017, which was about 85 per cent of the NiC as on November 4, 2016. Remonetisation continues to progress at a steady pace with enhanced focus on printing and distribution to meet the currency demand.

Closure of the Scheme and Facility to Deposit SBNs during the Grace Period

VIII.28 The Government of India notified the Specified Bank Notes (Cessation of Liabilities) Act 2017 on February 27, 2017. In terms of the provisions of the Act, the SBNs ceased to be the liabilities of the Reserve Bank of India and ceased to have the guarantee of the Central Government. However, a grace period was provided during which the SBNs could be deposited by Indian citizens who were outside India between November 9 and December 30, 2016; in this context, as per Government of India notification dated December

30, 2016, the last date for Resident Indians was March 31, 2017, while that for Non-Resident Indians (NRIs) was June 30, 2017.

VIII.29 While there was no monetary limit for deposit of SBNs for eligible resident Indians, the limit for NRIs was fixed at ₹25,000 in line with the relevant regulation under the Foreign Exchange Management Act (FEMA). The facility was provided at five Reserve Bank offices (Mumbai, New Delhi, Chennai, Kolkata, and Nagpur) subject to verification of documents including customs certification evidencing import of the SBNs (for NRIs) and copies of bank account statements.

VIII.30 The Government of India subsequently issued two Gazette notifications, *viz.*, Specified Bank Notes (Deposit of Confiscated Notes) Rules, 2017 dated May 12, 2017 and Specified Bank Notes (Deposit by Banks, Post Offices and District Central Co-operative Banks) Rules, 2017 dated June 20, 2017. Accordingly, deposit of SBNs confiscated / seized by law enforcement agencies before December 30, 2016 and deposits by banks, post offices and district central co-operative banks which could not deposit the SBNs at the Reserve Bank/currency chests before December 30, 2016 were allowed.

BHARATIYA RESERVE BANK NOTE MUDRAN PRIVATE LIMITED (BRBNMPL)

VIII.31 BRBNMPL is a wholly owned subsidiary of the Reserve Bank, which is playing a crucial role in the indigenisation of security features of banknotes in India. The Reserve Bank infused ₹10 billion of capital into BRBNMPL during 2016-17 for setting up of a security ink factory at Mysuru, upgradation/acquisition of machines, *etc*.

Agenda for 2017-18

VIII.32 The processing and destruction of SBNs deposited/exchanged by the public and kept in various currency chests and regional offices of the Reserve Bank pose a challenge. In this regard, the agenda for 2017-18 includes the procurement of Currency Verification and Processing System (CVPS)/Shredding and Briquetting Systems (SBS); introduction of new series banknotes in other denominations; procurement of security features; and introduction of varnished banknotes.

IX PAYMENT AND SETTLEMENT SYSTEMS AND INFORMATION TECHNOLOGY

The Reserve Bank's continued efforts towards migrating to a less-cash society gained momentum during the year with the introduction of newer digital modes of payment. With the rapid advancement of technology and the advent of new developments and innovations in the payment landscape, the Bank enhanced its focus on the safety and security of the payment systems. Further, the Bank targeted on making technology infrastructure robust to ensure smooth running of the critical and systemically important payment and settlement systems in India.

DEPARTMENT OF PAYMENT AND SETTLEMENT SYSTEMS (DPSS)

IX.1 The push to a less-cash society received an impetus facilitated by quick policy measures and initiatives by the Reserve Bank following the withdrawal of high denomination specified bank notes (SBNs). The initiatives taken by the Bank, along with enhancement in infrastructure and addition of innovative products in the payment space enabled the spread of electronic payments to a larger customer base across the country.

Trend and Progress in Payment Systems

IX.2 The payment and settlement systems continued its robust growth during 2016-17, with volume and value growing at 55.7 per cent and 24.8 per cent, respectively on top of an increase of 49.4 per cent and 9 per cent in 2015-16. The share of electronic transactions moved up to 89.0 per cent in total volume of non-cash payments from 84.4 per cent in the previous year (Table IX.1).

Electronic Payments

IX.3 From amongst electronic modes of payments, Real Time Gross Settlement (RTGS) handled 108 million transactions, valued at around ₹982 trillion in 2016-17, up from 98 million transactions valued at ₹825 trillion in the previous year. At end-March 2017, the RTGS facility was available through 198 banks. During 2016-17, National Electronic Funds Transfer (NEFT) handled 1.6 billion transactions valued at ₹120 trillion, up from around 1.3 billion transactions for ₹83 trillion in the previous year. At end-March 2017, the NEFT facility was available through 130,013 branches of 172 banks, in addition to business correspondent (BC) outlets.

IX.4 During 2016-17, 1.1 billion transactions, valued at around ₹3.3 trillion and another 2.4 billion transactions, valued at ₹3.3 trillion were carried out through credit cards and debit cards, respectively. Prepaid Payment Instruments (PPIs) recorded around 2.0 billion transactions, valued at ₹838 billion. Mobile banking service witnessed strong growth of 151 per cent and 224 per cent in volume and value terms, respectively while the number of registered customers rose to 163 million at end-March 2017 from 105 million at end-March 2016.

Authorisation of Payment Systems

IX.5 The digital mode of payments was facilitated through 87 authorised payment system operators, as on end-June 2017, comprising PPI issuers, cross-border money transfer service providers, white label ATM (WLA) operators, Trade Receivables Discounting System (TReDS) operators, ATM networks, instant money transfer service providers and card payment networks, besides the Clearing Corporation of India Limited (CCIL) and the National Payments Corporation

Table IX.1: Payment System Indicators – Annual Turnover

Item	Volume (million)			Value (₹ billion)		
	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
1	2	3	4	5	6	7
Systemically Important Financial Market infrastructures (SIFMIs)						
1. RTGS	92.8	98.3	107.8	754,032	824,578	981,904
Total Financial Markets Clearing (2+3+4)	**3.0**	**3.1**	**3.7**	**752,000**	**807,370**	**1,056,173**
2. CBLO	0.2	0.2	0.2	167,646	178,335	229,528
3. Government Securities Clearing	1.1	1.0	1.5	258,917	269,778	404,389
4. Forex Clearing	1.7	1.9	1.9	325,438	359,257	422,256
Total SIFMIs (1 to 4)	**95.8**	**101.4**	**111.5**	**1,506,033**	**1,631,948**	**2,038,077**
Retail Payments						
Total Paper Clearing (5+6+7)	**1,196.5**	**1,096.4**	**1,206.7**	**85,434**	**81,861**	**80,958**
5. CTS	964.9	958.4	1,111.9	66,770	69,889	74,035
6. MICR Clearing	22.4	0.0	0.0	1,850	0	0
7. Non-MICR Clearing	209.2	138.0	94.8	16,814	11,972	6,923
Total Retail Electronic Clearing (8+9+10+11+12)	**1,687.4**	**3,141.5**	**4,205.0**	**65,366**	**91,408**	**132,255**
8. ECS DR	226.0	224.8	8.8	1,740	1,652	39
9. ECS CR	115.3	39.0	10.1	2,019	1,059	144
10. NEFT	927.5	1,252.9	1,622.1	59,804	83,273	120,040
11. Immediate Payment Service (IMPS)	78.4	220.8	506.7	582	1,622	4,116
12. National Automated Clearing House (NACH)	340.2	1,404.1	2,057.3	1,221	3,802	7,916
Total Card Payments (13+14+15)	**1,737.7**	**2,707.3**	**5,450.1**	**3,326**	**4,483**	**7,421**
13. Credit Cards	615.1	785.7	1,087.1	1,899	2,407	3,284
14. Debit Cards	808.1	1,173.6	2,399.3	1,213	1,589	3,299
15. Prepaid Payment Instruments (PPIs)	314.5	748.0	1,963.7	213	488	838
Total Retail Payments (5 to 15)	**4,621.6**	**6,945.2**	**10,861.7**	**154,126**	**177,752**	**220,634**
Grand Total (1 to 15)	**4,717.4**	**7,046.6**	**10,973.2**	**1,660,158**	**1,809,701**	**2,258,711**

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 includes Outright trades and both legs of Repo transactions.
3. Consequent to total cheque volume migrating to the cheque truncation system (CTS), there is no Magnetic Ink Character Recognition (MICR) Cheque Processing Centre (CPC) location in the country as of now.
4. The figures for cards are for transactions at point of sale (POS) terminals only.
5. The National Automated Clearing House (NACH) system was started by the National Payments Corporation of India (NPCI) on December 29, 2012, to facilitate inter-bank, high volume, electronic transactions which are repetitive and periodic in nature.
6. Figures in the columns might not add up to the total due to rounding off of numbers.

of India (NPCI). The number of non-bank entities authorised for operating PPIs increased to 55 with 18 authorised during 2016-17. While 54 banks were granted approval to issue PPIs, 289 banks were permitted to provide mobile banking services up to end-June 2017. Eight entities, authorised to operate WLAs, deployed 14,121 WLAs by end-March 2017.

Agenda for 2016-17: Implementation Status

IX.6 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

Framework for Imposition of Penalty

IX.7 Non-adherence to guidelines and standards for payment and settlement systems under the Payment and Settlement Systems (PSS) Act, 2007 can attract penal provisions. The Bank has since notified, under Section 18 of the said Act, a framework for imposition of penalty on authorised payment systems operators / banks to cover offences such as (i) contravention of provisions of the Act, (ii) non-compliance of directions or orders made there under, and (iii) violations of terms and conditions of authorisation.

Review of PPI Guidelines

IX.8 The growing usage of PPIs has led to requests from stakeholders for relaxations in certain areas while strengthening the norms for safety and security, risk mitigation and customer protection. Accordingly, PPI guidelines were comprehensively reviewed and draft Master Directions on issuance and operation of PPIs were placed on the Bank's website on March 20, 2017 for public comments by April 15, 2017. Final circular would be issued in the coming year after examination of the feedback.

Policy Framework for CCPs

IX.9 The Bank has adopted the Principles for Financial Market Infrastructures (PFMIs) for regulation and supervision of FMIs. Accordingly, Central Counterparties (CCPs) being a critical component should have sound financials, particularly in terms of sufficient shareholders' funds to cover potential business losses in order to continue providing services as a going concern. The Bank is, therefore, in the process of issuing more specific directions on (i) net worth requirement for CCPs, (ii) broad principles underlying governance of CCPs and (iii) more clarity on foreign-regulated CCPs desirous of operating in India.

Payment System Advisory Council (PSAC)

IX.10 PSAC was to be constituted as an advisory body to the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS). Since the Payments Regulatory Board (PRB) is envisaged to replace the BPSS as per the Finance Bill, 2017, no further action is being taken on the formation of PSAC.

Legal Entity Identifier (LEI)

IX.11 The Bank decided to implement the LEI system for all participants in the Over-the-Counter (OTC) markets for Rupee interest rate derivatives, foreign currency derivatives and credit derivatives in India.

Settlement of Funds Leg of Financial Transactions

IX.12 The clearing corporations currently settle funds-leg of trades executed on stock exchanges in accounts with various designated commercial banks which are their clearing banks. The RBI-SEBI Working Group on 'Replacement of Commercial Bank Settlement Model with Central Bank Settlement Model for Securities Market' recommended that funds leg involving commercial banks and clearing corporations could be settled in central bank money. Steps have been undertaken to implement funds settlement of all such securities and commodity market transactions in central bank money.

Robust Infrastructure

Bharat Bill Payments System (BBPS) and Trade Receivables Discounting System (TReDS)

IX.13 In-principle authorisation was granted to NPCI to function as a Bharat Bill Payment Central Unit (BBPCU) of the BBPS, a pan-India inter-operable bill payment system. Up to end-June 2017, a total of 70 entities, both banks and non-banks were granted in-principle approval to operate as Bharat Bill Payment Operating Units (BBPOUs). Pilot operations of BBPS have been launched in August 2016 and 37 billers under the current scope of BBPS related to electricity, gas, telecom, DTH and water are participating. TReDS is an institutional mechanism for facilitating the financing of trade receivables of Micro, Small and Medium Enterprises (MSMEs) from corporate buyers through multiple financiers. All the three entities that had received in-principle approval to set up and operate TReDS have been issued Certificate of Authorisation.

Merchant Discount Rate (MDR)

IX.14 With a view to encouraging a wider segment of merchants to accept card payments, a merchant turnover-based MDR structure for debit card transactions has been proposed in place of the existing slab-rate MDR based on transaction value. Accordingly, a draft circular was placed on the Bank's website on February 16, 2017 for public comments by February 28, 2017. Final circular would be issued in the coming year after examination of the public feedback.

Electronification of Toll Collection

IX.15 Towards electronification of toll collection systems on pan-India basis in an inter-operable environment, in-principle approval was granted to NPCI for setting up and operating a National Electronic Toll Collection (NETC) system. The final approval to NPCI for the NETC project is envisaged to be accorded in the coming year, based on results of the pilot project being undertaken.

Effective Supervision

RTGS Assessment against PFMI

IX.16 The Bank's policy document, "*Regulation and Supervision of FMI regulated by RBI*" states that the Bank would assess/ review the FMIs operated by it against the international standards with the same rigour as other FMIs. Guided by this policy, a detailed assessment of RTGS against the PFMIs was carried out during the year.

Other Developments

Measures to Encourage Digitisation

IX.17 Apart from the initiatives already mentioned, the following policy measures were initiated during the year to promote digital transactions in the country:

a. Unified Payments Interface (UPI)

   NPCI was given approval to go live for UPI during the year. Further, NPCI was allowed to launch BHIM (Bharat Interface for Money), which is a common app with some functionalities, thus providing an additional interface to customers to connect to UPI besides banks' own apps.

b. National Unified USSD Platform (*99# NUUP Data)

   NPCI was permitted to introduce Unstructured Supplementary Service Data (USSD) 2.0 (*99#) version which was also integrated with the UPI, so as to provide a better customer experience for funds transfers.

c. BHIM-Aadhaar Pay Mechanism for Merchant Payments

   To provide a channel for customers to make digital payments using their Aadhaar-seeded bank accounts at merchant locations, in-principle approval was accorded to NPCI to launch a pilot on BHIM-Aadhaar Pay. BHIM-Aadhaar Pay is a smart phone-

based application with a dongle attached to it for capture of customer's biometric data. The customer will authenticate the payment transaction by providing biometric identification on the merchant device. These transactions are processed as part of the existing Aadhaar Enabled Payment System (AEPS) with a separate transaction type assigned to them.

d. Inter-operability of ATMs

The Department of Post (DoP) was granted approval for enabling two-way inter-operability of ATMs installed by it with ATMs connected to the National Financial Switch subject to certain conditions such as setting up of a separate vertical within the DoP for handling this work, with subsequent transfer of infrastructure to the India Post Payments Bank (IPPB), and adherence to regulatory instructions of the Bank.

e. Tokenised Contactless Card Payments

Approval was given to the authorised card networks to introduce tokenised contactless card payments such as 'Samsung Pay'.

Publication of Daily Data on Select Electronic Payment Systems

IX.18 With the use of digital payment channels under focus, the Bank started collating daily data of select electronic payment systems, representative data on credit/debit card usage, PPI and mobile banking, and disseminating them on its website on a weekly basis.

Master Directions on Access Criteria for Payment Systems

IX.19 The Bank reviewed the access criteria for payment system and issued a master direction on it taking into account the developments following the earlier instructions issued in September 2011.

Card Not Present Transactions – Rationalisation of Additional Factor of Authentication

IX.20 Customer convenience was enhanced through rationalisation of the mandate for an additional factor of authentication for card not present transactions using network provided solutions for payments up to ₹2,000.

Security and Risk Mitigation Measure - Technical Audit of PPI Issuers

IX.21 Towards enhanced security of the PPIs, following the rapid growth, *post* withdrawal of SBNs, the entities issuing PPIs were advised to carry out a special audit by empaneled auditors of the Indian Computer Emergency Response Team (CERT-In). The audit would cover compliance as per security best practices, change management aspects for the system authorised and adherence to the process flow approved by the Bank.

Bharat QR Code

IX.22 One of the major objectives of the Vision-2018 for the payment and settlement systems in India is to ensure inter-operability among the different service providers of a payment system. Accordingly, all authorised card networks were advised in September 2016 to standardise the QR code, enabling inter-operability of transactions. The inter-operable QR code (Bharat QR) was launched in February 2017.

Financial Market Infrastructure

CPMI-IOSCO Level 3 Assessment

IX.23 The Committee on Payments and Market Infrastructures-International Organisation of Securities Commissions (CPMI-IOSCO) published a report on the financial risk management and recovery practices of ten derivatives CCPs in August 2016, presenting level-3 assessment of consistency in the outcomes of CCPs'

implementation of the PFMI. CCIL was one of the ten CCPs reviewed as part of the level-3 assessment.

CCIL Compliance Audit

IX.24 As a qualified CCP, CCIL is assessed on an on-going basis against PFMIs. During the year, a compliance audit of CCIL was carried out to assess its compliance with the observations in the Bank's inspection undertaken in the previous year. As a measure of enhanced transparency, CCIL continued to disclose its self-assessment on its compliance with the PFMIs on an annual basis, as per the 'Disclosure Framework and Assessment Methodology', prescribed in the PFMIs. CCIL also publishes its quantitative disclosures on a quarterly basis as per the public disclosure standards for CCPs.

Equivalence Recognition of CCIL under EMIR

IX.25 The European Commission has observed that India has regulatory regimes for the CCPs equivalent to the European Union. Consequent to the European Commission's equivalence decision under the European Market Infrastructure Regulation (EMIR), a Memorandum of Understanding (MoU) was executed as part of cooperation between the Reserve Bank and the European Securities and Market Authority (ESMA). The ESMA has included CCIL in its list of recognised CCPs and also advised CCIL as a third country CCP.

Oversight of Payment Systems – Retail

IX.26 During the year, onsite inspection of 13 PPIs and three White Label ATM Operators was carried out.

Special Measures post Withdrawal of SBNs

IX.27 Following the withdrawal of SBNs, several measures were undertaken by the Bank as under:

a. Towards meeting the currency requirements of the public through ATMs, a Task Force for Recalibration of ATMs was set up under the Chairmanship of Shri S. S. Mundra, Deputy Governor, comprising representatives from the Ministry of Finance, Ministry of Home Affairs, four banks with the largest ATM networks and NPCI. As decided by the Task Force, coordinated efforts of the ATM manufacturers, cash replenishment agencies and service providers were made to recalibrate and replenish the ATMs for dispensing new series of high denomination bank notes. By end-December 2016, with over 1.90 lakh ATMs recalibrated, the Task Force was wound up.

b. ATM charges for all transactions by savings bank customers were waived for both on-us and off-us transactions from November 10, 2016 till December 30, 2016.

c. Cash withdrawal limits at POS were enhanced up to ₹2000 per day across all centres (Tier I to VI) and customer charges were waived on all such transactions from November 18, 2016 till December 30, 2016.

d. The participating banks and PPI issuers of IMPS, UPI and USSD were advised not to levy charges on transactions up to ₹1000 from January 01, 2017 till March 31, 2017.

e. For debit card transactions during January-March 2017, MDR was capped at 0.25 per cent for transactions up to ₹1000 and 0.5 per cent for transactions above ₹1000 and up to ₹2000. The timeline was subsequently extended till completion of review of the MDR guidelines.

f. The limit for semi-closed PPIs issued with minimum customer details was enhanced

Box IX.1
Distributed Ledger Technology (DLT)

The Committee on Payments and Market Infrastructures (CPMI) in February 2017 published a report, "Distributed ledger technology in payment, clearing and settlement - An analytical framework". The report states that DLT is viewed by many as having the potential to disrupt payment, clearing, settlement and related activities. DLT, including block chain technology, draws upon both well established and newer technologies to operate a set of synchronised ledgers managed by one or more entities. DLT may provide an alternative to the traditional centralisation of database management, as is the case with financial market infrastructures (FMIs).

The report highlights how DLT could enhance efficiency by radically changing the processes of maintaining and storing of assets, how obligations are discharged, contracts are enforced, and risks are managed. The features of DLT could transform financial services and markets by reducing complexity, improving end-to-end processing speed, increasing transparency and improving immutability in transaction record keeping and network resilience, reducing operational and financial risks. This could largely reduce the need for reconciliation across multiple record-keeping infrastructures.

However, DLT may pose new or different risks concomitant to operational and security issues arising from the technology, lack of inter-operability with existing processes and infrastructures and issues related to data integrity, immutability and privacy. As DLT is an evolving technology that has not yet been proven sufficiently robust for wide scale implementation, implementing across jurisdictions draws its own challenges on legal aspects.

Having a well-founded, clear, transparent and enforceable legal basis is a core element of payment, clearing, and settlement arrangements. DLT can increase legal risks if there is ambiguity or lack of certainty about an arrangement's legal basis. For transactions taking place across borders or in multiple jurisdictions, the law underpinning the activity would need to be confirmed or adopted in multiple jurisdictions in ways that are mutually compatible.

A DLT arrangement could have implications for broader financial market risks even though the benefit of DLT on sharing data across key entities may lead to greater market transparency and more effective risk management across systems, wherein the interconnectedness is larger. With in-built tools of configuration on assessing macro-economic factors, automatic triggering of margin calls across FMIs in the system simultaneously may pose challenges on liquidity demand and its management in the system.

A number of financial market participants are assessing the possibility of using DLT for specific post-trade processes, from maintaining basic records to clearing and settling financial transactions. Their inclination towards DLT is driven by factoring efficiency gains from cost savings, faster settlement, greater resiliency and quicker reconciliation from the use of an automatically updated source of consistent information along the value chain. Market participants involved in post-trade processes are exploring the realisation of efficiencies through collectively maintaining a common, decentralised record of data, eliminating the need to reconcile different databases, which could be possible through DLT.

In the Indian context, a Proof-of-Concept (PoC) was structured and customised by the IDRBT to facilitate the feasibility analysis of blockchain technology for Indian banking and finance sector with two use cases that highlight banking and consumer interaction: domestic trade finance with a sight letter of credit and Enhanced Information Payments (EIP). Overall, the PoC provided a good demonstration of the use-cases and helped to broaden the understanding of the technology and its potential to other real-life applications, but scalability and security aspects need to be studied in detail.

References:

1. Bank for International Settlements (2017), Report of the Committee on Payments and Market Infrastructures on "Distributed Ledger Technology in Payment, Clearing and Settlement", February.

2. Institute for Development and Research in Banking Technology (2017), White Paper on "Applications of Blockchain Technology to Banking and Financial Sector in India", January.

from ₹10,000 to ₹20,000; special category of PPIs for merchants was introduced with higher limits on funds transfers. These special measures, introduced on November 22, 2016, were extended till the completion of review of PPI guidelines. Further, issuance of

PPIs by banks was allowed to various entities including unlisted corporates/partnership firms/sole proprietorship /public organisations like municipal corporations and urban local bodies for onward issuance of PPIs to their staff/employees/contract workers.

g. White Label ATM Operators (WLAOs) were allowed to source cash from retail outlets, provided that the quality and genuineness of currency notes, thus sourced, would be the responsibility of WLAOs.

Agenda for 2017-18

Responsive Regulation

Review of WLA Guidelines

IX.28 The scope of activities of WLAO, introduced in June 2012, were reviewed from time to time, *inter alia*, enabling the acceptance of international cards at WLAs, facilitating use of dynamic currency conversion for international cards, delinking cash supply from sponsor banks, and sourcing of cash from retail outlets. Nonetheless, WLAOs have not been able to meet the stipulated targets under the schemes chosen by them. Hence, it has been decided to review the WLA guidelines comprehensively, particularly from the perspective of WLA deployment targets.

Policy for Mobile Banking Services

IX.29 A review of the policy for granting permission to banks for mobile banking and prescribing minimum security standards would be undertaken.

Guidance for Inter-operability amongst PPIs

IX.30 In view of the thrust on digital payments, the draft Master Directions on issuance and operation of PPIs in India of March 20, 2017 envisaged inter-operability among PPIs in line with the Vision-2018. Instructions on implementation of inter-operability among PPIs, in a phased manner, would be issued after the finalisation of the PPI guidelines.

Robust Infrastructure

Migration of Cheques to Cheque Truncation System (CTS)-2010 Standards

IX.31 Cheque issuing banks are required to make all efforts to withdraw non-CTS 2010 standard cheques in circulation by creating awareness among customers. Accordingly, the volume of non-CTS-2010 cheques to total inward volume was brought down to below 1 per cent in 2016 from 4 per cent in 2014. The requirement of paper to follow for cheques issued by the central government was also discontinued. Further measures would be undertaken to facilitate migration of cheques to CTS-2010 standards. Banks were also advised not to accept fresh /additional post-dated cheques and to convert the existing post-dated cheques to the National Automated Clearing House (NACH).

Effective Supervision

Oversight Framework for Authorised Payment Systems

IX.32 The framework for oversight of both retail and large value payment systems would be developed with a focus on off-site surveillance, regular self-assessment and need-based inspection of retail payments. The framework would draw from the principle that the intensity of oversight should be proportionate to the systemic risks or system-wide risks posed by a payment system or operator or participant.

Data Reporting by PSOs in XBRL Format

IX.33 The Bank is in the process of migrating to the XBRL reporting format. In this connection, the templates to collect data from entities would

be enhanced to include more granular details and new reporting templates would be added to facilitate the collection of detailed information from regulated entities.

Customer Centricity

Harmonisation of Customer Grievance Redressal Mechanism

IX.34 In the present scenario, different payment systems have different processes in place for customer grievance redressals. The Bank would undertake measures for their harmonisation to ensure uniformity in processes and timeframe for resolution.

Disclosure Framework for PSOs

IX.35 Towards further transparency in the payments space, the Bank would initiate measures to ensure that the PSOs clearly disclose the fees and terms and conditions of their services to the customers.

Confirmation of Payment in RTGS/NEFT

IX.36 Currently, originating banks for NEFT, after receiving a positive confirmation from the beneficiary bank, initiate an SMS or e-mail to the originator to convey the fate of the transaction. With the increasing volume of transactions in NEFT, this feature needs to be strengthened across all participating banks as envisaged in Vision-2018. The Bank would incorporate a similar feature of positive confirmation for RTGS transactions.

DEPARTMENT OF INFORMATION TECHNOLOGY (DIT)

IX.37 The main focus of DIT continued on providing robust technology infrastructure to ensure smooth running of the critical and systemically important payment and settlement systems in the country as also of the other IT systems for use by the Reserve Bank.

Agenda for 2016-17: Implementation Status

e-Kuber for Currency Management

IX.38 The Integrated Computerised Currency Operations Management System (ICCOMS), used by the Reserve Bank for currency management is being brought under the Bank's CBS, e-Kuber. 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. A granular view of the currency chest transactions would also help to optimise the holdings of the currency chests. The system is being designed to facilitate automation of processes and integration with machines like currency verification processing system, note counting machines and kiosks. The system would also have linkage with Note Presses and provision to track currency in transit.

e-Kuber for Roll-out of GST

IX.39 The Reserve Bank's e-Kuber system has been assigned the responsibility of functioning as the 'aggregator' for all-India collections under Goods and Services Tax (GST) regime. It would also be a one stop source of data reporting to GST Network (GSTN), state governments and the Central Board of Excise and Customs (CBEC), the nodal government department for its implementation. As GST will be a pan-India taxation system, large quantum of transaction data will be handled by e-Kuber. The system follows ISO 20022 secured messaging protocols for interaction among agency banks, nodal government departments and GSTN, thereby facilitating exchange of information between CBS of banks and e-Kuber of the Reserve Bank. The system also provides for automatic reconciliation of differences among stakeholders using Memorandum of Errors using ISO messaging protocols.

e-Kuber for Government e-Receipts and e-Payments

IX.40 The standardised e-receipt and e-payment model was rolled out for various state and central government departments. This standardised model envisages integration of governments and banks' systems with e-Kuber for online transaction-wise reporting of receipts/ payments on behalf of government departments by bank branches. The e-scrolls and account statements are delivered electronically to governments in a straight-through-processing (STP) manner in ISO format for consumption by their treasuries. The e-receipt system has been adopted by 14 state governments till end-June 2017. The e-payment model envisages integration of government departments with the e-Kuber system for making direct payments to beneficiaries through NEFT. The payment e-scrolls and the account statements in ISO formats are sent to the treasuries for further use at their end. The e-payment model has been adopted by eight state governments till end-June 2017.

Electronic Document Management System (EDMS) Implementation

IX.41 The EDMS has been envisioned to manage and monitor the life cycle of documents. The objective is to ensure digitisation of the entire work flow processes so as to enhance efficiency through business process re-engineering (BPR), monitoring of work flow and also reducing storage and retrieval time for documents.

Enterprise Management System (EMS) for Enhanced Operational Efficiency

IX.42 In order to have a holistic approach towards monitoring the performance of high quality services in support of IT applications, the EMS solution is being implemented at the Data Centres for enhancing operational efficiency. The tools constantly monitor health of the servers, network links, middleware and applications based on pre-set threshold values. The system generates alerts when thresholds are breached. The tools also facilitate service call logging, call escalation, incident reporting and monitoring. In addition, it builds knowledge base of the service tickets and enforcement of all processes related to change management, incident management, *etc.*

Review of the Bank's Information Security Policy

IX.43 Information security policy of the Reserve Bank is revised periodically to ensure continued protection against the changing contours of security threats. With the emerging threat landscape, where organised cybercrime and cyber warfare are taking prominence, the information security and cyber security policy of the Reserve Bank for its own information systems is being reviewed. The emphasis will be placed on recognising the growing use of mobile devices and also the new forms of attacks reported worldwide and to provide protection against these risks.

Enhanced Security at Data Centres

IX.44 The Reserve Bank has deployed Information Technology (IT) products, applications and services hosted in its Data Centres. However, with advanced, persistent and innovative threats surfacing every day, the security of IT infrastructure has to be monitored in a holistic manner. In this direction, as part of the Bank's cyber security reinforcement measures, an Information Security Operation Centre (iSOC) has been made operational to monitor, detect, prevent and mitigate various types of information and cyber security risks. Alerts received from various sources are promptly taken cognisance of and suitable action is initiated.

Wireless Local Area Network (WLAN)

IX.45 As part of the efforts aimed at accessibility of the information systems and to enable improved responsiveness to electronic communication, the

Wireless Local Area Network (WLAN) systems with the Wireless Intrusion Prevention System (WIPS) were successfully installed and made operational initially at some of the major office buildings and in training establishments.

Agenda for 2017-18

Currency Management System

IX.46 The currency management modules in e-Kuber are expected to be made operational by March 2018.

Full Roll-out of EDMS

IX.47 EDMS is being rolled out in a phased manner in all the offices of the Reserve Bank and is expected to be fully functional by December 2017. A roadmap to integrate other internal communication systems with the EDMS has been worked out and will be taken up after the initial modules are fully rolled out.

Facilitation for GST rollout

IX.48 A smooth roll-out of GST in collaboration with commercial banks has been completed in tandem with the introduction of GST from July 1, 2017.

Reserve Bank Information Technology Pvt. Ltd. (ReBIT)

IX.49 ReBIT will commence its full-fledged operations and assist the Reserve Bank in cyber security related areas during 2017-18.

X GOVERNANCE, HUMAN RESOURCES AND ORGANISATIONAL MANAGEMENT

During the year, the pace of activities relating to human resource development, communication processes, economic policy research, information management, international relations, corporate risk management, corporate strategy, promotion of Rajbhasha, legal processes and development of physical infrastructure, was sustained. In fact, the Reserve Bank earned accolades and international recognition in the areas of corporate risk management, sports welfare and construction of infrastructure even as sustained efforts were made to firm up India's position in international relations.

X.1 This chapter discusses the achievements of a number of departments of the Reserve Bank during 2016-17 and their priorities and agendas set for 2017-18. Major achievements with respect to communication processes during the year included the launch of a mobile application version of the Bank's website and more intensive use of the social media besides a slew of public awareness and financial literacy campaigns. In the area of human resource initiatives, notable developments include the introduction of structured e-learning courses targeted at larger groups of staff members, the launching of the RBI Academy and adoption of a vision document for sports. The Reserve Bank was the recipient of the *Rashtriya Khel Protsahan Puruskar* - 2016, announced by the Government of India in recognition of the Bank's contribution in the field of 'Employment of Sports persons and Sports Welfare Measures'. As part of the Enterprise-Wide Risk Management (ERM) Framework that was adopted by the Bank in 2012, a Risk Tolerance Framework is being finalised and the incident reporting system has been modified by widening the reporters' universe to secure greater involvement of staff members in the risk-reporting process. A notable achievement during the year was the International Operational Risk Working Group (IORWG) recognising the Reserve Bank's strategy for enhancing risk culture, as a 'best practice'. Similarly, the Indian Green Building Council (IGBC) awarded 'Platinum' rating to all the new constructions and select residential constructions in recognition of the Bank's efforts to introduce green building concepts in construction projects.

X.2 During the year, more state governments were integrated with the Reserve Bank's Core Banking Solutions (e-Kuber) and all (25) agency banks were integrated with e-Kuber for processing Goods and Services Tax (GST) transactions seamlessly. Building upon the formulation of a business continuity plan, a business impact analysis was carried out even as a medium-term corporate strategy and action plan for the Bank is being finalised. As part of the continuing thrust on promoting the use of Hindi, a number of officers were deputed and successfully cleared the newly-introduced examination of proficiency in Hindi. Furthermore, several important legislations relating to the financial sector such as the Insolvency and Bankruptcy Code, Specified Bank Notes (SBNs), and Payment and Settlement Systems were introduced/amended.

X.3 A number of studies on a variety of topical issues were prepared and published in the area of economic and policy research, even as the pace of activities relating to statutory and

non-statutory publications, data dissemination and organisation of events that were marked by intellectual contributions from the highest echelons of the field, sustained their momentum. As far as statistics and information management is concerned, the coverage of the SAARCFINANCE database that has been developed in-house, was enhanced, while the formats of eXtensible Business Reporting Language (XBRL)-based returns for submissions by banks were streamlined and a technical guidance note on these returns was issued for ensuing quality and uniformity. In addition, a nowcasting exercise was undertaken incorporating sentiments captured from news articles with the application of latest technological innovations like web-scrapping. In the international arena, Bank's notable achievements include effective coordination of the Financial Sector Assessment Program (FSAP). Besides, as Chair of BRICS and as co-chair of the G-20 Framework Working Group (FWG), several related events were organised even as the country position on a range of international financial architecture (IFA) issues in the G-20 IFA Working Group, was mooted.

GOVERNANCE STRUCTURE

X.4 The Central Board of Directors is the apex body in the governance structure of the Reserve Bank. There are also four Local Boards for the Northern, Southern, Eastern and Western areas of the country which take care of local interests. The central government appoints/nominates Directors to the Central Board and Members to the Local Boards in accordance with the Reserve Bank of India (RBI) Act. The composition of the Central Board is enshrined under Section 8(1) of the RBI Act, 1934. It comprises of the Governor, who is the Chair, and four Deputy Governors of the Reserve Bank; four Directors nominated by the central government, one from each of the four Local Boards as constituted under Section 9 of the Act; ten Directors nominated by the central government and two government officials nominated by the central government.

X.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 chaired by the Governor. In addition, the Central Board has four sub-committees, *viz.*, 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

X.6 The Central Board held seven meetings during the accounting year 2016-17 in Bengaluru, Mumbai, Kanpur, Kolkata, New Delhi (twice) and Chennai. The Finance Minister of India addressed the post-Budget meeting held in New Delhi on February 11, 2017.

X.7 CCB held 46 meetings during the year, 34 of which were held through electronic mode. CCB attended to the current business of the Reserve Bank, including approval of its Weekly Statement of Affairs. External Directors were invited to CCB meetings by rotation.

X.8 No meeting of the Local Boards could be held in 2016 due to lack of quorum. Two meetings of the Local Boards pertaining to Eastern and Western areas were held on April 25 and June 02, 2017 subsequent to the induction of new members in the respective Boards.

X.9 A Standing Committee of the Central Board set up in 2014-15 to look into important concerns pertaining to UCBs, NBFCs, currency management, *etc.* in regions where Local Boards were not able to function, held meetings in each of the four regions (five meetings in all after July 2016) to discuss region-specific issues and concerns.

Attendance of Directors

X.10 The details of participation of Directors in the meetings of the Central Board, its committees and sub-committees are given in the Annex.

Central Board/ Local Boards – Changes

X.11 Dr. Raghuram G. Rajan relinquished charge as Governor on completion of his tenure. Dr. Urjit R. Patel who was holding the charge of Deputy Governor was appointed Governor for a period of three years with effect from September 04, 2016. Earlier, Shri N. S. Vishwanathan was appointed Deputy Governor for a period of three years from July 04, 2016 *vice* Shri Harun R. Khan. Dr. Viral V. Acharya was appointed as Deputy Governor for a period of three years from January 23, 2017 *vice* Dr. Urjit R. Patel. Shri R. Gandhi relinquished charge as Deputy Governor on the forenoon of April 03, 2017. Shri B.P. Kanungo was appointed Deputy Governor for a period of three years from April 03, 2017 *vice* Shri R. Gandhi. Shri S. S. Mundra relinquished charge as Deputy Governor on the forenoon of July 31, 2017.

X.12 Shri Y. C. Deveshwar and Professor Damodar Acharya, Directors on the Central Board nominated under Section 8(1)(c) of the RBI Act, 1934 vacated their positions on the expiry of their terms on September 02, 2016 and October 11, 2016, respectively. Dr. Nachiket Mor nominated under Section 8(1)(b) of the RBI Act, ceased to be a Director of the Central Board on expiry of his term on May 15, 2017. The term of Shri Shaktikanta Das, Director on the Central Board nominated under Section 8(1)(d) of the RBI Act, ended on May 31, 2017. Shri Subhash Chandra Garg, Secretary, Department of Economic Affairs, Ministry of Finance, Government of India, was nominated as a Director on the Central Board under Section 8(1)(d) of the RBI Act, 1934 with effect from July 12, 2017 *vice* Shri Shaktikanta Das.

X.13 Dr. Rajiv Kumar, Dr. Ashok Gulati and Shri Manish Sabharwal were nominated as Directors on the Central Board of Directors of the Reserve Bank under Section 8(1)(c) of the RBI Act, 1934 for a period of four years each with effect from February 09, 2017.

X.14 Shri Vallabh Roopchand Bhanshali and Shri Dilip S. Shanghvi were appointed as Members on the Western Area Local Board under Section 9(1) of the RBI Act, 1934, for a period of four years with effect from February 09, 2017 and March 11, 2017, respectively. Dr. Prasanna Kumar Mohanty was appointed as Member on the Southern Area Local Board under Section 9 (1) of the RBI Act, 1934 for a period of four years with effect from February 09, 2017. Shri Sunil Mitra was appointed as Member on the Eastern Area Local Board under Section 9(1) of the RBI Act, 1934 for a period of four years with effect from February 09, 2017. Dr. Nachiket Mor nominated under Section 9(1) of the RBI Act, 1934 ceased to be a Member on the Eastern Area Local Board on expiry of his term on May 15, 2017.

Executive Directors – Changes

X.15 During the year, Shri U. S. Paliwal, Executive Director, superannuated and two Executive Directors - Shri G. Mahalingam and Shri Chandan Sinha - took voluntary retirement.

Against consequential vacancies Shri Sudarshan Sen, Shri M. Rajeshwar Rao, Smt. Surekha Marandi, Smt. Malvika Sinha and Shri S. Ganesh Kumar were promoted as Executive Directors.

Agenda for 2016-17: Implementation Status

X.16 E-meetings for the CCB introduced in 2014 continued to be held on e-mode every Wednesday except on the last Wednesday of the month, which was held as a face-to-face meeting. The agenda notes for various meetings of the Central Board and its committees/sub-committees were provided to the participants in soft form.

Agenda for 2017-18

X.17 The Reserve Bank will examine the feasibility of publishing minutes of the Board meetings as a step towards greater transparency.

COMMUNICATION PROCESSES

X.18 Transparency, timeliness and credibility continue to be the mainstay of the Reserve Bank’s communication strategy. The Reserve Bank endeavours to strike a chord with the public through communication that is dynamic, evolving and responsive to domestic and international developments. The Department of Communication (DoC) is the nodal department that formulates the communication policy and maintains a two-way communication between the Reserve Bank and the public.

Agenda for 2016-17: Implementation Status

The Website

X.19 To make its website (www.rbi.org.in) more user-friendly, the Reserve Bank launched a mobile application (app) version of the Bank's website on March 09, 2017. The app is available for download on Android as well as iOS platforms from the Play Store/App Store, respectively, using the keyword 'Reserve Bank of India'. To start with, the most accessed sections of the website (www.rbi.org.in), namely, press releases, IFSC/MICR codes, bank holidays and current rates including policy rates and reference rates of four major currencies have been made available on the app. There is a dynamic window on the top of the landing page of the app which displays public awareness messages released by the Reserve Bank.

Social Media

X.20 The website of the Reserve Bank is also integrated with two social media sites – Twitter to send alerts for press releases and YouTube for speeches, media interviews and press conferences of the top management including post-policy press conferences and financial education films produced by the Reserve Bank. As at end-June 2017, the Reserve Bank’s Twitter account had over 2.5 lakh followers and YouTube had over 11,000 subscribers.

Monetary Policy Communication

X.21 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 press releases followed by a press conference. The Governor’s post-policy conferences on the bi-monthly statements on monetary policy were disseminated through YouTube along with live streaming on the Reserve Bank’s website and business television channels. The audio and transcripts of the press conferences were uploaded on the Bank's website. The minutes of MPC meetings were uploaded on the website of the Reserve Bank on the 14th day after every meeting of the MPC as provided under Section 45ZL of the RBI Act, 1934.

Awareness Campaigns and Advertisements

X.22 During 2016-17, the Reserve Bank undertook a pan-India mass media public awareness and financial literacy campaign. Using the tagline *RBI Kehta Hai* and mnemonic 'Moneykumar' the awareness campaign created an identity for better recall.

Mann ki Baat

X.23 The campaign began with Prime Minister Shri Narendra Modi urging people, in his *Mann Ki Baat* of July 31, 2016 that was broadcast on All India Radio, to be alert and watchful of fictitious emails/calls/SMS scams. The message aimed to alert the public about fraudulent offers of cheap funds through lottery wins and job offers while seeking account and card details. The campaign also focused on educating the common man on various banking facilities that are available.

Currency Matters

X.24 Following demonetisation in November 2016, the Reserve Bank in conjunction with the Ministry of Finance, issued two rounds of advertisements to create awareness about the security features of the new design of currency notes of ₹500 and ₹2000 denominations, apart from the government's decision on demonetisation. These advertisements were issued in 660 newspapers on November 09, 2016. In the second round, a combined advertisement on the security features of ₹500 and ₹2000 notes was published in Hindi and vernacular languages in 420 newspapers on November 14, 2016. One more round of advertisements on currency was issued on November 12, 2016.

X.25 The announcement of withdrawal of Specified Bank Notes (SBNs) in November was a challenge to communication function as it touched millions of people in the country. DoC disseminated information on the same on a timely basis and in a manner that was easy to understand. All the communications issued to banks on the withdrawal of SBNs were promptly posted on the Bank's website under a separate heading titled 'All You Wanted to Know from RBI about Withdrawal of Legal Tender Status of ₹500 and ₹1000 Notes' with notifications to banks, press releases, data releases and Frequently Asked Questions (FAQs) clearly segregated for ease of reference. The Department also responded to more than 2500 queries on SBNs from the public received through emails and as many telephone calls during the period from November 8, 2016 to June 30, 2017. The queries were answered with reference to the FAQs published on the website which were amended simultaneously with the instructions that followed subsequently.

Know Your Customer (KYC)

X.26 Under the Depositors Education and Awareness (DEA) Fund Scheme, the Reserve Bank released an advertisement for creating awareness on KYC updation in bank accounts in 114 newspapers in 14 languages between September 02 and September 04, 2016.

Rural Sensitisation

X.27 A pilot programme was conducted in rural areas to create awareness on select topics like Business Correspondents, insurance, responsible borrowing, nomination, investment in unscrupulous entities, Banking Ombudsman and KYC. The 10-day campaign was conducted in four districts of Maharashtra and Uttar Pradesh, covering about 200 villages. The main takeaways from the campaign included continued supply-side constraints in the form of server downtime, inadequate ATMs, printers, *etc.;* need for more awareness programmes and sensitisation of ground-level bank staff and the imperative of real-time mid-course correction of such awareness programmes for better customisation.

Awareness through BEST Buses and Digital Campaigns

X.28 One more pilot project for public awareness was done through displays on 30 BEST buses in Mumbai for one month. The messages included awareness on KYC updation as well as cautioning the public against fictitious mails.

Media Workshops

X.29 During the year, DoC held a workshop at the College of Agricultural and Banking (CAB), Pune from March 06 - 08, 2017 with the objective of familiarising mediapersons with the major functional areas of the Reserve Bank and their nuances. The workshop was also attended by Hindi and Marathi mediapersons.

X.30 Two more workshops were held to familiarise mediapersons in Delhi on Demystifying the Revised Prompt Corrective Action Framework, and Database on Indian Economy and other RBI publications.

Agenda for 2017-18

X.31 DoC will continue to conduct workshops/ sessions for the media on important regulatory and banking related issues. The Reserve Bank has been focusing on increasing consumer awareness on banking services, regulations and consumer protection matters. As part of these efforts, DoC, in coordination with other stakeholder departments of the Bank, will extend the pan-India mass media public awareness campaign across all media to cover more segments of the public. The department is expecting to make substantial progress in setting up the museum-cum-financial literacy centre in Kolkata. In line with international experience, efforts will be made to integrate the RBI website with more social media platforms during the year (Box X.1).

Box X.1
Social Media and Central Bank Communication: An Overview

Central banks around the world have been traditionally cautious and conservative in communicating their policy matters to the general public. The speed with which messages can go viral on social media has made them virtually impossible to be ignored as a medium of communication even for central banks. Central banks are, therefore, opening up gradually and cautiously and increasingly using social media to connect with the public and making their presence felt in public domain.

To understand the role of social media in central bank communication and the present trend in its usage, a quick study of 24 major central banks and their use of social media for communicating with the public was undertaken. The study revealed that to start with,

- Central banks prefer to disseminate the information available on their websites in the form of a *really simple syndication* (RSS) feed or an e-mail alert.
- Most of the central banks (22 of the 24) use *Twitter* to send alerts for information already disseminated through the website.
- Barring a few, most of them do not respond to tweets posted by general public.
- *YouTube* is the third most popular social media used, with 18 of the 24 central banks using it primarily for consumer awareness and education.
- *Facebook* is also popular media used to connect with people with 15 of the 24 central banks using the same.
- To connect with the youth, some of the central banks use *LinkedIn*, *Instagram* and *Flickr*. Around 1/3rd of the 24 central banks use *LinkedIn* for recruitment purposes and sharing ideas and experiences among the central bankers and *Flickr* for updating photos of the events and meetings of the central banks and officials.
- Central banks in Europe use a wide variety of social media platforms, including *Facebook*, *Flickr* and *Instagram*. In particular, select central banks used *Facebook* to directly interact with students. The Swiss National Bank uses *Facebook* to seek feedback on its monetary policy and uses it as an input for formulating

(Contd....)

monetary policy. The Bank of England has a presence on relatively less popular platforms like *Pinterest* (personalised social platform), *Podcast* (for broadcasting news and announcements on ipods) and *Soundcloud* (medium for distributing audio content), apart from its active presence in most of the popular social media. Further, the Bank of England also carries out various public awareness programmes and quizzes for students on social media like *Facebook;* and participants are rewarded with attractive prizes and gifts. On the contrary, the Bank of Japan has a minimal social media presence (only on *Twitter*).

- *YouTube* is more popular among developing countries to create awareness and clarify concepts about the functioning of the central banks. In particular, African countries have shown remarkable presence on social media. South-East Asian central banks are the new entrants to social media space and mostly *Facebook* and *Twitter*. Some of them also have a presence on *YouTube* for dissemination of educational videos and clippings.

- Some central banks, including the Reserve Bank, use *MobileApp* to stay engaged with the public. The Bank of England uses the *App* guide for checking banknotes. It provides an interactive guide on security features of the current Bank of England currency notes. Federal Reserve's *App* provides users latest insights into the state of the economy and provides information, such as, press releases and notifications. ECBstatsApp is an *App* that allows one access to the statistics compiled by the European Central Bank (ECB) assisted by various national central banks. The Czech National Bank's official *App* informs users about all valid Czech banknotes and coins and the protective elements they contain. The official Bank Negara Malaysia mobile *App* disseminates the central bank's latest news and announcements, foreign exchange rates, fraud alerts, watch lists and many other user friendly features for the benefit of the public.

HUMAN RESOURCE INITIATIVES

X.32 The Human Resource Management Department (HRMD) endeavours to facilitate the Reserve Bank's central banking activities by enhancing staff efficiency, drawing out the best from them and creating an atmosphere of trust and teamwork.

In-house Training

X.33 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 the employees in attaining personal growth and in improving their effectiveness at work. The six training establishments of the Bank, *viz.,* 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 X.1).

Training at External Institutions

X.34 During 2016-17, 816 officers were deputed by the Bank to participate in training programmes,

Table X.1: Reserve Bank Training Establishments - Programmes Conducted (July-June)

Training Establishment	2014-15		2015-16		2016-17	
	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
RBSC, Chennai	141	2626 (30)	125	2741 (50)	129	3346 (172)
CAB, Pune	215	7183 (63)	198	7580 (69)	173	5788 (56)
ZTCs (Class I)	105	2241	97	2055	101	1934
ZTCs (Class III)	98	2036	102	2247	104	2130
ZTCs (Class IV)	53	1041	38	807	33	758

Note: Figures in brackets pertain to foreign participants.

Table X.2 Number of Officers Trained in External Training Institutions in India and Abroad during 2014-15 to 2016-17

Year	Trained in India (external institutions)	Trained abroad
1	2	3
2014 - 15	906	562
2015 - 16	905	599
2016 - 17	816	506

seminars and conferences organised by external management or banking institutions in India. Class III and Class IV employees were also deputed for trainings in external institutions in India during the year. Further, the Bank deputed 506 officers to attend various training courses, seminars, conferences and workshops conducted by banking and financial institutions and multilateral institutions in different countries (Table X.2).

Study Leave Schemes and Golden Jubilee Scholarship

X.35 Eight 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 479 employees pursued select part-time/distance education courses up to June 30, 2017 under the Bank's incentive scheme. Under the Golden Jubilee Scholarship Scheme, seven officers were selected during the year to pursue higher studies in reputed universities abroad.

Other Initiatives

Structured e-learning

X.36 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 nine e-learning modules are being offered by the RBSC on the Bank's intranet.

X.37 During the course of the year, 129 students were selected and provided internship in the Bank as part of the summer internship scheme.

X.38 The year also saw the setting up of the RBI Academy (Box X.2).

Box X.2
The RBI Academy

The RBI Academy was launched on September 26, 2016 with a specialised programme on corporate finance conducted in collaboration with IIM, Ahmedabad. Thereafter, it has conducted basic programmes on macroeconomics, microeconomics, faculty development programme, two programmes each on fundamentals and advance courses of IS audit and assurance, and a programme on Big Data. The participants were from the Reserve Bank, commercial banks and SEBI.

The long-term goal of the Academy is to become an institution catering to the training needs of officers from central banks, commercial banks and financial institutions in areas of regulatory concern so as to increase awareness about central banking issues and allied areas.

The Academic Advisory Council (AAC) of the Academy comprises eminent persons and academicians. The council meets every six months to assess the progress of the Academy and to guide the future course of action. It has been advising on the programmes to be conducted, their content, faculty and mode of delivery.

Going forward, it is proposed to conduct about 15 programmes in the next 12 months on topics such as big data, forensic audit, dynamic stochastic general equilibrium (DSGE) modelling, supervisory legal framework, risk assessment and cyber security.

The brick and mortar Academy is proposed to come up at Navi Mumbai.

Grants and Endowments

X.39 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; ₹75 million to the Centre for Advanced Financial Research and Learning (CAFRAL), Mumbai; ₹15.3 million to the National Institute of Bank Management (NIBM), Pune; ₹10.9 million to the Indian Institute of Bank Management (IIBM), Guwahati; and ₹6.14 million to the London School of Economics (LSE) India observatory and the IG Patel Chair.

Industrial Relations

X.40 Industrial relations in the Bank remained by and large cordial during the year. The 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.

Superannuation Benefits

X.41 The demand from pensioners and retirees related to improvement in pension remains unresolved and the Bank is still engaged with the Government of India for an early resolution of the same.

The RBI Policy Challenge

X.42 The second edition of the RBI Policy Challenge, a national level competition, got underway in October 2016. The competition, aimed at enhancing knowledge regarding monetary policy making amongst undergraduate and post graduate students, was well received. The Challenge was organised in three rounds, *viz.*, at the Regional, Zonal and National levels. In the National Finals held at Central Office, Mumbai on March 30, 2017, the team from the Madras School of Economics emerged as winners.

Table X.3: Recruitments by the Reserve Bank in 2016 *

Category of Recruitment	Category-wise strength				
	Total	*of which*		Per cent of total	
		SC	ST	SC	ST
1	2	3	4	5	6
Class I	159	18	11	11.32	6.92
Class III	486	82	38	16.87	7.82
Class IV					
(a) Maintenance Attendant	1	0	0	0	0
(b) Others	20	2	6	10.00	30.00
Total	**666**	**102**	**55**	**15.32**	**8.26**

*January to December

Recruitments and Staff Strength

X.43 During 2016 (January-December), the Reserve Bank recruited 666 employees. Of these, 102 belonged to Scheduled Castes (SCs) and 55 to Scheduled Tribes (STs), together constituting 23.58 per cent of the total recruitments (Table X.3).

X.44 The total staff strength of the Reserve Bank as on December 31, 2016 was 15,461 as compared to 15,854 a year ago. Of the total staff strength, 19.41 per cent belonged to the SC category and 6.53 per cent belonged to the ST category (Table X.4).

X.45 During 2016 (January-December), four meetings were held between the management and representatives of the All India Reserve Bank

Table X.4: Staff Strength of the Reserve Bank*

Category			Category-wise strength				Per cent to total strength	
	Total Strength		SC		ST		SC	ST
	2015	2016	2015	2016	2015	2016	2016	2016
1	2	3	4	5	6	7	8	9
Class I	7,233	6,781	1,062	993	434	408	14.64	6.02
Class III	3,756	4,017	552	620	212	234	15.43	5.83
Class IV	4,865	4,663	1,486	1,388	405	368	29.76	7.89
Total	**15,854**	**15,461**	**3,100**	**3,001**	**1,051**	**1,010**	**19.41**	**6.53**

*: End December

Scheduled Castes/Scheduled Tribes and the Buddhist Federation to discuss issues relating to the implementation of the Reserve Bank's reservation policy.

X.46 In accordance with the central government's policy, the Reserve Bank is providing reservations to Other Backward Classes (OBCs) effective from September 08, 1993. The representation of OBCs in the Reserve Bank as on December 31, 2016 stood at 2,133. Of these, 650 were in Class I, 848 in Class III and 635 in Class IV.

X.47 The total strength of ex-servicemen in the Reserve Bank, as at end December 2016, stood at 939. Out of these 161 were in Class I, 188 in Class III and 590 in Class IV. The total number of physically challenged employees in Class I, Class III and Class IV cadres in the Reserve Bank stood at 196, 72 and 86 respectively, as on December 31, 2016 (Table X.5).

X.48 As on June 30, 2017, the number of full time employees in the Bank stood at 14,684. Of these, 6,744 were in Class I, 3,618 in Class III and 4,322 in Class IV.

Prevention of Sexual Harassment of Women at the Workplace

X.49 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 January to December 2016.

Table X.5: Total Strength of OBCs, Ex-servicemen and PWD*

Category	Total strength	OBC	Ex-servicemen	PWD
1	2	3	4	5
Class I	6,781	650	161	196
Class III	4,017	848	188	72
Class IV	4,663	635	590	86
Total	**15,461**	**2,133**	**939**	**354**

*: end December 2016.
PWD : Persons with Disability.

X.50 During the year, a number of awareness programmes were organised for employees at various Regional Offices for creating awareness about the mechanisms in place at the Bank and also for sensitising the staff regarding these matters. Likewise, workshops on awareness on prevention of sexual harassment were also organised to create awareness among newly recruited Officers and Assistants. RBSC, Chennai has also been conducting gender sensitisation programmes for members of complaints committees. The training establishments also held sessions during induction programme for newly recruited officers / staff that focused on gender sensitisation.

Right to Information (RTI)

X.51 The Bank received 14,542 requests for information and 1,412 first appeals under the RTI Act during 2016-17, all of which were attended to. During the year, four training programmes/ workshops were conducted on the RTI Act for staff at the Bank's training centres.

Rashtriya Khel Protsahan Puruskar

X.52 The Reserve Bank was the recipient of the *Rashtriya Khel Protsahan Puruskar* - 2016 announced by the Ministry of Youth Affairs and Sports, Government of India. The award was handed over by the Hon'ble President of India in a ceremony held at Rashtrapati Bhawan on August 29, 2016. The accompanying citation recognised the contribution made by the Bank in the field of 'Employment of Sportspersons and Sports Welfare Measures'.

Agenda for 2016-17: Implementation Status

X.53 The Manpower Planning Committee constituted to look into the manpower needs of the Bank over the next five years (2016 – 2020) submitted its report during the year. The Committee endeavoured to make a realistic and futuristic assessment of staff requirement by taking into account the impact of changes in the activities and processes that are already underway or are expected to take place over the next five years, areas which are likely to expand in near future, activities that are expected to shrink or become redundant over the next five years because of various initiatives, *etc.* Implementation of the Committee's recommendations is presently underway.

Agenda for 2017-18

X.54 Review of extant guidelines on recruitment; review of training policy; formulation of a policy for succession planning in the Bank; policy on use of social media and implementation of the vision document for sports, are some of the main items in the agenda of the department for the year 2017-18.

STRATEGIC RESEARCH UNIT (SRU)

X.55 SRU was established in February 2016 with an objective to undertake research and analysis of topics across various verticals within the Reserve Bank. As part of its operation, SRU delivers high quality policy papers and economic monitor that reviews key macroeconomic and financial sector developments, and also features research on special themes of contemporary relevance.

Agenda for 2016-17: Implementation Status

X.56 During 2016-17, the Unit initiated several policy notes in varied areas including real sector, financial markets, investment situation, fiscal position and the external sector. The monthly economic monitor has been a regular feature of the Unit during the year. Besides the regular surveillance and market intelligence related work, the Unit also conducted a number of mid-term projects that looked into issues related to urban co-operative banks, India's equilibrium exchange rate, export elasticity, forex interventions, adequacy of forex reserves and household finance. In addition to the above, SRU was involved in cutting edge research projects that delved into the areas of food security, public infrastructure, fiscal consolidation, and inflation dynamics. Several of these studies have already been published or accepted for publication in notable journals.

X.57 SRU is also collaborating with the CAFRAL in organising joint seminars. Several such seminars were organised during the year wherein eminent professors, experts and market participants from finance and economics delivered lectures or presented their research findings. A separate lecture series has also been started to encourage the presentation of in-house research.

Agenda for 2017-18

X.58 Going forward, the Unit is envisaged to be the hub at the Reserve Bank with a concentrated talent pool of employees trained with a doctorate degree for doing cutting-edge research in economics and finance. The Unit will continue its monitoring and market intelligence work and present the same as inputs to policy making. It would undertake research in areas of strategic and contemporary interest across various verticals of the Reserve Bank. It would also continue to disseminate research inputs through seminars and publications.

ENTERPRISE-WIDE RISK MANAGEMENT IN THE RESERVE BANK

X.59 The Enterprise-wide Risk Management (ERM) framework was adopted by the Reserve

Bank in February 2012 to develop an integrated assessment and management of its risk exposures. A three-phase roll out of the ERM framework was envisaged. The first phase included the development of methodologies and tools for identification, assessment and reporting of financial and non-financial risks as well as building an institutional memory of 'Incidents'[1] and 'Near Misses'[2], which have since been accomplished. The second phase envisages a quantitative assessment of operational risk (OR) and articulation of Bank's risk appetite for reserve management and risk tolerance level for operational risk; while the former has been set in motion with the building up of the requisite database since July 01, 2013 and adoption of the Basic Indicator Approach (BIA) for quantification of OR, the latter has been initiated with the rollout of the Risk Tolerance Framework (RTF) in the Bank (Box X.3). Two important goals for the third and final phase are an increased involvement of the risk monitoring function in the assessment and management of policy risk as well as the review of the bifurcation of risk taking and risk

Box X.3
Risk Tolerance Framework of the Reserve Bank

The global financial crisis (GFC) triggered the strengthening of risk management systems across the financial world, with one of the key developments in this regard being the strengthening of the risk oversight function by the Boards of the financial entities. Central banks were no exception to this trend, as some of the leading ones from the advanced economies had acquired considerable financial risk on their balance sheets due to the qualitative and quantitative easing operations. While the Reserve Bank did not see a slippage in the quality of its balance sheet due to the GFC, it proactively strengthened its internal risk control framework by implementing a phased rollout of the ERM framework in 2012. As a part of this phased approach, the Reserve Bank is in the process of putting in place a RTF whereby its governance structure will formally articulate its attitude to risk, and the nature and extent of risk that it is willing to accept in pursuit of its mission, vision, business objectives and overall strategic goals.

Strategically, this is a key framework given that while the Reserve Bank is a risk-sensitive institution, it also recognises that it is exposed to various types of risks including policy, strategic, reputational, financial, and operational, in the pursuit of its core objectives (particularly those of fostering monetary and financial stability), which need to be managed effectively. Going forward, RTF is expected to be the cornerstone of a broader risk framework, which, *inter alia,* would integrate risk management into the organisational strategy, thus enabling prioritised risk management of key risks.

RTF, as being implemented in the Reserve Bank, has the following four components:

i. *Risk Tolerance Statement:* which is a formal articulation of the organisation's risk philosophy and attitude to risk. The Reserve Bank is now seen to be among select central banks, which have formally articulated their 'risk philosophy';

ii. *Risk Tolerance Limits (RTLs):* which are a series of limits meant to ensure that the Bank's operations are carried out in conformity with its articulated risk tolerances;

iii. *Risk Reporting Framework:* which seeks to monitor and report to the governance structure the ongoing conformity with the defined RTLs; and

iv. *Definition of Roles and Responsibilities:* of the various stakeholders in this framework, to obviate any gaps or overlaps in it.

While the latter three of the foregoing four components already exist in the Reserve Bank in various forms, the implementation of RTF will facilitate creation of a consistent, comprehensive and integrated framework.

[1] Incident is an occurrence that is not covered by or violates extant instructions/policies/procedures. It includes events that cause loss to the Bank or hinder the achievement of the Bank's objectives or raise the scope of such loss/hindrance. Incidents also encompass 'Near Miss' events.

[2] Near Misses is an incident which was not prevented by internal controls but did not result in actual or adverse impact either due to chance or other external factors.

management in the Bank. The Risk Monitoring Department (RMD) is the nodal department for the formulation and operationalisation of ERM in the Reserve Bank.

Strengthening the Risk Culture

X.60 Fostering a risk culture in the organisation by, *inter alia*, sensitising the staff at all levels, is considered crucial for achieving a shared understanding of the Bank's attitude to risk and for creating an enabling environment for viewing errors as a learning experience, even as risk reporting facilitates timely mitigating interventions to avert losses.

Agenda for 2016-17: Implementation Status

X.61 RMD has taken several measures for strengthening the risk culture in the Bank. These include conducting seminars, conferences, classroom discussions in training establishments, outreach to Regional Offices (ROs) across the country as well as development and dissemination of case studies based on real-life Incidents, which have scope for organisational learning. The incident reporting system has also been modified by widening the reporters' universe to secure greater involvement of staff in the risk-reporting process (Box X.4). Thus, while almost all Senior Officers of

Box X. 4
Developments in the Incident Reporting System

The adoption of ERM framework by the Reserve Bank in February 2012, *inter alia*, envisaged the building up of institutional memory of *Incidents* and *Near Misses*. In pursuit of this vision of the Bank, the Incident Reporting Framework (IRF) was developed specifying the principles and guidelines as well as a template for reporting of *Incidents* by the in-charges of the respective business units (BUs)[3] to the RMD. In order to facilitate the development of the 'loss' database, which is also a prerequisite for the quantification of the Bank's operational risk, a user-friendly software has been implemented for the reporting of *Incidents* by BUs.

Given the importance of sharing of the *Incidents* across the BUs for strengthening risk management in the Bank, a structure of incentives for reporting and dis-incentives for non-reporting of risk events has been developed, which includes the following:

(i) As part of the principles enunciated in IRF, *Incidents* reported to RMD do not trigger the initiation of administrative action (since the objective of reporting of *Incidents* to RMD is only to build up a loss database and wherever possible, facilitate organisational learning with a view to introducing appropriate controls to obviate the recurrence of similar risk events);

(ii) *Incidents* reported by a BU to RMD are not to be reckoned as an audit finding. However, the controls implemented by BU to prevent the recurrence of the risk event/s are assessed during audit and the absence (or ineffectiveness) of requisite controls can be included as audit observations;

(iii) Unreported risk events, identified during the audit, are included as audit observations, which consequently, also have an impact on the overall risk profile of the *auditee*;

(iv) Fostering risk culture: Since the willingness to share *Incidents* by BUs is, *inter alia*, a function of the risk awareness in the Bank, several steps have been taken by RMD to strengthen the risk culture in the organisation. These include conducting a number of seminars to sensitise the officers on ERM; designating two Risk Officers (over 100 in all) in each BU to help foster a risk culture in their respective units; and developing case studies of unique *Incidents* for placing them on the Bank's intranet and making these available to the TEs; and

(v) The universe of the reporters has been widened on a pilot basis for a few CODs and ROs to permit any officer of these BUs to intimate an incident, directly to the RMD through a simplified reporting template that has been placed on the Bank's intranet portal. The framework also provides for ensuring the confidentiality of the reporter's identity.

The foregoing measures have helped in enhancing risk awareness and improving risk reporting in the Bank.

[3] Business Unit refers to the reporting Central Office Department, Regional Office or Training Establishment of the RBI.

the Bank have been provided exposure to the ERM framework, over 100 designated Risk Officers spread across all the Central Office Departments (CODs), ROs and Training Establishments (TEs) have also been intensively trained. The seminars/ conferences have benefitted from the 'tone from the top' provided by the involvement of the top management in reinforcing the risk culture in the organisation.

RBI's Practice Internationally Recognised

X.62 The International Operational Risk Working Group (IORWG), a forum of 69 central banks and the BIS, has a well-defined process for identifying best practices in various aspects of operational risk management in central banks. In 2016-17, the IORWG (of which the RBI is a member) has recognised the Bank's strategy for enhancing risk culture as a 'best practice' that may be emulated by the other member central banks.

Central Bank Risk Managers' Conference (CBRMC), 2016

X.63 The Reserve Bank hosted the 12th edition of the CBRMC on November 17-18, 2016 in Mumbai. CBRMC was launched under the aegis of the BIS in 2004 and has since been hosted by various central banks around the world. This edition of the conference was attended by senior risk officials from 31 central banks and the BIS, and focused on the economic capital framework as its central theme. The Reserve Bank has, at the invitation of the BIS, joined the steering group of the forum. Immediately following the CBRMC, a two-day European Central Bank (ECB)-RBI technical cooperation workshop on risk management was also organised on November 21-22, 2016 in Mumbai, as per the MoU signed between the ECB and the Reserve Bank in January 2015.

Agenda for 2017-18

Move towards Convergence of Risk Ratings

X.64 RMD has launched a project along with the Inspection Department for developing a web-enabled risk reporting and analysis platform, *viz.*, Audit Management and Risk Monitoring System (AMRMS). This project in the form of software, once operationalised, will, *inter alia*, enable 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 (RAM-OR), by providing an on-screen comparison of risk ratings under the two methodologies. This is expected to bring about a higher degree of objectivity and consistency in the risk assessment process within the Bank through a harmonised risk-rating framework.

Holistic Risk Assessment of the Bank

X.65 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 of all their identifiable risks. RRs have been prepared for each BA of the Bank and upon finalisation of all of them, a composite view of the operational risk profile for the entire Bank will be available. As regards the measurement of financial risk exposures of the Bank, the Economic Capital Framework, already in place, provides an ongoing balance-sheet-wide monitoring mechanism therefor, and enables an informed decision on building up the requisite level of financial buffers against such exposures.

INTERNAL AUDIT/INSPECTION IN THE RESERVE BANK

X.66 Internal audit/inspection undertaken by the Inspection Department of the Reserve Bank provides risk assurance to the top management.

The inspections are conducted under the Risk Based Internal Audit (RBIA) framework wherein internal control and governance processes are examined by a team consisting of Principal Inspecting Officer, Inspecting Officers and information systems (IS) Auditors. The Inspection Department also provides support 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 2016-17: Implementation Status

X.67 The implementation of Audit Management and Risk Monitoring System (AMRMS) is in an advanced stage. A parallel run of the RBIA module was underway and was to go live by July 2017. The process of preparation of request for proposal (RFP)/scope of vulnerability assessment and penetration testing (VA-PT) for identified critical IT applications was completed and the modalities for conducting the technology audit/VA-PT for these critical IT applications were issued to the empanelled external audit firm. During the year, the compliance processing of VA-PT/technology audit of data centres and CBS application (including e-Treasury module) was undertaken and the action taken by business owner departments with regard to the vulnerabilities of VA-PT findings were closely monitored. VA-PT of the video conferencing (VC) system was undertaken and the audit report has been submitted. In addition, VA-PT/technology audit of the Next Generation Real Time Gross Settlement (NG-RTGS) system was also undertaken and the draft audit report has been submitted.

Agenda for 2017-18

X.68 In the first phase of AMRMS implementation, the module on RBIA has gone live in July 2017. The other modules of AMRMS application will be rolled out in 2017-18. The scope of AMRMS includes automating RBIA and other audit modules such as vertical audit, control self-assessment audit (CSAA), scrutinies and technology audit along with other supplementary audit functions. A host of benefits will accrue due to AMRMS being a centralised web-based application accessible from any RBI office. The endeavour will usher in a less-paper environment along with standardisation and uniformity in the conduct of inspections by using standardised checklists in accordance with the best international practices.

X.69 VA-PT/technology audit of select critical IT applications would also be carried out.

INTERNATIONAL RELATIONS

X.70 The International Department has the mandate of monitoring global developments, conducting international policy analysis and fostering international cooperation at various international fora such as G-20, BRICS, SAARC, BIS, FSB and IMF.

Agenda 2016-17: Implementation Status

X.71 The apogee of the department's work during the year was the effective coordination of the Financial Sector Assessment Program (FSAP) for India. The IMF's Article IV consultations, conducted every year, were also coordinated.

X.72 Being Chair of BRICS, India hosted several BRICS events during 2016, including the Eighth BRICS summit in Goa in October. On the eve of the summit, the Reserve Bank co-hosted the first BRICS Economic Forum Seminar and the BRICS Finance Ministers' and Central Bank Governors' (FM&CBG) Meeting. The Reserve Bank as the Chair of the BRICS Contingent Reserve Arrangement (CRA) maintained readiness to meet any request for drawal. It also worked with other

members to set up a system of macroeconomic information exchange.

X.73 With India co-chairing the G-20 Framework Working Group (FWG), its meeting at Varanasi was successfully co-hosted with the Ministry of Finance during March 28-29, 2017. The department worked in close collaboration with the government for shaping India's growth strategy for the G-20 Hangzhou Action Plan in 2016 and the Hamburg Action Plan in 2017. Under the German Presidency, India played a lead role in shaping up a set of resilience principles in the area of private finance, external sector and monetary policy, which were endorsed at the G-20 FM&CBG meeting.

X.74 On a range of international financial architecture (IFA) issues being discussed in the G-20 IFA Working Group, a sustainable approach to capital account liberalisation was mooted (see Box X.5).

X.75 The Bank contributed to the finalisation of the FX Global Code, a set of global principles of good practices in the forex market. A notable achievement has been inclusion of the Indian

Box X.5

Approaches to Capital Account Liberalisation: OECD and IMF

Capital flows can be viewed as trade in assets that allows international risk sharing. As future consumption can be bought through such trade by postponing current consumption or *vice versa*, it allows economic entities to smooth consumption inter-temporally (Lewis and Liu 2015). However, capital flows are prone to sudden surges, stops and even reversals and, therefore, are not an unmitigated blessing. Bhagwati (1998) argued that claims of enormous benefits from free capital mobility across borders were not persuasive. In this backdrop, it would be of interest to look at the approaches of the two main international organisations dealing with capital account liberalisation (CAL), *viz.*, the OECD and the IMF.

OECD's views are reflected in its two codes introduced in 1961, *viz.*, the Code on Liberalisation of Capital Movements (generally known as the OECD Code) and the Code of Liberalisation of Current Invisible Operations. The codes aim at encouraging members to progressively remove barriers to capital movements in quest for faster growth. In 1992, short-term capital movements were covered under the code, thus limiting the scope for capital flow management measures (CFMs). In 2002, restrictions on overseas portfolio investment were made untenable under the code.

The IMF's approach to CAL has evolved over a period of time. Before the onset of the Asian financial crisis, there were moves to recognise capital account convertibility as an explicit goal. However, the overwhelming evidence from the Asian financial crisis forced IMF to backtrack. Accordingly, gradualism, with some CFMs and macroprudential measures (MPMs), were deemed as a legitimate policy for emerging markets to exercise. The IMF's Independent Evaluation Office (IEO) also noted in 2015 that empirical literature was unable to establish a robust positive relationship between CAL and growth. Cross-border spill-overs of capital flows have since increased and the G-20 countries were urged to take them on board while dealing with national policies.

From an emerging market perspective, the IMF's approach appears prudent and pragmatic. It also stands vindicated in the wake of the global financial crisis. While the OECD Code may have served the advanced economies, emerging markets have demanded more flexibility in the codes as they do not sufficiently provide for CFMs or MPMs. India has been of the view that adherence to the OECD code should remain a voluntary process, enabling members to decide on its appropriateness in the context of evolving macro-financial conditions. While the OECD codes are currently under revision, G-20 has asked the IMF and the OECD to converge their views, especially with respect to MPMs.

References:

Bhagwati, J. (1998), "The Capital Myth: The Difference Between Trade in Goods and in Dollars", *Foreign Affairs*, May/June.

Lewis, K. K. and E. X. Liu (2015), "Evaluating International Consumption Risk Sharing Gains: An Asset Return View", *Journal of Monetary Economics*, 71: 84-98.

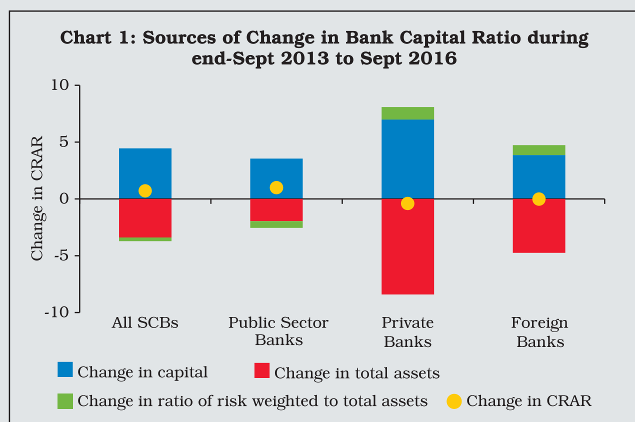
experience on macroprudential policies in the Committee on Global Financial Systems' (CGFS) report.

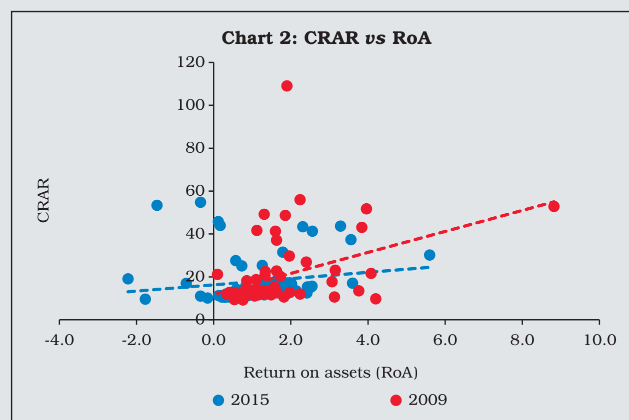
X.76 India took part in almost all the surveys, thematic reviews and peer reviews conducted by the FSB during 2016-17. The G-20 financial regulatory agenda during 2016-17 focused on assessment of effects of reforms with the FSB working on a structured framework for post implementation evaluation of effects of G-20 regulatory reforms. While the Reserve Bank generally supported this framework as a kind of incentive for member nations to develop stronger database and assessment methodologies at their country level for better self-evaluation, due concerns were expressed on the likely possibility of missing out the unintended consequences on the plea of lack of materiality (of evidence) and feasibility (of data), particularly in case of emerging market economies (EMEs) (Box X.6). A follow up on the FSB peer review of India, August

Box X.6
Effects of G-20 Regulatory Reforms on India

G-20 in 2008 initiated comprehensive financial regulatory reforms to address the fault lines that led to the global financial crisis. Currently, Financial Stability Board (FSB) under the aegis of G-20 is focussing on the effects of reforms and presented its findings, predominantly for advanced economies (AEs), in its second Annual Report, 2016. A key finding of FSB has been that bulk of adjustment to higher capital has taken place through accumulation of retained earnings rather than sharp adjustment through lending or asset growth, although some decline in risky lending for EU banks is observed.

In the Indian context, along with enhanced capital requirements, there has been an added issue of increase in non-performing assets (NPAs) since 2013. Notwithstanding this, banks' capital to risk weighted assets ratio (CRAR) remained above the stipulated levels (Chart 1). Unlike AE banks, however, higher CRAR has not led to a significant reduction in asset size or risky lending for Indian banks as a whole (Cohen, 2013). There are, nevertheless, bank group-wise variations to this trend. Further, a bank-wise analysis shows that banks with higher CRAR also have higher return on assets (RoA) although the degree of this positive relationship has slightly flattened in 2015 in the post Basel III phase (Chart 2).

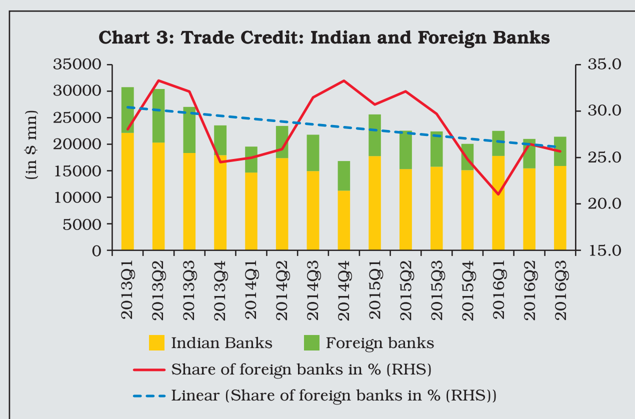




On the market liquidity impact of the liquidity coverage ratio (LCR) since January 2015, the FSB report concludes lack of any broad deterioration in market liquidity conditions. In the Indian context, the existence of SLR and the gradual carve-outs from it for LCR have enabled a frictionless transition to LCR relative to the cross-country experience. However, some banks which were very close to the prescribed LCR appeared to have been impacted at the margin as reflected in call money rates, although not in volumes (Pattanaik *et al.* 2017).

Total loss absorbing capacity (TLAC) is another regulatory measure imposed on global systemically important banks

(Contd...)



(GSIBs) to address the 'too-big-to-fail' problem. One of the consequences of this regulatory measure, as per the FSB is an attempt by many of the GSIBs to reduce their presence and activities and at times close down their businesses in EMEs. Remittances are one such area which has been hit due to a decline in correspondent banking in countries like South Africa. While India remains insulated from such an impact, higher capital standards for GSIBs has had implications for trade finance. Though the market share of foreign banks in India's international trade finance is on an average about 30 per cent, it has seen a declining trend in recent years (Chart 3).

References:

Cohen B. (2013), "How have Banks Adjusted to Higher Capital Requirements?" *BIS Quarterly Review*, September.

Financial Stability Board (2016), 2nd *Annual Report*, Implementation and Effects of G-20 Financial Regulatory Reforms.

Pattanaik S., R. Kavediya and A. Hait (2017), "The Unintended Side Effects of Basel III Liquidity Regulations on the Operating Target of Monetary Policy", *RBI Working Paper*, February.

2016 was underway during the year. The FSB meeting on Analytical Group on Vulnerabilities was hosted in January 2017.

X.77 The department hosted a senior-level conference with Banque de France on challenges related to cyber threats and operational risks. As regards green finance, the Bank engaged itself with the G-20 Green Finance Study Group.

X.78 A working group of the SAARC countries was formed to enhance coverage and standardisation of the SAARCFINANCE database. The third seminar on the SAARCFINANCE database and the first meeting of the working group on SAARCFINANCE database were organised during November 17-18, 2016 at the College of Agriculture Banking (CAB), Pune. In October 2016, the SAARCFINANCE central bank Governors agreed on a road map on the areas of cooperation such as the cost of remittances within the region, banking regulation and supervision, financial inclusion, regional database, research studies, and capacity building. During the year, liquidity support in US dollars was provided to the central banks of Sri Lanka and Maldives, and to Bhutan in Indian rupees under the SAARC swap arrangement.

X.79 Under the aegis of the Joint Technical Coordination Committee with the Nepal Rastra Bank (NRB), measures were initiated to address their concerns on several bilateral banking issues. Besides, the South Asia Regional Training and Technical Assistance Centre (SARTTAC) was set up in New Delhi by the IMF with cooperation of Government of India and the Reserve Bank.

X.80 Technical assistance programmes and staff exchange visits were organised for various SAARC central banks in several areas. In addition, during 2016-17, the department also organised 35 exposure visits by leading global universities, officials from central banks and international standard setting bodies. *Mimamsa* - the International Department's discussion forum was also started during the year and talks by national and international experts were organised under the forum.

Agenda for 2017-18

X.81 The department will continue to work along with the government to shape the national growth strategy and preserve India's stance under the G-20 Argentina Presidency and the 15th General Review of Quotas (GRQ) during 2017-18. It will also work towards completion of FSAP, currently underway and provide country responses. The department's work-streams relating to the FSB will cover, *inter alia,* shadow banking, asset management, cyber security FinTech and Resolution Steering Group's work.

X.82 Efforts are currently underway to establish a network of financial institutions in BRICS including plans to strengthen the BRICS institutions of CRA and National Development Bank (NDB). A proposal for establishment of the BRICS Bond Fund (BBF) is also being examined.

X.83 The department will host the second meeting of the Working Group on the SAARCFINANCE database along with a seminar on the SAARCFINANCE database, with a view to expanding coverage and improving data quality.

GOVERNMENT AND BANK ACCOUNTS

X.84 The Department of Government and Bank Accounts (DGBA) oversees the functions of the Reserve Bank of India as banker to banks and banker to government, besides formulating internal accounting policies of the Bank.

Agenda for 2016-17: Implementation Status

X.85 During the year, DGBA pursued with various state governments through its Regional Offices (ROs) for further integration of their receipts and payments with the Reserve Bank's CBS (e-Kuber). As at the end of June 2017, 14 states had gone live for e-receipts and eight for e-payments. A standard operating procedure for imposition of penalties on agency banks has also been put in place.

X.86 A Working Group on Business Process Reengineering (BPR) is examining the changes required for government banking in the context of implementation of CBS in the Reserve Bank and agency banks, IT induction in government, more efficient payment systems, wider coverage of Aadhaar, greater financial inclusion and vastly enhanced mobile connectivity. A Committee on Cost of Government Banking, comprising members from both government and agency banks, was also constituted which will make recommendations on the rates at which commission could be paid to agency banks for carrying out government banking on behalf of the Reserve Bank. Both the committees are expected to submit their reports soon.

X.87 The Empowered Committee of State Finance Ministers on Goods and Services Tax (GST) had finalised banking arrangements for GST, wherein the Reserve Bank will be the aggregator for the funds. The government is putting in place the required operational and accounting guidelines. The systems of agency banks are also being integrated with the Reserve Bank's CBS (e-Kuber). All agency banks have been integrated with the Reserve Bank's CBS in a testing environment for processing of GST transactions seamlessly.

Agenda for 2017-18

X.88 After successful commencement of GST, DGBA, in consultation with DIT, will continue to monitor the progress of full implementation of GST framework. Further, integration of the remaining state governments with the Reserve Bank's e-Kuber will be taken forward. The practice

of Paper-to-Follow (P2F) for state government cheques under the cheque truncation scheme is proposed to be discontinued in consultation with DPSS. The report of the Working Group on BPR for government business will be examined for implementation towards improving the overall conduct of government business.

MANAGING FOREIGN EXCHANGE RESERVES

X.89 The Department of External Investments and Operations (DEIO) manages the country's foreign exchange reserves (FER). The increasing volume of FER warrants strengthening the reserves management structure in terms of valuation methods, risk management practices, accounting framework and IT infrastructure including disaster management.

Agenda for 2016-17: Implementation Status

X.90 Diversification of India's foreign currency assets (FCA) continued during the year by way of investment in new markets and asset classes within the framework of safety, liquidity and returns. A number of proactive and preventive measures were taken to ensure the efficacy of the extant IT security system. The hot standby dealing room and back office is fully operationalised at a different location to mitigate the impact of disaster induced disruptions.

Agenda for 2017-18

X.91 The agenda for 2017-18 includes further diversification of FCA, active management of the gold portfolio, strengthening of the risk management framework relating to portfolio management as well as IT systems and further enhancement of staff capacities.

ECONOMIC AND POLICY RESEARCH

X.92 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 (MIS) 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 headline and research publications as also the Bank's collaboration with external experts on policy-oriented research.

Agenda for 2016-17: Implementation Status

X.93 During the year, the department brought out the flagship publications of the Reserve Bank – the *Annual Report*, the *Report on Trend and Progress of Banking in India*, *State Finances: A Study of Budgets*, the *Reserve Bank of India Bulletin*, and the second edition of the *Handbook of Statistics on Indian States*. 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.94 During 2016-17, twenty two research papers were completed, of which 18 were published outside the Bank in domestic and foreign journals. In addition, 11 working papers were brought out during the year. Together, the research areas covered were: regional study on the availability of clean notes, regional study on impact of MGNREGA, equilibrium exchange rate, credit and production linkages in agriculture, call money rate spread in India, corporate leverage in EMEs, interaction of asset prices with bank credit and monetary policy, and bank lending and loan quality in India. Several initiatives were also undertaken for promoting research in collaboration with external experts. Two working papers were brought out in collaboration with the International Monetary Fund (IMF), *viz.*, *Quarterly Projection*

Model for India; and *Inflation Forecast Targeting for India*. A Development Research Group (DRG) study on *Shocks and Inflation* was completed during the year.

X.95 The department organised a number of events during the year, including the 16th C. D. Deshmukh Memorial Lecture that was delivered by Prof. Willem H. Buiter, 'The Good and the Bad Fiscal Theory of the Price Level', in April 2017. Eminent professors, *viz*., Prof. Kenneth Kletzer, University of California, Santa Cruz and Prof. Rajesh Singh, Iowa State University visited the Reserve Bank during the year. Apart from intensive interactions, Prof. Kletzer delivered a talk on 'Fiscal Interdependence, Fiscal Insurance and Sovereign Debt' while Prof. Singh deliberated upon 'Money, Interest Rates and Exchange Rates in Segmented Asset Markets' and 'Monetary Policy Under Financial Exclusion'. The DEPR Study Circle, an in-house forum, organised 15 presentations on diverse themes. Besides, external experts, including Prof. Barry Eichengreen, University of California, Berkeley; and Dr. Naoyuki Yashino, Asian Development Bank Institute, Tokyo were invited to make presentations. The Department coordinated the SEACEN training course on 'Financial Cycles and Crises' hosted by the Bank in December 2016 wherein 32 participants from 10 SEACEN member central banks attended the course. The annual research conference of the department was held in Kochi in June 2017 and included a keynote address by Prof. V. V. Chari, University of Minnesota (on the role of economic policy adviser) and a panel discussion (on de-globalisation and protectionism) by academic and policy experts, apart from staff deliberations on evolving organisational issues. The second 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 2017-18

X.96 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 2017-18. They include: inter-relationship between credit and output to delve into the apparent disconnect between the two evolving in recent years; fiscal policy and growth in the context of the on-going debate on the efficacy of fiscal policy *vis-à-vis* other policies in reviving economic activity in EMEs; quality of state government finances, which will specifically analyse the efficiency of expenditures; micro aspects of remittances that will study details such as modes and frequency of transfers, transaction cost at receivers' end, and speed of delivery and utilisation of remittances; and volatility spill-overs across money, bond and forex markets that will examine dynamic conditional correlation between the markets from the viewpoint of appropriate policy responses. Furthermore, in keeping with the frequency of release of many other macroeconomic statistics as also the practices of 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 2017-18. The release of '*History of the Reserve Bank*' *Volume-V* by the History Cell will also be taken up once the draft is finalised.

STATISTICS AND INFORMATION MANAGEMENT

X.97 The Department of Statistics and Information Management (DSIM) provides high quality statistical services, including compilation, analysis and dissemination of macro-financial statistics to the public, and statistical support and analytical inputs for meeting the policy and

operational needs of the Reserve Bank. DSIM maintains multi-dimensional statistical systems related to banking, corporate and external sectors; undertakes structured surveys relating to enterprises and households as inputs for monetary policy formulation; manages the centralised submission of returns through XBRL system and dissemination through the Reserve Bank's data warehouse; and provides statistical analyses and forecasts.

Agenda for 2016-17: Implementation Status

X.98 During 2016-17, DSIM released core statistics relating to banking, corporate and external sectors in a timely manner and in several areas, with reduced time lags. With the help of the SAARC countries, a database on key macroeconomic and financial variables since 2001 was established in May 2016 and its coverage was enhanced during the year. The advance release calendar for 2017 for India as well as for five other SAARC countries was placed on the website.

X.99 With new data requirements, the rationalisation of two existing annual returns on deposits is being implemented with fully automated submission and processing. A project on web-based reporting and maintenance of detailed information on banking entities with wider scope was launched under the guidance of a Technical Advisory Group (TAG).

X.100 The coverage of XBRL-based return submission by banks was extended to accommodate more diverse returns and users. Around 30 additional returns pertaining to different departments of the Bank were completed and will go live soon on the XBRL platform. The formats of returns were streamlined under the aegis of the inter-departmental Returns Governance Group (RGG). Regional rural banks and non-banking financial companies were brought under the XBRL reporting in a phased manner.

X.101 In a major step towards harmonisation of banking statistics, a technical guidance note on XBRL returns was issued for ensuing quality and uniformity of the inputs received through the returns prescribed by the Reserve Bank, as part of statutory, regulatory, supervisory, policy and research requirements. This will ensure uniform application of the aggregation rules for compiling reporting-line items by different banks.

X.102 During the year, monetary policy surveys were conducted as per calendar, to support policy decisions. The Technical Advisory Committee on Surveys (TACS) provided guidance on related technical issues, which were further examined in collaboration with the Indian Statistical Institute, Kolkata for refinement of estimates. The department also completed exploratory work towards fine-tuning of the computation of capacity utilisation at aggregate level from the Order Books, Inventories and Capacity Utilisation Survey.

X.103 During 2016-17, a number of studies were undertaken in the areas of risk and vulnerability in the private corporate sector; and nowcasting for short-term forecasts of manufacturing sales growth incorporating sentiments captured from news articles with application of latest technological innovations like web-scrapping.

Agenda for 2017-18

X.104 The representativeness of the household surveys will be further improved under the guidance of the TACS by extending it to smaller cities/rural areas. The coverage of the Consumer Confidence Survey will be enhanced to cover seven more cities and the survey design of the Inflation Expectations Survey of Households will be refined.

X.105 An innovative use of existing information bases will be attempted to aid policy making. Payment system data will be used to generate an Employment Index. As part of half-yearly surveillance, stress tests will be conducted to assess the private corporate sector's risk profile using an industry-level sensitivity analysis under suitably chosen stress scenarios in macroeconomic variables and corporate performance parameters.

X.106 The department will initiate a project on revamping the data warehouse system. The next generation warehouse, *i.e.,* 'Centralised Information Management System' will include a big-data platform.

X.107 For the purpose of facilitating research and generation of leading indicators, the department will work on building databases comprising national electronic funds transfer (NEFT) and national automated clearing house (NACH) transaction-level payment system data in the Hadoop System[4]. A new web-based, self-validating system of collecting and maintaining branch information will be developed into which the Geographical Information System will be integrated. The web-based banking assets and liabilities (Nostro/Vostro balances) reporting system will be implemented.

X.108 Further centralisation and standardisation of reporting will involve more returns prescribed by the Reserve Bank being brought under the XBRL-based submission and the existing XBRL system will be migrated to a new IT infrastructural setup (virtual server) to handle the increased reporting load and to improve efficiency of the system. Measures will be taken to reduce the reporting burden for banks by standardisation of items under the aegis of the RGG. This will include providing harmonised definitions of additional data-elements.

X.109 A need is felt to enhance the extant statistical and supervisory information systems on credit in the Reserve Bank. This could be in the form of setting up of a Public Credit Register (PCR), an extensive database of credit information for India that is accessible to all stakeholders. The PCR would help in improving efficiency of the credit market besides helping the central bank in supervision as well as the policy making. DSIM would be working in coordination with other departments and outside experts in rolling out the PCR and enhancing its scope and coverage in a phased manner.

LEGAL ISSUES

X.110 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. It 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 Legal Department also extends support and advice to DICGC and other RBI subsidiaries on legal issues, litigation and court matters.

Agenda for 2016-17: Implementation Status

X.111 Several important legislations concerning the financial sector were brought in/amended during the year. The Insolvency and Bankruptcy Code, 2016 sought to consolidate and amend the laws relating to reorganisation and the insolvency resolution of corporate persons, partnership firms and individuals in a time bound manner. The Code has provided for the establishment of the Insolvency

[4] A programming framework that supports the processing and storage of extremely large data sets.

and Bankruptcy Board of India for regulation of the insolvency professionals, insolvency professional agencies and information utilities.

X.112 The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 provides for the targeted delivery of subsidies and services to individuals residing in India by assigning them unique identity numbers, called Aadhaar numbers.

X.113 The Finance Act, 2017 amended Section 31 of the Reserve Bank of India Act, 1934 relating to the issue of demand bills and notes, providing for the central government to authorise any scheduled bank to issue electoral bonds.

X.114 The Finance Act, 2017 also amended certain provisions of the Payment and Settlement Systems Act, 2007. The amendment provides that instead of the existing Board for Regulation and Supervision of Payments and Settlement, the Payments Regulatory Board will exercise functions relating to the regulation and supervision of payments and settlement systems under the Act. The new Board shall consist of the Governor of the Reserve Bank as Chairperson and the following Members: Deputy Governor of the Reserve Bank in charge of Payment and Settlement Systems, one officer of the Reserve Bank to be nominated by the Central Board of the Reserve Bank; and three persons to be nominated by the central government.

X.115 The Specified Bank Notes (Cessation of Liabilities) Act, 2017 provided for the cessation of liabilities on specified bank notes[5] in public interest.

X.116 The Calcutta High Court *vide* its decision dated March 03, 2017 upheld the Reserve Bank's powers to require a company to transit from the business of residuary non-banking companies (RNBC).

Agenda for 2017-18

X.117 In 2017-18, the department will continue to advise various departments 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 order to meet international commitments and standards and to clarify relevant provisions.

CORPORATE STRATEGY AND BUDGET MANAGEMENT

X.118 The Corporate Strategy and Budget Department (CSBD) formulates the annual budget of the Reserve Bank by adopting activity based budgeting which emanates from annual action plans drawn by the Bank's offices, departments and training establishments. Action plans of the business units are analysed in the context of priorities, timelines and achievable milestones *vis-à-vis* constraints and implementable corrective measures in order to make the goals realistic and sensible.

X.119 The department has the responsibility of rolling out an active and comprehensive business continuity management (BCM) framework for the Bank. The department aims at putting in place a robust and resilient framework that manages business disruption smoothly keeping in view the satisfaction and interest of all stakeholders and befitting the image of the Bank.

[5] The term "specified bank note" means a bank note of the denominational value of five hundred rupees or one thousand rupees of the series existing on or before the 8th day of November, 2016.

Agenda for 2016-17: Implementation Status

X.120 Execution of activity-driven budgets of all accounting units was scrupulously monitored. The department had prepared the BCM policy for the Bank. A business impact analysis (BIA) was carried out at all Central Office Departments (CODs) and select Regional Offices (ROs)/ Training Establishments (TEs). Time-sensitive critical activities of the Bank were determined by the department. The department, besides overseeing the smooth conduct of meetings of the governing board and its sub-committees, was actively engaged in the reconstitution of the Governing Council of CAFRAL and appointment of Directors of CAFRAL and NIBM. Approvals for establishment of State Government (SG) Cells, and Department of Non-Banking Supervision and Department of Cooperative Bank Supervision Cells were granted to select Tier III offices.

Agenda for 2017-18

X.121 The department's agenda for 2017-18 includes the implementation of a full-fledged BCM framework which is dynamic and vibrant, setting up a Crisis Command and Control Centre, formulating a cohesive strategic plan for the Bank which is inclusive and in sync with elevated aspirations of all stakeholders (Box X.7), reducing and rationalising expenditure by fine-tuning the process of budget formulation, internalising the

Box X.7
Corporate Strategy in the Reserve Bank

Background

In an endeavour to benchmark the Reserve Bank alongside the best central banks in the world, a medium-term strategy and action plan framework has been established wherein granular action plans of all Central Office Departments of the Reserve Bank have been aggregated into broad strategies and linked to the core purpose, values and vision statement. The intent is to clearly communicate the manner in which strategy can be operationalised and its implementation measured and evaluated. This is expected to demonstrate clarity of purpose and sharpen the effectiveness of strategy.

Strategy and Action Plan

A well-defined strategic planning and monitoring process provides the framework for identifying priorities and developing actions in order to deliver optimal results. An overarching strategy framework helps to clearly bring out the manner in which various business units contribute to the actualisation of the Bank's vision and mission through their strategies and action plans. Therefore, articulation and translation of the organisation's vision, mission and culture into operational terms is critical for the successful implementation of strategy. The strategies and the corresponding action plans of the Reserve Bank are listed in the strategy document and linked to the core purpose, values and vision statement. Implementation status thereon is monitored on a quarterly basis.

Linking Action Plan to Budget of the Bank

It is important to facilitate efforts to align the deliverable action plans with the budget of the Bank, leading to adequate and efficient allocation of resources in line with the Bank's priorities. A well-articulated strategic plan will help business units (Central Office Departments /Regional Offices/ Training Establishments) prioritise the activities that they plan to carry out during the year and budget accordingly. Resource allocation would thereby get closely aligned with the strategic and operational plan. The corporate strategy framework, in the long run, will help bring about greater efficiency and accountability in the Bank's functioning.

Objectives of the Framework

Specifically, the framework seeks to:

- Provide the top management with a bird's eye view of how the agenda set by them is translating into strategies and action plans on the ground and how budgetary resources are being allocated as per organisational priorities.
- Sensitise the staff at all levels that departmental goals serve strategic objectives and help them realise how each of them is instrumental directly or indirectly in

(Contd...)

helping the Bank to achieve its core purpose, values and vision.

- Generate a strong enterprise-wide commitment for carrying out the organisation's strategy by linking organisational structure to the strategy framework.
- Monitor implementation of action plans.
- Achieve optimum allocation of resources by determining the Bank's strategic priorities and devoting resources to them while at the same time rationalising resources elsewhere by establishing a clear link between strategic planning, operational plan and the budget.

Measurement

The strategy and action plan framework helps align action plans with strategic objectives, while a measurement mechanism puts in place a framework for monitoring their effective implementation. To enable measurement of the implementation of action plans with clear timelines and milestones, templates enumerating their strategies and action plans are prepared by each department quarterly. These templates enable various departments to self-monitor the status with respect to the achievement of the action plans that they have set for themselves and their plans for the following quarters in terms of (i) clear timelines; (ii) milestones; (iii) barriers; and (iv) initiating timely corrective measures to plug the gap between the envisaged goals and their actual achievement. The status received from various departments is compiled, analysed and submitted to the top management to review the agenda set by them and also the associated strategies and priorities.

use of technology for ease of operations, and initiating holistic measures to revamp capacity and deliverable capability of external funded institutions.

CORPORATE SERVICES

X.122 The Department of Corporate Services (DCS) coordinates and facilitates internal corporate services such as tendering and awarding contract for printing of the Bank's publications, entering into rate contract for procurement of major stationary items, facilitating conduct of seminars and conferences, entering into corporate tie-up with major airlines and hotel chains and empaneling of travel agents to meet the requirements of various regional offices and central office departments of the Reserve Bank.

Agenda for 2016-17: Implementation Status

X.123 Presently, an interdepartmental working group is reviewing the current policy on records management to suggest modifications in current instructions as well as the inclusion of best practices on records management which will suit processes in an evolving business environment. The handbooks on functions related to procurement and rate contract, protocol and event management are being finalised. The department also carried out an impact analysis on a quarterly basis to assess the benefits of the common and centralised rate contracts and remedial measures were taken accordingly, wherever required.

Agenda for 2017-18

X.124 During 2017-18, the department will assist the Department of Information Technology (DIT) in the implementation of the Electronic Documents Management System (EDMS) and simultaneously encourage the stakeholder departments to reinforce the best practices for managing records in the Bank.

RAJBHASHA

X.125 During 2016-17, the Reserve Bank continued its efforts to ensure compliance with the statutory provisions of the Official Languages Act with a view to promoting the use of Hindi in its working. The Rajbhasha Department of the Reserve Bank is entrusted with this responsibility.

Agenda for 2016-17: Implementation Status

X.126 During the year, 111 staff members passed the *Pragya*[6] examination of the Government of India. As per the new scheme of the Rajbhasha Department, Government of India, a number of staff members were nominated for *Parangat*[7] also and 192 passed this examination. To create a conducive environment among staff members to use Hindi on computers, staff members were trained in Hindi typing and were nominated for a typing examination conducted by Hindi Teaching Scheme of the Government of India. To increase the use of Hindi in noting and correspondence, 144 workshops were conducted across the Bank. A 'Hindi Fortnight' was also celebrated in all Regional Offices and Central Office Departments by conducting several competitions in Hindi in innovative ways.

X.127 For learning Hindi through a regional language, teaching material was prepared in Assamese and Konkani. Such material has already been prepared in six other languages (Tamil, Malayalam, Kannada, Telugu, Oriya and Bangla) of Region 'C'. Besides, teaching material for learning regional languages (Bangla, Kannada, Oriya, Tamil, Telugu and Malayalam) through the Hindi medium was also prepared for the officers on transfer to region 'C' in order to help them communicate in local languages. In order to sensitise senior officers and Heads of Central Office Departments on the requirements of the Official Language Policy, a workshop was conducted at Bhubaneswar during December 16-17, 2016. A seminar based on the role of information technology in Hindi was organised at Hyderabad on March 10, 2017. A Rajbhasha conference for all Rajbhasha officers was organised at CAB, Pune during April 07-08, 2017. Apart from these, an administrative glossary (English-Hindi) has been brought out by the Bank for the use of banks and financial institutions.

Training

X.128 Towards implementation of the Official Language policy in an effective manner, Rajbhasha officers were imparted training in the management development programme to enhance their skills. A translation workshop was conducted at the Reserve Bank Staff College, Chennai regarding translation of legal documents, financial and banking terminologies.

X.129 A book in Hindi titled *Bankon Mein Grahak Seva* was published which contained articles on customer service. Bank's Hindi journal *Banking Chintan Anuchintan* received a Gold award from the Association of Business Communicators of India. The statutory publications of the Bank - the *Annual Report* and *Report on Trend and Progress of Banking in India* continued to be prepared in a bilingual form. In addition, the *Financial Stability Report*, *Weekly Statistical Supplement* and the monthly *Bulletin* were also published in a bilingual form and the same were placed on Bank's website. *Rajbhasha Samachar* was published along with its e-version which covers in-house activities and events of the Bank to promote the use of Hindi. The Rajbhasha Department also prepared the *Annual Rajbhasha Report* regarding the progressive use of Hindi in the Bank.

[6] The examination is conducted for those who do not have working knowledge of Hindi.

[7] Examination of proficiency in Hindi.

Incentives

X.130 An incentive scheme for writing outstanding books in Hindi on the subject matter of banking was introduced during the year, with an award of ₹125,000. During the year, an all-India Hindi essay writing competition as well as a Hindi and Bilingual House Magazine competition were held for public sector banks and financial institutions.

Visit of Parliamentary Committee

X.131 The Committee of Parliament on Official Language (the Third Sub-Committee) visited the Central Office of the Reserve Bank in Mumbai on January 23, 2017 to inspect and review the status of implementation of the Rajbhasha policy. The sub-committee suggested further measures for promoting the usage of Hindi in the Bank and also instructed that intensive efforts be made for the implementation of the official language in all spheres of the Bank.

Agenda for 2017-18

X.132 An annual work plan for 2017-18 is being 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. Developing a new *Rajbhasha Reporting System* is another agenda for 2017-18. In addition, a booklet on statutory provisions on official language will be brought out for dissemination among staff members of the Bank.

PREMISES DEPARTMENT

X.133 The responsibilities of the Premises Department encompass creating, maintaining and upgrading the Reserve Bank's physical infrastructure. In 2016-17, significant developments have taken place in this direction including the initiation of new activities.

Agenda for 2016-17: Implementation Status

X.134 During the year, the Premises Department acquired land for constructing new office buildings in centres where the Reserve Bank was functioning from rented premises, *viz.,* Agartala (Tripura), Ranchi (Jharkhand) and Imphal (Manipur). On the construction front, officers' quarters along with common amenities at Anna Nagar (Chennai) and Dadar-Parel (Mumbai) are nearing completion. Work for construction of infrastructural facilities for the Centre for Advanced Financial Research and Learning (CAFRAL) at Mumbai, and reconstruction work of the residential quarters at Hauz Khas (New Delhi), Chembur (Mumbai) and Kharghar (Navi Mumbai) have commenced.

X.135 The Indian Green Building Council (IGBC) awarded a 'Platinum' rating to all the new constructions by the Bank [*viz.*, RBSC (Chennai) and IGIDR (Mumbai) hostels, Ameerpet Senior Officers' flats (Hyderabad) and the on-going Anna Nagar complex], as also the existing residential complex at Ameerpet (Hyderabad) in recognition of the efforts to introduce green building concepts in construction projects.

X.136 Another major thrust area of the department's function has been conservation of water and energy and their efficient use. Along with rain water harvesting, the Bank has installed grid interactive solar power generators for enhancing capacity in various premises.

X.137 E-tendering has been introduced for procurement (beyond the threshold limit of ₹1 million and sale of goods/scrap, *etc.* beyond ₹0.5 million) with the objective of ensuring faster processing, better price discovery and greater transparency in procurement processes. A portal for this purpose has been launched in coordination with MSTC Ltd, a public sector undertaking.

X.138 The Department continued its focus on strengthening perimeter security by operationalising an internet protocol based CCTV (IPCCTV) system in 20 office buildings. Installation of integrated security system in the Central Office building is expected to be completed soon.

Agenda for 2017-18

X.139 Construction of office buildings at Naya Raipur and Dehradun and residential colonies at Trikuta Nagar, Jammu is expected to commence during 2017-18. An office building at Imphal is presently on the drawing board. Residential colonies in Mumbai (Andheri and Malad), Jaipur (Malviya Nagar), Chandigarh and Ahmedabad (Vasna) are also being planned. Steps have already been initiated for construction of a Holiday Home at Lonavala and reconstruction of the residential colony at Guwahati (Zoo Narangi Road).

X.140 During 2017-18, concrete steps for further conservation of water and electricity across all premises have been envisaged as part of the green initiative.

Annex

Table 1: Attendance in the Meeting of the Central Board of Directors during July 01, 2016 - June 30, 2017

Name of the Member	Appointed/Nominated under RBI Act, 1934	No. of Meetings Held	No. of Meetings Attended
1	2	3	4
Raghuram G. Rajan	8 (1) (a)	2	2
Urjit R. Patel	8 (1) (a)	7	7
R. Gandhi	8 (1) (a)	6	6
S. S. Mundra	8 (1) (a)	7	7
N.S. Vishwanathan	8(1) (a)	7	6
Viral V. Acharya	8(1) (a)	2	2
B.P. Kanungo	8(1) (a)	1	1
Nachiket M. Mor	8 (1) (b)	7	4
Y. C. Deveshwar	8 (1) (c)	2	0
Damodar Acharya	8 (1) (c)	2	2
Natarajan Chandrasekaran	8 (1) (c)	7	5
Bharat N. Doshi	8 (1) (c)	7	7
Sudhir Mankad	8 (1) (c)	7	7
Rajiv Kumar	8 (1) (c)	2	2
Ashok Gulati	8 (1) (c)	2	2
Manish Sabharwal	8 (1) (c)	2	2
Anjuly Chib Duggal	8 (1) (d)	7	4
Shaktikanta Das	8 (1) (d)	7	4

Table 2: Attendance in the Meeting of the Committees of the Central Board during July 01, 2016 - June 30, 2017

Name of the Member	Appointed/Nominated under RBI Act, 1934	No. of Meetings Held	No. of Meetings Attended
1	2	3	4
I. Committee of the Central Board (CCB)			
Raghuram G. Rajan	8 (1) (a)	7	7
Urjit R. Patel	8 (1) (a)	46	32
R. Gandhi	8 (1) (a)	34	23
S. S. Mundra	8 (1) (a)	46	16
N. S. Vishwanathan	8 (1) (a)	46	28
Viral V. Acharya	8 (1) (a)	21	17
B. P. Kanungo	8 (1) (a)	12	7
Nachiket M. Mor	8 (1) (b)	26	10
Y. C. Deveshwar	8 (1) (c)	04	0
Damodar Acharya	8 (1) (c)	08	7
Natarajan Chandrasekaran	8 (1) (c)	28	13
Bharat N. Doshi	8 (1) (c)	32	25
Sudhir Mankad	8 (1) (c)	30	24
Rajiv Kumar	8 (1) (c)	6	3
Ashok Gulati	8 (1) (c)	7	7
Manish Sabharwal	8 (1) (c)	7	6
II. Board for Financial Supervision (BFS)			
Raghuram G. Rajan	Chairman	2	2
Urjit R. Patel #	Chairman	9	8
Urjit R. Patel	Member	2	2
R. Gandhi	Member	9	8
S. S. Mundra	Vice-Chairman	11	11
N.S. Vishwanathan	Member	11	11
Viral V. Acharya	Member	4	3
B.P.Kanungo	Member	2	1
Nachiket M. Mor	Member	10	9
Bharat N. Doshi	Member	11	10
Sudhir Mankad	Member	11	11
Ashok Gulati	Member	4	3
III. Board for Regulation and Supervision of Payment and Settlement Systems (BPSS)			
Raghuram G. Rajan	Chairman	1	1
Urjit R. Patel#	Chairman	2	2
Urjit R. Patel	Member	1	1
R. Gandhi	Vice-Chairman	3	3
S. S. Mundra	Member	3	2
N.S. Vishwanathan	Member	3	3
Viral V. Acharya	Member	1	1
Damodar Acharya	Member	1	1
Natarajan Chandrasekaran	Member	3	0
Bharat N. Doshi	Member	3	3

w.e.f. September 4, 2016

Table 3: Attendance in the Meeting of the Sub-Committees of the Board during July 01, 2016 - June 30, 2017

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	6	6
R. Gandhi	Invitee	6	4
S. S. Mundra	Invitee	6	4
N. S. Vishwanathan	Member	6	6
Viral V. Acharya	Invitee	3	2
B.P. Kanungo	Invitee	2	2
Nachiket M. Mor	Member	6	5
Sudhir Mankad	Member	6	5
Deepak Mohanty	Member	6	4
Deepak Singhal	Member	6	5
II. Building Sub-Committee (BSC)			
Sudhir Mankad	Chairman	1	1
Rajiv Kumar@	Chairman	1	1
Y. C. Deveshwar	Member	1	0
@ w.e.f. February 27, 2017			
III. Human Resource Management Sub-Committee (HRM-SC)			
Damodar Acharya@	Chairman	2	2
Natarajan Chandrasekaran*	Chairman	1	1
Manish Sabharwal#	Chairman	1	1
S. S. Mundra	Member	4	4
@Up to October 11, 2016 * w.e.f. October 24, 2016 till February 23, 2017 # w.e.f. February 27, 2017			
IV. Information Technology Sub-Committee (IT-SC)			
Natarajan Chandrasekaran	Chairman	NIL	NIL
Rajiv Kumar	Member	NIL	NIL

Table 4: Attendance in the Meeting of Standing Committee of the Central Board of Directors during July 01, 2016 - June 30, 2017

Name of the Member	No. of Meetings Held	No. of Meetings Attended
1	2	3
R. Gandhi	4	4
B.P. Kanungo	1	1
Damodar Acharya	3	3
Y.C. Deveshwar	2	0
Bharat N. Doshi	4	2
Dr. Rajiv Kumar	1	1

Table 5: Attendance in the Meetings of Local Boards during July 01, 2016 - June 30, 2017

Name of the Member	Appointed / Nominated under RBI Act, 1934	No. of Meetings held	No. of Meetings Attended
1	2	3	4
Nachiket Mor, EALB	Section 9(1)	1	1
Sunil Mitra, EALB	Section 9(1)	1	1
V.R. Bhanshali, WALB	Section 9(1)	1	1
Dliip S. Shanghvi, WALB	Section 9(1)	1	1

EALB: Eastern Area Local Board
WALB: Western Area Local Board

XI THE RESERVE BANK'S ACCOUNTS FOR 2016-17

The balance sheet size of the Reserve Bank increased marginally by 1.88 per cent for the year ended June 30, 2017. While income for the year 2016-17 decreased by 23.56 per cent, the expenditure increased by 107.84 per cent. The year ended with an overall surplus of ₹306.59 billion as against ₹658.76 billion in the previous year, representing a decline of 53.46 per cent.

XI.1 The balance sheet of the Reserve Bank reflects its role in the functioning of the country's economy largely in terms of 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 2016-17 (July – June) are set out in the following paragraphs.

XI.2 There was a marginal increase in the size of the Bank's balance sheet during 2016-17. The balance sheet increased by ₹610.83 billion, *i.e.*, 1.88 per cent from ₹32,430.11 billion as on June 30, 2016 to ₹33,040.94 billion as on June 30, 2017. The increase on the asset side was due to increase in foreign investments and domestic investments by 2.70 per cent and 7.45 per cent, respectively, and capital contribution to the subsidiaries of the Reserve Bank. On the liability side, the increase was mainly due to increase in Deposits by 76.96 per cent. Domestic assets constituted 24.32 per cent while the foreign

Table XI 1: Trends in Income, Expenditure and Net Disposable Income

(₹ billion)

Item	2012-13	2013-14	2014-15	2015-16	2016-17
1	2	3	4	5	6
a) Income	743.58	646.17	792.56	808.70	618.18
b) Transfers to CF and ADF (i+ii)	287.94	0.00	0.00	0.00	0.00
(i) Contingency Fund (CF)	262.47	0.00	0.00	0.00	0.00
(ii) Asset Development Fund (ADF)[1]	25.47	0.00	0.00	0.00	0.00
c) Net Income (a-b)	455.63	646.17	792.56	808.70	618.18
d) Total Expenditure	125.49	119.34	133.56[2]	149.90[3]	311.55[4]
e) Net Disposable Income (c-d)	330.14	526.83	659.00	658.80	306.63
f) Transfer to funds[5]	0.04	0.04	0.04	0.04	0.04
g) Surplus transferred to the Government (e-f)	330.10	526.79	658.96	658.76	306.59
Transfer of Surplus to Government as per cent of Gross Income less Total Expenditure	53.4	99.99	99.99	99.99	99.99

Note: 1. Since June 30, 2015, transfers to CF and ADF are not reduced from income. Instead provisions are made, if considered necessary, and then transferred to CF/ADF.
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 newly formed subsidiary ReBIT and a provision of ₹131.40 billion towards transfer to CF.
5. An amount of ₹10 million each has been transferred to the National Industrial Credit (Long Term Operations) Fund, the National Rural Credit (Long Term Operation Fund), the National Rural Credit (Stabilisation) Fund and the National Housing Credit (Long Term Operations) Fund during each of the five years.

currency assets and gold (including gold held in India) constituted 75.68 per cent of total assets as on June 30, 2017 as against 24.59 per cent and 75.41 per cent, respectively, as on June 30, 2016.

XI.3 Provisions of ₹131.40 billion and ₹0.50 billion were made and transferred to Contingency Fund (CF) and Asset Development Fund (ADF) respectively, and surplus of ₹306.59 billion was transferred to the central government. The trends in income, expenditure, net disposable income and the surplus transferred to the Government is given in Table XI.1.

XI.4 During the year (i) the depreciation policy on fixed assets, other than land and building, was changed from yearly to monthly pro-rata basis; (ii) Bank started keeping gold as deposits with other central banks and an additional item in this regard had been added in Schedule 6 – Gold Coin and Bullion forming part of balance sheet; and (iii) Repo borrowing and lending in foreign securities was started. These are reflected in Schedule 2 – Deposits and Schedule 9 – Loans and Advances, respectively.

XI. 5 The balance sheet and the income statement prepared for the year 2016-17 along with the schedules, statement of significant accounting policies and supporting notes to the accounts are furnished below:

RESERVE BANK OF INDIA
BALANCE SHEET AS ON JUNE 30, 2017

(Amount in ₹ billion)

Liabilities	Schedule	2015-16	2016-17	Assets	Schedule	2015-16	2016-17
Capital		0.05	0.05	**Assets of Banking Department (BD)**			
Reserve Fund		65.00	65.00	Notes, Rupee Coin, Small Coin	5	0.14	0.12
Other Reserves	1	2.24	2.26	Gold Coin and Bullion	6	662.23	627.02
Deposits	2	5,065.28	8,963.48	Investments-Foreign-BD	7	6,727.84	9,319.94
Other Liabilities and Provisions	3	10,220.38	8,946.84	Investments-Domestic-BD	8	7,022.85	7,557.50
				Bills Purchased and Discounted		0.00	0.00
				Loans and Advances	9	520.41	172.56
				Investment in Subsidiaries	10	23.20	33.70
				Other Assets	11	396.28	266.79
Liabilities of Issue Department				**Assets of Issue Department (ID)**			
Notes Issued	4	17,077.16	15,063.31	Gold Coin and Bullion (as backing for Note issue)	6	729.07	690.30
				Rupee coin		1.71	6.12
				Investment-Foreign-ID	7	16,335.92	14,366.89
				Investment-Domestic-ID	8	10.46	0.00
				Domestic Bills of Exchange and other Commercial Papers		0.00	0.00
Total Liabilities		**32,430.11**	**33,040.94**	**Total Assets**		**32,430.11**	**33,040.94**

RESERVE BANK OF INDIA
INCOME STATEMENT FOR THE YEAR ENDED JUNE 2017

(Amount in ₹ billion)

INCOME	Schedule	2015-16	2016-17
Interest	12	735.43	660.51
Others	13	73.27	-42.33
Total		**808.70**	**618.18**
EXPENDITURE			
Printing of Notes		34.21	79.65
Expense on Remittance of Currency		1.09	1.47
Agency Charges	14	47.56	40.52
Interest		0.01	0.01
Employee Cost		44.77	46.21
Postage and Telecommunication Charges		0.78	1.02
Printing and Stationery		0.33	0.36
Rent, Taxes, Insurance, Lighting, *etc.*		1.40	1.23
Repairs and Maintenance		1.01	1.02
Directors' and Local Board Members' Fees and Expenses		0.02	0.02
Auditors' Fees and Expenses		0.03	0.04
Law Charges		0.07	0.06
Miscellaneous Expenses		6.42	6.96
Depreciation		2.20	1.08
Provisions		10.00	131.90
Total		**149.90**	**311.55**
Available Balance		**658.80**	**306.63**
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
Surplus payable to the Central Government		**658.76**	**306.59**

1. *These funds are maintained by the National Bank for Agriculture and Rural Development (NABARD).*

S. Ramaswamy	B.P. Kanungo	Viral V. Acharya	N. S. Vishwanathan	Urjit R. Patel
Principal Chief General Manager	Deputy Governor	Deputy Governor	Deputy Governor	Governor

SCHEDULES FORMING PART OF BALANCE SHEET AND INCOME STATEMENT

(Amount in ₹ billion)

		2015-16	2016-17
Schedule 1:	**Other Reserves**		
	(i) National Industrial Credit (Long Term Operations) Fund	0.25	0.26
	(ii) National Housing Credit (Long Term Operations) Fund	1.99	2.00
	Total	**2.24**	**2.26**
Schedule 2:	**Deposits**		
	(a) Government		
	(i) Central Government	1.00	947.74
	(ii) State Governments	0.42	0.43
	Sub total	**1.42**	**948.17**
	(b) Banks		
	(i) Scheduled Commercial Banks	4,031.02	4,729.90
	(ii) Scheduled State Co-operative Banks	33.85	36.36
	(iii) Other Scheduled Co-operative Banks	75.97	84.08
	(iv) Non-Scheduled State Co-operative Banks	13.20	15.30
	(v) Other Banks	140.00	175.86
	Sub total	***4,294.04***	***5,041.50***
	(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	43.80	50.17
	(ii) Depositors' Education and Awareness Fund	105.85	146.97
	(iii) Balances of Foreign Central Banks	15.21	19.22
	(iv) Balances of Indian Financial Institutions	11.43	5.90
	(v) Balances of international Financial Institutions	3.20	3.05
	(vi) Mutual Fund	0.01	0.01
	(vii) Others	590.32	2,748.49
	Sub total	***769.82***	***2,973.81***
	Total	**5,065.28**	**8,963.48**
Schedule 3:	**Other Liabilities and Provisions**		
	(i) Contingency Fund (CF)	2,201.83	2,282.07
	(ii) Asset Development Fund (ADF)	227.61	228.11
	(iii) Currency and Gold Revaluation Account (CGRA)	6,374.78	5,299.45
	(iv) Investment Revaluation Account-Foreign Securities (IRA-FS)	132.66	0.00
	(v) Investment Revaluation Account-Rupee Securities (IRA-RS)	391.46	570.90
	(vi) Foreign Exchange Forward Contracts Valuation Account (FCVA)	0.00	0.00
	(vii) Provision for Forward Contracts Valuation Account (PFCVA)	14.69	29.63
	(viii) Provision for payables	32.33	39.17
	(ix) Gratuity and Superannuation Fund	157.66	172.06
	(x) Surplus Transferable to the Government of India	658.76	306.59
	(xi) Bills Payable	0.20	0.12
	(xii) Miscellaneous	28.40	18.74
	Total	**10,220.38**	**8,946.84**

		2015-16	2016-17
Schedule 4:	**Notes Issued**		
	(i) Notes held in the Banking Department	0.14	0.12
	(ii) Notes in circulation	17,077.02	15,063.19
	Total	**17,077.16**	**15,063.31**
Schedule 5:	**Notes, Rupee Coin, Small Coin (with RBI)**		
	(i) Notes	0.14	0.12
	(ii) Rupee coin	0.00	0.00
	(iii) Small coin	0.00	0.00
	Total	**0.14**	**0.12**
Schedule 6:	**Gold Coin and Bullion**		
	(a) Banking Department		
	(i) Gold coin and bullion	662.23	627.02
	(ii) Gold deposit	0.00	0.00
	Sub total	**662.23**	**627.02**
	(b) Issue Department (as backing for Note issue)	729.07	690.30
	Total	**1,391.30**	**1,317.32**
Schedule 7:	**Investments-Foreign**		
	(i) Investments – Foreign-BD	6,727.84	9,319.94
	(ii) Investments – Foreign-ID	16,335.92	14,366.89
	Total	**23,063.76**	**23,686.83**
Schedule 8:	**Investments-Domestic**		
	(i) Investments – Domestic-BD	7,022.85	7,557.50
	(ii) Investments – Domestic-ID	10.46	0.00
	Total	**7,033.31**	**7,557.50**
Schedule 9:	**Loans and Advances**		
	(a) Loans and Advances to :		
	(i) Central Government	0.00	25.50
	(ii) State Governments	19.86	24.18
	Sub total	**19.86**	**49.68**
	(b) Loans and Advances to:		
	(i) Scheduled Commercial Banks	450.92	80.25
	(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	49.63	42.63
	Sub total	***500.55***	***122.88***
	(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	**520.41**	**172.56**
Schedule 10:	**Investment in subsidiaries/Associates**		
	(i) Deposit Insurance and Credit Guarantee Corporation	0.50	0.50
	(ii) National Housing Bank	14.50	14.50
	(iii) National Bank for Agriculture and Rural Development	0.20	0.20
	(iv) Bharatiya Reserve Bank Note Mudran (P) Ltd.	8.00	18.00
	(v) Reserve Bank Information Technology (P) Ltd.	0.00	0.50
	Total	**23.20**	**33.70**

		2015-16	2016-17
Schedule 11:	**Other Assets**		
	(i) Fixed Assets (net of accumulated depreciation)	3.49	4.08
	(ii) Accrued income (a + b)	228.91	232.46
	a. on loans to employees	3.15	3.10
	b. on other items	225.76	229.36
	(iii) Swap Amortisation Account	154.97	18.48
	(iv) Revaluation of Forward Contracts Account	0.00	0.00
	(v) Miscellaneous	8.91	11.77
	Total	**396.28**	**266.79**
Schedule 12:	**Interest**		
	(a) Domestic Sources		
	(i) Interest on holding of Rupee Securities	430.79	542.17
	(ii) Net Interest on LAF Operations	5.06	-174.26
	(iii) Interest on MSF Operations	1.32	0.60
	(iv) Interest on Loans and Advances	3.98	6.89
	Sub total	**441.15**	**375.40**
	(b) Foreign Sources		
	(i) Interest Income from Foreign Securities	187.61	192.96
	(ii) Net Interest on Repo/Reverse Repo transaction	0.00	0.00
	(ii) Interest on Deposits	106.67	92.15
	Sub total	**294.28**	**285.11**
	Total	**735.43**	**660.51**
Schedule 13:	**Income Others**		
	(a) Domestic Sources		
	a. Exchange	0.00	0.00
	b. Discount	0.00	0.00
	c. Commission	15.31	18.41
	d. Rent Realised	0.05	0.06
	e. Profit/Loss on sale and redemption of Rupee Securities	21.68	4.62
	f. Amortisation of premium/discount of Rupee Securities	42.58	35.47
	g. Profit/loss on sale of Bank's property	0.02	0.03
	h. Provision no longer required and miscellaneous income	0.78	-1.67
	Sub total	**80.42**	**56.92**
	(b) Foreign Sources		
	a. Amortisation of premium/discount of Foreign Securities	-59.50	-52.92
	b. Profit/Loss on sale and redemption of Foreign Securities	13.99	4.83
	c. Exchange gain/loss from Foreign Exchange transactions	38.36	-51.16
	Sub total	**-7.15**	**-99.25**
	Total	**73.27**	**-42.33**
Schedule 14:	**Agency Charges**		
	(i) Agency Commission on Government Transactions	46.93	39.70
	(ii) Underwriting Commission paid to the Primary Dealers	0.35	0.53
	(iii) Sundries (Handling charges paid to banks for Relief/Savings Bonds subscriptions)	0.01	0.04
	(iv) Fees paid to the External Asset Managers, Custodians, *etc.*	0.27	0.25
	Total	**47.56**	**40.52**

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, 2017 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 and 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' judgment, 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 explanation from the Bank which was necessary for the purpose of our audit and such information and explanation have been given to our satisfaction.

We refer to para no. XI.6.2 of Notes to Accounts to the financial statements wherein the final accounting impact of Specified Bank Notes (SBNs) which have ceased to be Notes in Circulation shall be passed by the Bank on the outcome of possible events described in the said para and on completion of verification of SBNs received.

We also report that the financial statements include the accounts of eighteen accounting units of the Bank which have been audited by Statutory Branch Auditors and we have relied on their report in this regard.

For Borkar & Muzumdar
Chartered Accountants
(ICAI Firm Registration No. 101569W)

Devang Vaghani
Partner
Membership No. 109386

For Khandelwal Jain & Co
Chartered Accountants
(ICAI Firm Registration No. 105049W)

I. C. Jain
Partner
Membership No. 08791

Place: Mumbai
Date: August 10, 2017

STATEMENT OF SIGNIFICANT ACCOUNTING POLICIES FOR THE YEAR ENDED JUNE 30, 2017

(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 Finance 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 in 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 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, 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 daily average price quoted by 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 on revaluation 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 is 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 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 except those mentioned below in (d) are marked to market as on the last business day of each month with effect from 2015-16. The unrealised gains/losses on revaluation are 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, valuation gain/loss, in respect of securities sold/ redeemed, lying in IRA-RS, is transferred to Income Account. Rupee securities 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, 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 Marginal Standing Facility (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.

(b) Depreciation on computers, microprocessors, software (costing ₹0.10 million and above), motor vehicles, furniture, *etc.* is provided on straight-line basis at the following rates.

Asset Category	Rate of depreciation
Electrical installations, UPS, Motor vehicles, furniture, fixture, CVPS/SBS Machines, *etc.*	20 per cent
Computers, Servers, micro-processors, printers, Software, laptops, e-book reader/i-pad, *etc.*	33.33 per cent

(c) Fixed Assets, costing less than ₹0.10 million (except easily portable electronic assets) 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 at the applicable rate.

(d) Individual items of computer software costing ₹0.10 million and above are capitalised and depreciation is calculated at the applicable rates.

(e) 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 on monthly pro-rata basis including the month of addition/deletion of such assets.

(f) Depreciation on subsequent expenditure

i. Subsequent expenditure incurred on existing asset which has not been fully depreciated in the books of accounts, is depreciated over the remaining useful life of the principal asset;

ii. Subsequent expenditure incurred on modernisation/addition/overhauling of the existing 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.

(g) Land and building: The significant accounting policy in respect of depreciation on land and building was revised with effect from July 2015 as follows:

Land

i. Land acquired for lease periods of more than 99 years are treated as if they are on perpetual lease basis. Such leases are considered as freehold properties and accordingly not subjected to amortisation.

ii. Land acquired on short-term lease (*i.e.,* up to 99 years) is amortised over the period of the lease.

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. In the case of existing buildings, where only the Written Down Value (WDV) is available and original cost and accumulated depreciation are not available separately, it is assumed that such buildings have completed half of their useful life (*i.e.,* 15 years) and there is a residual life of 15 years. The WDV as on June 30, 2015 will be considered as cost of such existing buildings and will be amortised on a straight line basis over the residual life of the building.

iii. If the completed life of the building is known and if it was less than 30 years as on June 30, 2015, then the WDV of the building as on June 30, 2015 is being amortised over the remaining useful life of the building, *i.e.,* 30 years less number of years completed as on June 30, 2015.

(h) Impairment of buildings: For assessment of impairment, buildings are required to be classified into two categories, as under:

i. *Buildings which are in use but have been identified for demolition in future/ 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 required to be charged as depreciation.

ii. *Buildings which have been discarded/ vacated:* These buildings are to be shown at realisable value (net selling price – if the asset is likely to be sold in future)/scrap value less demolition cost (if it is to be demolished). If the amount is negative, then the carrying value of such buildings have to be shown at ₹1. The difference between the book value and realisable value (net selling price)/scrap value less demolition cost is required to be charged as depreciation. The asset is required to be shown under the head 'Other assets' – 'Miscellaneous'.

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 THE ACCOUNTS

XI.6 LIABILITIES AND ASSETS OF THE BANK

XI.6.1 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 and unrealised gain/loss on account of valuation of gold and foreign currency is 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 ₹0.26 billion as on June 30, 2017.

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 the year 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 ₹2.00 billion as on June 30, 2017.

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, Depositors' Education and Awareness (DEA) Fund and amount outstanding against Reverse Repo.

Total deposits increased by 76.96 per cent from ₹5,065.28 billion as on June 30, 2016, to ₹8,963.48 billion as on June 30, 2017.

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 21(A) 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 ₹947.74 billion and ₹0.43 billion, respectively, as on June 30, 2017, totalling ₹948.17 billion as compared to ₹1.00 billion and ₹0.42 billion respectively and totalling to ₹1.42 billion as on June 30, 2016. The increase in Central Government deposit is on account of outstanding Market Stabilisation Scheme (MSS).

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 ₹5,041.50 billion as on June 30, 2017 as compared to ₹4,294.04 billion as

on June 30, 2016. The increase in bank deposits may be attributed to withdrawal of Specified Bank Notes (SBN).

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 and amount outstanding under Reverse Repo. 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 ₹146.97 billion as on June 30, 2017. The amount under Deposits-Others increased by 286.30 per cent from ₹769.82 billion as on June 30, 2016 to ₹2,973.81 billion as on June 30, 2017 primarily due to increase in reverse repo deposits post withdrawal of Specified Bank Notes (SBN).

v) Other Liabilities and Provisions

The major components of 'Other Liabilities and Provisions' consist of Contingency Fund (CF), Asset Development Fund (ADF), Gratuity and Superannuation Funds, Balances in Revaluation Accounts *viz.*, Currency and Gold Revaluation Account (CGRA), Investment Revaluation Account-Foreign securities (IRA-FS), Investment Revaluation Account –Rupee Securities (IRA-RS), Foreign Exchange Forward Contracts Valuation Account (FCVA) and Provision for Forward Contract Valuation Account (PFCVA). While Contingency Fund (CF) and Asset Development Fund (ADF) represent provisions made for unforeseen contingencies, and internal capital expenditure and investment in subsidiaries, respectively, the remaining components of 'Other Liabilities and Provisions', such as, Currency and Gold revaluation account (CGRA), Investment Revaluation Account-Foreign Securities (IRA-FS), Investment Revaluation Account-Rupee Securities (IRA-RS), Foreign Exchange Forward Contracts Valuation Account (FCVA) and Provisions for Forward Contracts Valuation Accounts (PFCVA), represent unrealised MTM gains/losses. 'Other Liabilities and Provisions' decreased by 12.46 per cent from ₹10,220.38 billion as on June 30, 2016 to ₹8,946.84 billion as on June 30, 2017, primarily due to decrease in CGRA and IRA- FS.

a. *Contingency Fund (CF)*

Contingency Fund represents the amount set aside on a year-to-year basis 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, 2017, an amount of ₹131.40 billion was transferred to CF and an amount of ₹65.85 billion was charged to CF on account of (i) MTM loss of ₹29.63 billion on valuation of forward contracts and (ii) debit balance of ₹36.22 billion in the 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, 2017 was ₹2,282.07 billion as compared to ₹2,201.83 billion as on June 30, 2016.

b. *Asset Development Fund (ADF)*

The Asset Development Fund created in 1997-98, represents the amounts set aside each year to meet internal capital expenditure and make investments in subsidiaries and associated institutions. A provision of ₹0.50 billion was made for capital contribution in Reserve Bank Information Technology Pvt. Ltd. (ReBIT) and transferred to Asset Development Fund (ADF). The balance in ADF accordingly increased from ₹227.61 billion as on June 30, 2016 to ₹228.11 billion as on June 30, 2017 (Table XI.2).

c *Currency and Gold Revaluation Account (CGRA)*

Unrealised gains/losses on valuation of Foreign Currency Assets (FCA) and Gold are not taken to the Income Account, instead recorded in the Currency and Gold Revaluation Account (CGRA). CGRA represents accumulated net balance of unrealised gains arising out of valuation of FCA and Gold and, therefore, its balance varies with the size of the asset base, movement in the exchange rate and price of gold. During 2016-17, the balance in CGRA decreased by 16.87 per cent from ₹6,374.78 billion as on June 30, 2016 to ₹5,299.45 billion as on June 30, 2017 mainly due to appreciation of rupee against US dollar and fall in the international price of gold.

Table XI.2: Balances in Contingency Fund and Asset Development Fund

(₹ billion)

As on June 30	Balance in CF	Balance in ADF	Total	CF and ADF as per centage to total assets
1	2	3	4=(2+3)	5
2013	2216.52	207.61	2424.13	10.1
2014	2216.52	207.61	2424.13	9.2
2015	2216.14*	217.61	2433.75	8.4
2016	2201.83*	227.61	2429.44	7.5
2017	2282.07#	228.11	2510.18	7.6

* 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 net impact of transfer of ₹131.40 billion and charging of debit balance of IRA-FS and FCVA amounting to ₹65.85 billion.

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. The balance in IRA-FS decreased from credit balance of ₹132.66 billion to a debit balance of ₹36.22 billion as on June 30, 2017. As per the extant policy, the debit balance of ₹36.22 billion in IRA-FS was adjusted against the Contingency Fund on June 30, 2017 which is reversed on the first working day of the following year. Accordingly, the balance of IRA-FS as on June 30, 2017 was nil.

e. *Investment Revaluation Account–Rupee Securities (IRA-RS)*

From July 2015, the Rupee securities (with exception as mentioned under significant accounting policy) held as assets of Banking Department are marked to market on the last business day of the month and the unrealised gains/losses arising therefrom are booked in the Investment Revaluation Account–Rupee Securities (IRA-RS). The balance in IRA-RS as on June 30,

2017 was ₹570.90 billion as compared to ₹391.46 billion as on June 30, 2016.

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, 2017 resulted in a net loss of ₹29.63 billion, which was debited to the FCVA with contra credit to the PFCVA. As per the extant policy, the debit balance of ₹29.63 billion in FCVA was adjusted against the Contingency Fund on June 30, 2017 and reversed on the first working day of the following year. Accordingly, the balance in FCVA became nil and the balance in PFCVA as on June 30, 2017 was ₹29.63 billion, as against a balance of ₹14.69 billion on June 30, 2016.

The balances in CGRA, IRA-FS, FCVA, PFCVA and IRA-RS for the last five years are given in Table XI.3.

Table XI.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
2013	5,201.13	16.99	-	24.85	-
2014	5,721.63	42.98	0.00	37.91	-
2015	5,591.93	0.00	0.39	32.14	-
2016	6,374.78	0.00	14.69	132.66	391.46
2017	5,299.45	0.00	29.63	0.00	570.90

*: Started in 2013-14. #: Started in 2015-16

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 increased from ₹32.33 billion as on June 30, 2016 to ₹39.17 billion as on June 30, 2017 due to higher provisions on outstanding expenditure for printing of notes.

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 Fund 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 Reserve Bank of India Act, 1934, the Bank is not liable to pay income tax or super tax or any other tax on any of its income, profits or gains and is also exempt from payment of wealth tax. Accordingly, after adjusting the expenditure, transfer to ADF and CF and contribution of ₹0.04 billion to the statutory funds, the surplus transferable to the Government of India for the year 2016-17 amounted to ₹306.59 billion, (including ₹9.93 billion as against ₹10.35 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).

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 ₹0.20 billion as on June 30, 2016 to ₹0.12 billion as on June 30, 2017.

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, *etc.* The balance under this head decreased from ₹28.40 billion as on June 30, 2016 to ₹18.74 billion as on June 30, 2017.

XI.6.2 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 Reserve Bank of India Act, 1934 requires that all banknotes 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 decreased by 11.79 per cent from ₹17,077.16 billion as on June 30, 2016 to ₹15,063.31 billion as on June 30, 2017. The decrease is the net impact of withdrawal from circulation of the old ₹500 and ₹1000 notes issued till November 08, 2016 and subsequent remonetisation efforts made by the Reserve Bank.

(ii) The legal tender character of banknotes in the denominations of ₹500 and ₹1,000, referred to as Specified Bank Notes (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 made into an Act) 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 sub-section (1) of Section 26 of the Act with effect from December 31, 2016. However, grace periods were provided vide various Gazette notifications, to persons/entities specified in these notifications and subject to conditions specified therein to exchange SBNs.

Until June 30, 2017, SBNs were received by the Reserve Bank either directly or from bank branches/post offices through the currency chest mechanism. Some of these SBNs are still lying in the currency chests. The value of the SBNs received by the currency chests has been credited to the banks' account on "said to contain basis". Till such time these notes are processed by the Reserve Bank for their numerical accuracy and authenticity, only an estimation of SBNs received back is possible. Subject to future corrections based on verification process when completed, the estimated value of SBNs received as on June 30, 2017 is ₹15.28 trillion. Moreover, vide notification no G.S.R. 611 (E) dated June 20, 2017, Government of India allowed District Central Cooperative Banks (DCCBs) to deposit SBNs accepted by them from their customers within the period of 10th November to 14th November, 2016. Further, in terms of AP (DIR series) circular no. 45/2015-16

dated February 04, 2016, rules governing import and export of Indian currency notes to, *inter alia*, Nepal are different *vis-à-vis* other countries. As such, Reserve Bank is in discussion with Government of India with regard to the acceptance or otherwise of SBNs held by citizens/Financial Institutions in Nepal.

Therefore, the value of notes in circulation is subject to adjustments to be made after the completion of the verification process of the SBNs received as also for the notes to be received from DCCBs and Nepalese citizens/ Financial Institutions.

XI.7 ASSETS

XI.7.1 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, 2017 was ₹0.12 billion as against ₹0.14 billion as on June 30, 2016.

ii) Gold Coin and Bullion

Bank holds 557.77 metric tonnes of gold, of which 292.28 metric tonnes is held as backing for notes issued and shown separately as an asset of Issue Department. The balance 265.49 metric tonnes is treated as an asset of Banking Department. The value of gold held as asset of Banking Department decreased by 5.32 per cent from ₹662.23 billion as on June 30, 2016 to ₹627.02 billion as on June 30, 2017 primarily on account of decline in international gold prices and appreciation of INR *vis-à-vis* USD.

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 2016-17; consequently, there was no such asset in the books of the Reserve Bank as on June 30, 2017.

iv) Investments Foreign-Banking Department (BD)

The Foreign Currency Assets (FCA) of the Reserve Bank are reflected under two heads in the Balance Sheet: (a) 'Investments-Foreign-BD' shown as asset of Banking Department and (b) 'Investments-Foreign-ID' shown as asset of Issue Department.

Investments-Foreign-BD 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 (SDR) acquired from the Government of India (GoI).

Investments-Foreign-ID comprises Deposits, T-bills and dated securities.

The position of FCA for the last two years is given in Table XI.4.

v) Investments- Domestic-Banking Department (BD)

Investments comprise dated government rupee securities, treasury bills and special oil bonds. However, as on June 30, 2017, the Reserve Bank did not hold any domestic treasury bill. The Reserve Bank's holding of domestic securities increased by 7.61 per cent, from ₹7,022.85 billion as on June 30, 2016 to ₹7,557.50 billion as on June 30, 2017. The increase was on account of (a)

Table XI.4: Details of Foreign Currency Assets

(₹ billion)

	Particulars	As on June 30	
		2016	2017
	1		3
I	Investment Foreign –ID	16,335.92	14,366.89
II	Investment Foreign –BD*	6,727.84	9,319.94
	Total	**23,063.76**	**23,686.83**

* : includes Shares in BIS and SWIFT and SDRs transferred from GoI valued at ₹98.47 billion.

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 (₹399.80 billion/US$ 6.18 billion). As on June 30, 2017, investments amounting to SDR 0.57 billion (₹51.36 billion/US$ 0.76 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 (₹323.69 billion), in the bonds issued by India Infrastructure Finance Company (UK) Limited. As on June 30, 2017, the Reserve Bank has invested US$ 2.10 billion (₹135.95 billion) in such bonds.
3. In terms of the Note Purchase Agreement 2012 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 (₹647.38 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, 2017, SDR1.06 billion (₹95.80 billion; US $1.48 billion) were held by the Bank.
5. With a view to strengthening regional financial and economic cooperation, the Reserve Bank of India has agreed to offer an amount of US$ 2 billion both in foreign currency and Indian rupee under the SAARC Swap Arrangement to SAARC member countries. As on June 30, 2017, there are no outstanding swaps with any of the SAARC countries.

liquidity management operations conducted by way of net Open Market Operation (OMO) purchases of government securities amounting to ₹299.70 billion (face value) and (b) valuation gains on account of lower level of G-sec yields on June 30, 2017 compared to last year.

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 outstanding as on June 30, 2017 was ₹25.50 billion. No loans and advances to the Central Government were outstanding as on June 30, 2016. Loans and advances to the State Governments as on June 30, 2017 stood at ₹24.18 billion as compared with ₹19.86 billion as on June 30, 2016.

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 decreased by 82.20 per cent from ₹450.92 billion as on June 30, 2016 to ₹80.25 billion as on June 30, 2017 primarily due to reduction 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 were outstanding as on June 30, 2017.
- *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 decreased by 14.10 per cent from ₹49.63 billion as on June 30, 2016 to ₹42.63 billion as on June 30, 2017 primarily due to decrease in amount outstanding against repo to PDs.

vii) Investment in Subsidiaries/Associates

During the year, a new subsidiary of the Reserve Bank *viz.* Reserve Bank Information Technology Pvt. Ltd. (ReBIT) was set up to take care of the Information Technology (IT) requirements including cyber security needs of the Bank as also the other entities regulated by it.

The details of investment in subsidiaries/associate institutions as on June 30, 2017 are given in table XI.5. The total holding increased from ₹23.20 billion as on June 30, 2016 to ₹33.70 billion on account of additional capital contribution of ₹10 billion to Bharatiya Reserve Bank Note Mudran Pvt. Ltd. (BRBNMPL) and capital contribution of ₹0.50 billion to ReBIT.

Table XI.5: Holdings in Subsidiaries/Associates

(Amount in ₹ 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 Pvt. Ltd. (ReBIT)	0.50	100
Total	**33.70**	

viii) Other Assets

'Other Assets' comprise fixed assets (net of depreciation), accrued income on domestic and foreign investments, accrued income on loans and advances to the employees, 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 *etc.* The amount outstanding under 'Other Assets' decreased by 32.68 per cent from ₹396.28 billion as on June 30, 2016 to ₹266.79 billion as on June 30, 2017 primarily on account of decrease in swap amortisation.

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 declined by 88.08 per cent from ₹154.97 billion as on June 30, 2016 to ₹18.48 billion as on June 30, 2017 due

to maturities of such contracts during 2016-17.

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 no balance in RFCA as on June 30, 2017 as there was marked to market loss on forward contracts.

XI.7.2 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, Investment – Foreign ID, Government of India rupee securities and domestic bills of exchange. The Reserve Bank holds 557.77 metric tonnes of gold, of which 292.28 metric tonnes are held as backing for notes issued (Table XI.6). The value of gold held as backing for notes issued decreased by 5.32 per cent from ₹729.07 billion as on June 30, 2016 to ₹690.30 billion as on June 30, 2017, on account of decline in international gold prices and appreciation of INR *vis-à-vis* USD. Consequent upon the decrease in notes issued, Investment-Foreign-ID held as backing for notes issued decreased by 12.05 per cent from ₹16,335.92 billion as on June 30, 2016 to ₹14,366.89 billion as on June 30, 2017. The balance of Rupee coins held by the Issue Department increased by 257.89 per cent from ₹1.71 billion as on June 30, 2016 to ₹6.12 billion as on June 30, 2017. The non-interest bearing rupee securities held as assets of Issue Department and valued at ₹10.46 billion have redeemed during the year and thus the balance as on June 30, 2017 is nil.

Table XI.6: Physical Holding of Gold

	As on June 30, 2016	As on June 30, 2017
	Volume in metric tonnes	Volume in metric tonnes
1	2	3
Gold held for backing note issue (held in India)	292.28	292.28
Gold held as asset of Banking Department (held abroad)	265.49	265.49
Total	**557.77**	**557.77**

FOREIGN EXCHANGE RESERVE

XI.8 The Foreign Exchange Reserves (FER) predominantly comprise FCA, beside Gold, Special Drawing Rights (SDRs) and Reserve Tranche Position (RTP). The Special Drawing Rights, (other than the amount acquired from GoI

Table XI.7(a): Foreign Exchange Reserves in Rupee

(₹ billion)

	As on June 30		Variation	
	2016	2017	Absolute	Per Cent
1	2	3	4	5
Foreign Currency Assets (FCA)	22,787.43^	23,455.08#	667.65	2.93
Gold	1,391.30@	1,317.32*	(-) 73.98	(-) 5.32
Special Drawing Rights (SDR)	100.58	95.80	(-) 4.78	(-) 4.75
Reserve Position in the IMF	162.27	150.30	(-) 11.97	(-) 7.38
Foreign Exchange Reserves (FER)	24,441.58	25,018.50	576.92	2.36

^ : Excludes (a) SDR Holdings of the Reserve Bank amounting to ₹100.58 billion, which is included under the SDR holdings, (b) Investment of ₹141.99 billion in bonds issued by IIFC (UK), (c) ₹27.04 billion lent to Sri Lanka and ₹6.72 billion lent to Bhutan under a Currency Swap arrangement made available for SAARC countries.

: Excludes (a) SDR Holdings of the Reserve Bank amounting to ₹95.80 billion, which is included under the SDR holdings, (b) Investment of ₹135.95 billion in bonds issued by IIFC (UK).

@ : Of this, Gold valued at ₹729.07 billion is held as an asset of Issue Department and Gold valued at ₹662.23 billion is held under asset of Banking Department.

* : 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.

Table XI.7(b): Foreign Exchange Reserves in USD

(US$ billion)

	As on June 30		Variation	
	2016	2017	Absolute	Per Cent
1	2	3	4	5
Foreign Currency Assets (FCA)	339.04*	362.39**	23.35	6.89
Gold	20.58	20.35	(-) 0.23	(-) 1.12
Special Drawing Rights (SDR)	1.49	1.48	(-) 0.01	(-) 0.67
Reserve Position in the IMF	2.40	2.32	(-) 0.08	(-) 3.33
Foreign Exchange Reserves (FER)	363.51	386.54	23.03	6.34

* : Excludes (a) SDR Holdings of the Reserve Bank amounting to US$ 1.49 billion, which is included under the SDR holdings, (b) US$ 2.1 billion invested in bonds of IIFC (UK), and (c) LKR equivalent of US$ 0.4 million lent to Sri Lanka & BTN equivalent to US$ 0.1 billion equivalent of INR currency lent to Bhutan under a Currency Swap arrangement made available for SAARC countries.

** : Excludes (a) SDR Holdings of the Reserve Bank amounting to US$ 1.48 billion, which is included under the SDR holdings, (b) US$ 2.1 billion invested in bonds of IIFC (UK).

and included under Foreign Investment–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 foreign exchange reserves as on June 30, 2016 and June 30, 2017 in Indian rupees and the US dollar, which is the numeraire currency for our foreign exchange reserves, are furnished in Tables XI.7 (a) and (b).

ANALYSIS OF INCOME AND EXPENDITURE

INCOME

XI.9 The main components of Reserve Bank's income are Interest Receipts and 'Others' including (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) Rent Realised, (vii) Profit or loss on sale of Bank's property, and (viii) Provisions no longer required and miscellaneous income. Interest receipts forms the major portion. Certain items of income such as interest on LAF repo, Repo in foreign security, exchange gain are reported on net basis.

Till 2015-16, the items in (iv) and (v) were grouped under the head 'Interest'. However, from the year 2016-17, re-grouping of income items has been done and accordingly, the income in nature of 'interest' has been included under the head 'Interest 'and other income types have been grouped under 'Others'. The change can be seen in the Income Statement and the related schedules.

Earnings from Foreign Sources

XI.10 The income from foreign sources, decreased by 35.27 per cent from ₹287.13 billion in 2015-16 to ₹185.86 billion in 2016-17 mainly on account of the appreciation of the rupee and reduced premium income on the swaps that are in the nature of repo. Therefore, the rate of earnings on foreign currency assets was lower at 0.80 per cent in 2016-17 as compared with 1.29 per cent in 2015-16 (Table XI. 8).

Earnings from Domestic Sources

XI.11 The net income from domestic sources decreased by 17.11 per cent from ₹521.57 billion in 2015-16 to ₹432.32 billion in 2016-17 mainly due to higher net expenditure on interest under LAF on account of absorption of surplus liquidity in the banking system post withdrawal of Specified Bank Notes (SBNs) (Table XI. 9).

XI.12 *Interest on holding of rupee securities* increased by 25.85 per cent from ₹430.79 billion in 2015-16 to ₹542.17 billion in 2016-17. The coupon income increased on account of increase in the

Table XI.8: Earnings from Foreign Sources

(₹ billion)

Item	As on June 30		Variation	
	2016	2017	Absolute	Per Cent
1	2	3	4	5
Foreign Currency Assets (FCA)	23,063.76	23,686.83	623.07	2.70
Average FCA	22,229.65	23,110.09	880.44	3.96
Earnings from FCA (interest, discount, exchange gain/loss, capital gain/loss on securities)	287.13	185.86	(-) 101.27	(-) 35.27
Earnings from FCA as per cent of average FCA	1.29	0.80	(-) 0.49	(-) 37.98

Reserve Bank's holding of Government securities as a result of OMO purchases of around ₹1.10 trillion between April 2016 and June 2017.

XI.13 *The net interest income from Liquidity Adjustment Facility (LAF)/Marginal Standing Facility (MSF)* operations decreased by ₹180.04 billion from ₹6.38 billion in 2015-16 to ₹(-)173.66 billion in 2016-17. The decrease in net interest income on LAF/MSF operations was on account of higher expenditure on interest payment under reverse repo in 2016-17 due to absorption of surplus liquidity in the banking system post withdrawal of Specified Bank Notes (SBNs).

XI.14 Profit on sale of securities decreased to ₹4.62 billion in 2016-17 from ₹21.68 billion in 2015-16.

Table XI 9: Earnings from Domestic Sources

(₹ billion)

Item	2015-16	2016-17	Variation	
			Absolute	Per cent
1	2	3	4	5
Earnings (I + II+III)	**521.57**	**432.32**	**-89.25**	**-17.11**
I. Earnings from domestic securities				
i) Interest on holding of domestic securities	430.79	542.17	111.38	25.85
ii) Profit on Sale and redemption of Securities	21.68	4.62	-17.06	-78.69
iii) Premium/discount on amortisation of domestic securities	42.58	35.47	-7.11	-16.70
iv) Net Interest on LAF Operations	5.06	-174.26	-179.32	-3543.87
v) Interest on MSF operations	1.32	0.60	-0.72	-54.55
Sub total (i+ii+iii+iv+v)	***501.43***	***408.60***	***-92.83***	***-18.51***
II. Interest on Loans and Advances				
i) Government (Central & States)	1.99	5.37	3.38	169.85
ii) Banks & Financial Institutions	1.58	1.06	-0.52	-32.91
iii) Employees	0.41	0.46	0.05	12.20
Sub total (i+ii+iii)	***3.98***	***6.89***	***2.91***	***73.12***
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	15.31	18.41	3.10	20.25
iv) Rent realised, Profit or Loss on sale of Bank's Property, Provisions no longer required and miscellaneous	0.85	-1.58	-2.43	-285.88
Sub total (i+ii+iii+iv)	***16.16***	***16.83***	***0.67***	***4.15***

XI.15 *Premium/Discount on amortisation of domestic securities*: As per the extant accounting policy, the rupee securities held by the Bank are amortised on daily basis during the period of residual maturity and the premium/discount is credited to 'Amortisation of Premium/Discount on Rupee Securities' account. The income booked under 'Amortisation of Premium/Discount on Amortisation of Rupee Securities' was ₹35.47 billion for 2016-17 as compared to ₹42.58 billion during 2015-16.

XI.16 *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 169.85 per cent from ₹1.99 billion during 2015-16 to ₹5.37 billion in 2016-17.

Interest income received from the Centre on account of WMA/OD increased from ₹0.81 billion during 2015-16 to ₹3.98 billion in 2016-17. The increased earnings was on account of increased WMA/OD facility availed by GoI in 2016-17 due to the stress in its cash balance.

Interest income received from the States on account of WMA/OD/Special Drawing Facility (SDF) increased from ₹1.18 billion during 2015-16 to ₹1.39 billion in 2016-17. The increased earnings were on account of higher utilisation of these facilities.

b. *Banks & Financial institutions:*

Interest on loans and advances to banks and financial institutions decreased from ₹1.58 billion in 2015-16 to ₹1.06 billion in 2016-17.

c. *Employees:*

Interest on loans and advances to employees increased marginally from ₹0.41 billion in 2015-16 to ₹0.46 billion in 2016-17.

XI.17 *Commission:* The commission income increased from ₹15.31 billion in 2015-16 to ₹18.41 billion in 2016-17 primarily on account of (i) increase in floatation charges due to increased market borrowing of states including UDAY issuances during 2016-17, and (ii) increase in management commission received for outstanding amount on central and state government loans; which includes savings bonds, G-secs and T-bills (including increased MSS issuances after withdrawal of SBNs).

XI.18 *Rent realised, Profit or Loss on sale of Bank's Property, Provisions no longer required and miscellaneous income*: Earnings form these income heads declined from ₹0.85 billion in 2015-16 to ₹(-)1.58 billion in 2016-17.

EXPENDITURE

XI.19 The Reserve Bank incurs expenditure in the course of performing its statutory functions by way of agency charges/commission, printing of notes, expenses on remittance of treasure besides staff related and other expenses. The total expenditure of the Reserve Bank increased by 107.84 per cent from ₹149.90 billion in 2015-16 to ₹311.55 billion in 2016-17 primarily due to increase in expenditure on printing of new notes as a part of remonetisation of currency and provisions.

i) Interest

During 2016-17, 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.

Table XI.10: Expenditure

(₹ in billion)

Item	2012-13	2013-14	2014-15	2015-16	2016-17
1	2	3	4	5	6
i. Interest Payment	0.03	0.04	0.01	0.01	0.01
ii. Employees Cost	58.59	43.24	40.58	44.77	46.21
iii. Agency charges/ commission	28.07	33.25	30.45	47.56	40.52
iv. Printing of notes	28.72	32.14	37.62	34.21	79.65
v. Provisions	0.00	0.00	10.00	10.00	131.90
vi. Others	10.08	10.67	14.90	13.35	13.26
Total (i+ii+iii+iv+v+vi)	**125.49**	**119.34**	**133.56**	**149.90**	**311.55**

ii) Employee cost

The employee cost increased by 3.22 per cent from ₹44.77 billion in 2015-16 to ₹46.21 billion in 2016-17. The increase is mainly on account of wage revision and revision in Gratuity limits.

iii) Agency Charges

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 transactions. The Reserve Bank pays commission to these agency banks at prescribed rates which were last revised with effect from July 01, 2012. The agency charges on account of government business for 2016-17 was ₹39.70 billion as compared with ₹46.93 billion for the year 2015-16, reflecting a decrease of 15.40 per cent. The agency charges in 2015-16 were higher on account of the cumulative provision made in 2015-16 for an amount of ₹10.64 billion for reimbursing service tax on agency commission paid to banks for 2012-13, 2013-14 and 2014-15.

b. *Underwriting Commission paid to Primary Dealers*

Reserve Bank paid total underwriting commission of ₹0.53 billion during 2016-17 as compared to ₹0.35 billion during 2015-16. The increase was mainly on account of persistent phase of market volatility picking up post demonetisation from mid November 2016 and becoming more marked from February to April 2017 as a reaction to the shift in monetary policy stance.

c. *Fees paid to the External Asset Managers, custodians etc.*

Fees paid for overseas custodial services during 2016-17 amounted to ₹0.25 billion as compared to ₹0.27 billion in 2015-16.

iv) Printing of notes

Expenditure incurred on printing of notes during 2016-17 was ₹79.65 billion as compared to ₹34.21 billion in 2015-16.

The increase was mainly on account of following reasons:

a. Supply of notes during the year at 29,043 million pieces was 37 per cent higher than the total supply during previous year (21,195 million pieces). Supply of higher denomination notes during 2016-17 was 13,702 million pieces as against 5,268 million pieces supplied in 2015-16, higher by 160 per cent.

b. In the wake of withdrawal of SBNs, there was an increase in the number of remittances in our remonetisation efforts

resulting in higher freight and forwarding expenses. For urgent supply of notes across the country, notes were also remitted by air resulting in increased expense on freight charges.

c. Reimbursement of cost for finished banknotes, work in progress, raw materials, *etc.* as the printing presses had to discontinue printing of ₹500 and ₹1000 denomination banknotes which were withdrawn in November 2016.

v) Others

Other expenses consisting of expenditure on remittance of treasure, printing and stationery, audit fees and related expenses, depreciation, miscellaneous expenses, *etc.* decreased marginally by 0.67 per cent from ₹13.35 billion in 2015-16 to ₹13.26 billion in 2016-17. This is primarily because of fall in depreciation expense due to introduction of monthly pro-rata depreciation from 2016-17.

vi) Provisions

In 2016-17, a provision of ₹0.50 billion was made for capital contribution in Reserve Bank Information Technology Pvt. Ltd. (ReBIT) and transferred to Asset Development Fund (ADF) and a provision of ₹131.40 billion was made for transfer to Contingency Fund (CF).

CONTINGENT LIABILITIES

XI.20 The total contingent liabilities of the Bank amounted to ₹1,107.05 billion, the main components of which are (a) ₹1,105.79 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, 2017 was ₹1.08 billion as compared to ₹1.14 billion in the previous year. The balances are callable at three months' notice by a decision of the BIS Board of Directors.

PRIOR PERIOD TRANSACTIONS

XI.21 For the purpose of disclosure, prior period transactions of ₹0.10 million and above only have been considered. The prior period transactions under expenditure and income amounted to ₹0.42 billion and ₹0.03 billion respectively.

PREVIOUS YEAR'S FIGURES

XI.22 Figures for the previous year have been rearranged, wherever necessary, to make them comparable with the current year.

AUDITORS

XI.23 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 2016-17 were audited by M/s Borkar & Muzumdar, Mumbai and M/s Khandelwal Jain & Co., as the Statutory Central Auditors and M/s M C Bhandari & Co., M/s Brahmayya & Co. and M/s Mehra Goel & Co. as Statutory Branch Auditors.

ANNEX

CHRONOLOGY OF MAJOR POLICY ANNOUNCEMENTS: JULY 2016 TO JUNE 2017*

Date of Announcement	Policy Initiative
Monetary Policy Department	
August 5, 2016	Inflation target was notified for the period from August 5, 2016 to March 31, 2021.
September 29	The constitution of the Monetary Policy Committee was notified.
October 4	The policy repo rate was reduced by 25 bps to 6.25 per cent.
November 26	An incremental CRR (ICRR) of 100 per cent on the increase in NDTL between September 16, 2016 and November 11, 2016 was introduced from the fortnight beginning November 26, 2016.
December 7	The ICRR was withdrawn from the fortnight beginning December 10, 2016.
February 8, 2017	The stance of monetary policy was changed from accommodative to neutral while the policy rate was kept on hold.
April 6	The LAF corridor was narrowed from 100 bps to 50 bps. Accordingly, the reverse repo rate was changed from 5.75 per cent to 6.0 per cent, and the marginal standing facility (MSF) rate from 6.75 per cent to 6.50 per cent.
June 7	The SLR was reduced from 20.5 per cent of NDTL to 20.0 per cent of NDTL from the fortnight beginning June 24, 2017.
Financial Inclusion and Development Department	
July 28, 2016	The limit of bank loans of less than 24 months to MFIs for on-lending under the priority sector lending was raised to ₹30,000 from ₹15,000.
August 4	Banks were advised that the Government approved the implementation of the interest subvention scheme for 2016-17 for short term crop loans up to ₹3 lakh.
August 11	Factoring transactions ‘with recourse’ basis including through TReDS upon its operationalisation were classified as part of the priority sector lending.
August 25	Banks were communicated to implement the revised guidelines on interest subvention scheme under the Deendayal Antyodaya Yojana -National Rural Livelihoods Mission for 2016-17.
	Banks were advised to instruct their branches to feed the relevant data including land and crop details of all loanee and non-loanee farmers, availing crop insurance through their branches in the unified portal for crop insurance.
	Banks were advised about the revised reporting format for furnishing details on Financial Literacy Centres.
September 1	Banks were advised that the applicable system-wide average figure of lending to non-corporate farmers for computing achievement under the priority sector lending for 2016-17 would be 11.70 per cent.
September 29	Banks were advised about the government strategy, as announced in the Union Budget 2016-17, to achieve the goal of doubling the income of farmers by 2022.
	Instructions on submission of data on credit assistance provided to the members of minority communities were issued to banks.
October 6	Banks were advised about the modified quarterly/annual reporting formats for reporting priority sector lending.
October 13	Banks were issued the modified instructions on asset/accident/health insurance under the revised KCC scheme.
December 26	Banks were advised about the decision of the Government to provide an additional grace period of 60 days, for prompt repayment incentive of 3 per cent, to those farmers whose crop loan dues were falling due during November-December, 2016.

*: Indicative in nature and details available on the Reserve Bank’s website.

Date of Announcement	Policy Initiative
December 29	Banks were advised to use the facility of providing 'additional working capital limit' (approved by their Boards) to their MSE borrowers up to March 31, 2017, in view of the withdrawal of legal tender status of Specified Bank Notes (SBNs).
February 16, 2017	Lead bank responsibility in respect of 21 new districts created in Telangana was assigned to various banks.
March 2	The policy on conduct of camps by FLCs and rural branches of banks was revised with a focus on going digital.
March 9	Lead bank responsibility in respect of seven new districts created in Manipur was assigned to various banks.
March 30	Following the merger of associate banks with the State Bank of India (SBI), effective April 1, 2017, SLBC convenorship of Telangana was assigned to SBI. Lead bank responsibility of districts was also assigned to SBI.
April 13	Banks were advised to observe June 5-9, 2017 as financial literacy week with focus on four broad themes, *viz.* KYC, Exercising Credit Discipline, Grievance Redressal and Going Digital (UPI and *99#).
April 27	Lead bank responsibility of a new district created in Haryana was assigned to Punjab National Bank.
May 25	Lead Bank responsibility of the three newly created districts in Arunachal Pradesh was assigned to SBI.
	Interest subvention scheme on short term crop loans upto ₹3 lakh extended on the interim basis for 2017-18.
June 8	Banks were advised to align the roadmap for unbanked villages having population more than 5000 with the revised guidelines on Branch Authorisation Policy issued by Department of Banking Regulation, Reserve Bank.
June 15	Lead Bank responsibility of one new district created in West Bengal was assigned to SBI.
Financial Markets Regulation Department	
July 28, 2016	Demat account holders of NSDL and CDSL were allowed to trade in G-sec on the NDS-OM platform through their respective depository participant banks which should be SGL Account Holders and direct members of NDS-OM and CCIL.
August 25	Brokers registered with SEBI and authorised as market makers in corporate bond were allowed to undertake repo/reverse repo in corporate debt securities.
	Eligibility conditions and other terms of participation in market repo in G-sec were relaxed.
	Towards greater predictability, auction results would be published by the Reserve Bank at 1.30 pm for T-bills and 2 pm for G-sec. Otherwise, they would be announced at half hourly intervals thereafter.
September 30	The limits for investment by FPIs in central G-sec for the next half year were proposed to be increased in two tranches, each of ₹100 billion from October 3, 2016 and January 2, 2017 respectively. The limits for SDLs would also be increased in two tranches, each of ₹35 billion, over the same period.
October 20	FPIs would be allowed to trade G-sec in the secondary market through the primary members of NDS-OM including the web-module, effective December 1, 2016.
October 28	Money market futures based on any money market instrument/interest rate, over and above 91-day T-Bill futures which have already been allowed, were permitted.
November 17	The investment basket of eligible instruments by FPIs under the corporate bond route was expanded to include (i) unlisted corporate debt securities in the form of non-convertible debentures/bonds and (ii) certain specified securitised debt instruments.
December 27	FPIs were allowed to transact non-convertible debentures/bonds issued by Indian companies either directly or in any manner as per the approved market practice.
December 29	Interest rate options would be introduced, effective January 31, 2017.
February 2, 2017	NRIs were allowed access to the exchange traded currency derivatives market to hedge the currency risk arising out of their investments in India.

Date of Announcement	Policy Initiative
February 16	Banks were advised to stop sending the hardcopy of the fortnightly return on FRA/IRS to the Reserve Bank. The existing procedure for reporting OTC foreign exchange and interest rate derivative transactions to the trade repository of CCIL would continue.
March 31	The limits for investment by FPIs for Q1 2017-18 were proposed to be increased by ₹110 billion and ₹60 billion, respectively for central G-sec and SDLs.
June 1	The LEI system for all participants in the OTC markets for rupee interest rate derivatives, foreign currency derivatives and credit derivatives in India was decided to be implemented in a phased manner. Accordingly, all current and future participants would be required to obtain the unique LEI code as per the indicated respective timelines.
Financial Markets Operations Department	
November 10, 2016	The valuation of collateral under LAF was changed from face value to market value, based on FIMMDA prices, effective November 26, 2016.
	Re-repoing of securities received under reverse repo was introduced, effective November 26, 2016.
November 25	Oil bonds issued by the government were made eligible securities for repo, reverse repo and MSF, effective November 28, 2016.
	The margin requirement for the securities provided by RBI in reverse repo was withdrawn effective November 28, 2016.
April 12, 2017	Security substitution was introduced effective April 17, 2017, for securities placed as collateral under LAF.
Foreign Exchange Department	
July 7, 2016	AD Banks were allowed to discontinue submission of invocation of bank guarantee for service imports, but were advised to maintain records.
October 06	Category-I banks were advised that IDPMS would go live effective October 10, 2016 and they should use IDPMS for reporting and monitoring of import transactions.
October 20	Three FEMA notifications : 14, 16 and 17 relating to the manner of receipts and payments were combined and a revised notification : 14 R was issued.
	Designated AD category-I banks were delegated powers for extension of matured but unpaid ECB and for conversion of such ECB into equity.
	Payments permitted for trade transactions under the rupee drawing arrangements should not exceed ₹1.5 million per transaction.
	100 per cent FDI was permitted under the automatic route in other financial services regulated by any financial sector regulator, effective September 9, 2016.
	Any Foreign Venture Capital Investor (FVCI) which obtained registration under the SEBI (FVCI) Regulations, 2000, would not require approval from the Reserve Bank; and was allowed to invest in any Indian start-ups.
	'Total foreign investment' in an Indian company was to be calculated as sum total of direct and indirect foreign investments, effective February 15, 2016.
	100 per cent foreign investment was permitted in limited liability partnership (LLP) for sectors where 100 per cent FDI was allowed, and foreign investment in specified plantation sectors was put under automatic route.
	Rent income on lease of a property, not amounting to transfer, would not be considered as 'real estate business' for foreign investment purpose.
	Precise definition of manufacturing for purpose of foreign investment was notified.
	Entities engaged in single brand retail trading through brick and mortar stores were permitted to undertake retail trading through e-commerce.

Date of Announcement	Policy Initiative
October 24	A wholly owned subsidiary, set up in India by a non-resident entity, operating in a sector where 100 per cent foreign investment was allowed under the automatic route and there were no FDI linked conditionalities, might issue FDI compliant instruments to the said non-resident entity against pre-incorporation/pre-operative expenses incurred by the said non-resident entity up to a limit of five per cent of its capital or US$ 500,000 whichever was less.
October 27	Asset Reconstruction Companies were allowed to receive foreign investment up to 100 per cent under automatic route. The total shareholding of a single FII/FPI should be below 10 per cent of the total paid-up capital. FIIs/FPIs could invest up to 100 per cent in the security receipts issued by ARCs.
	Startups were allowed to raise ECBs up to US$ 3 million or equivalent per financial year either in INR or in any convertible foreign currency or a combination of both.
November 3	Indian banks were permitted to issue within the limit set for foreign investment in corporate bonds: (i) perpetual debt instruments qualifying as Additional Tier 1 capital and debt capital instruments qualifying as Tier 2 capital, by way of rupee denominated bonds overseas; and (ii) long term rupee-denominated bonds overseas for financing infrastructure and affordable housing.
November 4	49 per cent foreign investment was permitted under automatic route in pension funds.
November 7	Wherever hedging was mandated by the Reserve Bank, ECB borrower was to cover principal as well as coupon through financial hedges for minimum tenor of one year. Natural hedge, in lieu of financial hedge, was to be considered only to the extent of offsetting projected cash flows/revenues in matching currency, net of all other projected outflows. Any other arrangements/structures, where revenues were indexed to foreign currency, would not be considered as natural hedge.
November 9	Older series banknotes in the denominations of ₹500 and ₹1000 were allowed to be exchanged to the extent of ₹5000 until November 11, 2016 at international airports for arriving and departing passengers and for foreign tourists.
November 11	Authorised persons were allowed to issue pre-paid instruments to foreign tourists in exchange of foreign exchange tendered in terms of the instructions issued by the Reserve Bank.
November 17	Foreign Exchange Management (Insurance) Regulations, 2015 were rationalised and the memorandum on general/ health insurance and life insurance in India was modified.
November 25	Foreign tourists were permitted to exchange foreign exchange for Indian currency notes up to a limit of ₹5000 per week till December 15, 2016.
December 07	Foreign investment limits in sectors such as agriculture and animal husbandry, manufacturing and cable networks were amended.
January 10, 2017	Residents outside India (except from Pakistan or Bangladesh) were allowed to purchase convertible notes issued by an Indian startup for an amount of ₹2.5 million or more in a single tranche.
	49 per cent foreign investment was permitted under automatic route in infrastructure companies in securities markets, *viz*., stock exchanges, commodity derivative exchanges, depositories and clearing corporations.
January 12	The practice of submission of hardcopy of evidence of import documents was discontinued from December 1, 2016.
January 25	Indian entities were prohibited from direct investment in an overseas entity (joint venture/wholly owned subsidiary/step down subsidiary) located in countries identified by the Financial Action Task Force as "non-co-operative countries and territories".
February 2	Regional Offices were delegated powers to compound contravention/s regarding delay in filing the Annual Return on Foreign Liabilities and Assets by all Indian companies which had received foreign direct investment in the previous year(s) including the current year.
February 16	Multilateral and regional financial institutions, where India is a member country, were permitted to invest in Rupee denominated bonds.
February 22	The standard operating practice for movement of cash (foreign exchange), amongst authorised dealers, full-fledged money changers, their offices/branches, their customers and their franchisees during elections, was announced.

Date of Announcement	Policy Initiative
March 3	Foreign investment was permitted under automatic route either through capital contribution or by acquisition/transfer of profit shares in the capital structure of an LLP operating in sectors/activities where 100 per cent FDI was allowed through automatic route and there were no FDI-linked performance conditions.
March 9	100 per cent foreign investment was permitted under automatic route in B2B e-commerce activities and market place model of e-commerce.
March 30	Limits operating prior to November 8, 2016 for purchase of foreign exchange from foreign citizens, were restored.
May 15	Reporting mechanism was introduced for issuance and transfer of convertible notes (CNs) by start ups to a person resident outside India.
May 19	Prior permission of the Reserve Bank was not required for closure of vostro accounts and remitting back funds (in foreign currency), if any, under the rupee drawing arrangement.
June 7	The framework for issuance of masala bonds was revised in respect of maturity period, all-in-cost ceiling and recognised lenders.
June 23	Retention of duplicate copies of exchange control copies of the shipping bills at authorised dealer bank was discontinued.
Department of Banking Regulation	
July 8, 2016	All regulated entities (REs) including SCBs were advised to upload the KYC data with CERSAI on new individual accounts opened on or after July 15, 2016 for the live run of the Central KYC Records Registry. REs which were not ready to join CKYCR were advised to prepare their systems in a time bound manner. KYC norms for FPIs were revised.
July 21	Banks were permitted to reckon G-secs held by them up to another 1 per cent of their NDTL under the facility to avail liquidity for the liquidity coverage ratio (LCR) within the mandatory SLR requirement as level 1 HQLA for the purpose of computing their LCR. With this, the total carve-out from SLR amounted to 11 per cent of banks' NDTL.
August 4	Banks were advised to have an appropriate and transparent policy on dishonour of cheques approved by the boards or committees.
	All-India Term Lending and Refinancing Institutions - Exim Bank, NABARD, NHB and SIDBI - were advised to follow the Indian Accounting Standards as notified under the Companies (Indian Accounting Standards) Rules, 2015 for financial statements beginning April 01, 2018.
August 11	Banks were advised to prepare a comprehensive policy for implementation of the recommendations of the Committee on Capacity Building in respect of certification of staff by end-December 2016 and the same be implemented under the guidance and monitoring of the board.
August 25	The aggregate exposure limit towards partial credit enhancement for a given bond issue from the banking system was increased to 50 per cent from 20 per cent of the bond issue size, with a limit up to 20 per cent of the bond issue size for an individual bank.
	Cash settlement of only the change in mark-to-market value of the restructured derivative contract was clarified as a requirement.
	All unrated claims on corporates, Asset Financing Companies (AFCs), and NBFC-IFCs having aggregate exposure of more than ₹2 billion from the banking system would attract a risk weight of 150 per cent, effective June 30, 2017. However, such claims on these entities having aggregate exposure of more than ₹1 billion from the banking system, which were rated earlier and turned unrated subsequently would attract a risk weight of 150 per cent with immediate effect.
	Guidelines were issued on enhancing credit supply for large borrowers through market mechanism, allowing banks to subscribe to bonds issued by specified borrowers over and above normally permitted lending limit in 2017-18.
September 01	An improved framework governing sale of stressed assets by banks to SCs/RCs/other banks/NBFCs/financial institutions was put in place to strengthen banks' ability to resolve such assets effectively.

Date of Announcement	Policy Initiative
	Credit Information Companies were advised to provide access in electronic format, upon request and after due authentication of the requester, to one free full credit report including credit score, once in a calendar year, to individuals whose credit history was available with them.
September 08	Banks were advised to invariably accept cash, irrespective of amount, over the counters from all declarants who desired to deposit cash at the counters, including deposits under the Income Declaration Scheme, 2016 through challan ITNS- 286, while ensuring compliance with the KYC requirements.
September 29	New 'Certificate of Registration' for carrying on the business of credit information was granted to the Credit Information Bureau (India) Limited which changed its name to Transunion CIBIL Limited.
September 29	Lending institutions were advised to consider publication of the photographs of only those borrowers, including proprietors/partners/directors/guarantors of borrower firms/companies, who were declared as wilful defaulters following the mechanism set out by the Reserve Bank.
October 04	Bank rate was reduced by 25 bps to 6.75 per cent, effective October 04, 2016.
October 06	Operating guidelines for Payments Banks and Small Finance Banks were issued. Their prudential regulatory framework was drawn largely from the Basel standards incorporating suitable calibrations.
October 13	SLR securities acquired from the Reserve Bank under LAF were made eligible assets for SLR maintenance from October 3, 2016.
October 20	New 'Certificate of Registration' was granted to the Experian Credit Information Company of India Private Ltd. for carrying on the business of credit information.
	Exposure to HFCs was advised to be risk weighted as per the rating assigned by the rating agencies registered with SEBI and accredited by the Reserve Bank, in a manner similar to that of corporates, AFCs, NBFC-IFCs and NBFC-IDFs as prescribed.
November 03	Banks were allowed to raise funds through issuance of rupee denominated bonds overseas for the specified purposes.
November 10	Changes were made in various regulatory measures to deal with stressed assets.
	The asset classification norms were revised for loans under the Scheme for Sustainable Structuring of Stressed Assets where there was no change of promoters.
	Guidelines in line with the BCBS were issued, effective April 1, 2018, for measuring exposure for counterparty credit risk arising from derivatives transaction which would replace the current exposure method being used by banks.
	Final guidelines on capital requirements for banks' exposures to central counter parties was issued, effective April 1, 2018.
	IBUs were permitted to undertake certain activities/transactions with resident and non-resident entities other than individuals including HNIs/retail customers.
November 21	Consequent upon withdrawal of Specified Bank Notes, it was decided to provide an additional 60 days for a regulated entity concerned for recognition of a loan account as substandard in select cases.
November 24	It was decided to broaden the fields of specialisation to include (i) information technology, (ii) payment & settlement systems, (iii) human resources, (iv) risk management and (v) business management, for appointment of director in banks' boards (excluding RRBs).
December 01	Banks and select All India Term-Lending and Refinancing Institutions were advised to follow the definition of 'infrastructure lending' as published by the government in Gazette Notifications.
	After examining the feedback on draft large exposure framework, final guidelines were issued, effective April 1, 2019,
December 06	Regulated entities were advised to take steps for preserving the customer account information, including preservation of records pertaining to the identification of the customers and their addresses obtained while opening the account, for at least five years after the business relationship ended.

Date of Announcement	Policy Initiative
December 08	It was decided to allow One Time Pin (OTP) based e-KYC subject to certain restrictions. SCBs were advised to invariably upload the KYC data pertaining to all new individual accounts opened on or after January 1, 2017, with the Central KYC Records Registry.
	The KYC Directions 2016 were amended in terms of the definition of non-profit organisation and the KYC procedure.
December 15	Regulated entities were advised to strictly comply with the requirement of KYC verification by concurrent/internal audit system and conditions for operating small accounts. BSBD accounts, which are not KYC compliant were to be treated as 'small accounts' and subjected to the limitations applicable to such accounts.
December 28	It was decided to provide 30 days in addition to 60 days for recognition of certain categories of loans as substandard by the regulated entities.
February 02, 2017	The extant instructions for coupon payment on perpetual debt instruments eligible for AT 1 capital were modified to permit payment of coupons out of statutory/available reserves subject to certain conditions.
February 16	It was decided to increase the quantum of gold loan with bullet repayment plan that could be granted by RRBs from ₹0.1 million to ₹0.2 million subject to certain conditions.
April 06	Bank rate was reduced by 25 bps to 6.50 per cent, effective April 06, 2017.
April 10	The list of permissible activities for IFSC Banking Units (IBUs) was amended.
April 18	Repatriation of accumulated profits should not be considered by banks as disposal or partial disposal of interest in non-integral foreign operations as per AS 11 [The Effects of Changes in Foreign Exchange Rates].
	Banks were allowed to participate in Real Estate Investment Trusts and Infrastructure Investment Trusts subject to conditions.
	Banks were advised to make suitable disclosures in the notes to accounts to the annual financial statements as per the prescribed format, wherever either (a) the additional provisioning requirements assessed by the Reserve Bank exceeded 15 per cent of the published net profits after tax for the reference period or (b) the additional gross NPAs identified by the Reserve Bank exceeded 15 per cent of the published incremental gross NPAs for the reference period, or both.
	Banks were advised to put in place a board-approved policy for making additional provisions for standard assets at rates higher than the regulatory minimum, based on the evaluation of risk and stress in various sectors. Board of Directors might review the telecom sector latest by June 30, 2017.
April 27	Banks were advised to lay down a board-approved policy clearly defining the role and responsibilities of the chief risk officer.
May 05	To facilitate timely decision making, banks were advised that the decisions agreed upon by a minimum of 60 per cent of creditors by value and 50 per cent of creditors by number in the JLF would be the basis for deciding the corrective action plan.
May 11	RRBs were advised to submit Form-VIII returns in Extensible Business Reporting Language (XBRL) from April 2017.
May 18	SCBs (excluding RRBs) were advised to stipulate minimum qualifications and experience for the posts of chief financial officer and chief technology officer, while inviting applications for the posts.
	In the books of partial credit enhancement provider, capital requirement might be recalculated without reference to the constraints of capital floor and difference in notches, if the reassessed standalone credit rating at any time during the life of the bond showed improvement over the corresponding rating at the time of bond issuance. Corporate bonds were to be rated by a minimum of two external credit rating agencies at all times and rating reports, both initial and subsequent, should disclose both standalone credit rating as well as the enhanced credit rating.
	Guidelines were revised on branch authorization, clarifying on banking outlet and harmonising the treatment of different forms of banking presence for the purpose of opening outlets in underserved areas.

Date of Announcement	Policy Initiative
May 22	The Reserve Bank outlined the action plan to implement the Banking Regulation (Amendment) Ordinance, 2017, which empowered the Bank to issue directions to any banking company or banking companies to initiate insolvency resolution process in respect of a default, under the provisions of the Insolvency and Bankruptcy Code, 2016 (IBC).
June 7	As a countercyclical measure, LTV ratios, risk weights and standard asset provisioning rate for individual housing loans were revised.
June 13	Banks were permitted to use the ratings assigned by the INFOMERICS Valuation and Rating Pvt. Ltd., in addition to the existing six credit rating agencies for assigning risk weights to credit exposures for capital adequacy assessment under the Basel framework.
	The Internal Advisory Committee, constituted pursuant to the promulgation of the Banking Regulation (Amendment) Ordinance, 2017 to advise cases that might be considered for reference for resolution under the Insolvency and Bankruptcy Code, 2016 (IBC), held its first meeting on June 12, 2017. The committee agreed to focus on large stressed accounts at this stage and also arrived at an objective, non-discretionary criterion for referring accounts for resolution under the IBC.
June 22	Banks were advised to provide adequate relevant details of transactions in the passbooks and/or statements of accounts and also incorporate information about 'deposit insurance cover' along with the limit of coverage, subject to change from time to time, upfront in the passbooks.
	The Overseeing Committee (OC), constituted by IBA, was brought under the aegis of the Reserve Bank and the membership of the same was enlarged to five pursuant to the Banking Regulation (Amendment) Ordinance, 2017. The reconstituted OC would work with an expanded mandate to review resolution of cases where the aggregate exposure of the banking sector to the borrowing entity was greater than ₹5 billion.
June 29	Instructions were issued on limits on balances in customer accounts with payment banks under sweep out arrangements with other banks wherein payment banks were allowed to act as Business Correspondents.
Department of Cooperative Bank Regulation	
July 07, 2016	Co-operative banks fulfilling certain criteria were allowed to issue/redeem Long Term (Subordinated) Deposits without prior approval of the Reserve Bank.
July 14	State/Central co-operative banks were permitted to invest in non-SLR instruments.
September 01	Salary earners' UCBs were permitted to grant advances against term deposits of non-members.
April 28, 2017	Guidelines were issued on merchant acquisition for card transactions.
May 25	Regulatory requirements for issuance of prepaid payment instrument were issued.
Department of Non-Banking Regulation	
July 28, 2016	Guidelines for relief measures by banks in the areas affected by natural calamities were extended, *mutatis mutandis*, to NBFCs.
September 02	Master Directions for NBFC-Account Aggregator were issued.
February 02, 2017	NBFC-MFIs were advised to ensure that the average interest rate on loans sanctioned during a quarter did not exceed the average borrowing cost during the preceding quarter plus the margin, within the prescribed cap.
March 02	For the purpose of definition of 'infrastructure lending', NBFCs were advised to go by the Gazette Notifications issued by the government from time to time.
March 09	NBFCs were advised that for disbursal of loan in cash, the requirements, under the Income Tax Act, 1961, as amended from time to time, would be applicable.

Date of Announcement	Policy Initiative
April 28	Minimum net owned fund requirement for ARCs was fixed at ₹ 1 billion on an ongoing basis, effective April 28, 2017.
Department of Banking Supervision	
July 01, 2016	Master Directions on frauds – classification and reporting by commercial banks and select FIs consolidated and updated all the instructions issued on the subject up to June 30, 2016.
July 28	Reporting formats of half yearly/quarterly review of accounts of PSBs were revised.
August 25	Banks were permitted to engage the services of their retired officials for assisting in internal audit subject to conditions.
April 13, 2017	The existing PCA framework for banks was revised and set to be implemented from April 1, 2017, based on the financials of banks for the year ended March 31, 2017. The framework would be reviewed after three years.
April 13	PSBs were advised to formulate a fair and transparent policy and procedure in the matter of selection and appointment of statutory branch auditors and host the same on their websites.
April 20	Banks were advised that while implementation of the Ghosh Committee recommendations need not be reviewed by the Audit Committee of the Board (ACB), they may ensure that it is complete, sustained and appropriately factored for internal inspection/audit purposes.
Department of Non-Banking Supervision	
June 08, 2017	Master Direction was issued on information technology framework for the NBFC Sector, focussing on IT governance/policy/operations/services outsourcing, information and cyber security, IS audit and business continuity planning.
Consumer Education and Protection Department	
June 16, 2017	The Banking Ombudsman Scheme 2006 was amended, effective July 1, 2017.
Internal Debt Management Department	
Dec 17, 2016	The government launched a tax amnesty scheme, 'Pradhan Mantri Garib Kalyan Deposit Scheme, 2016', which would be available from December 17, 2016 to March 31, 2017.
Jan 30, 2017	The discount rate on 14 day ITBs was re-fixed at reverse repo rate *minus* 200 bps with a ceiling of 5 per cent and the rediscount rate at reverse repo rate *minus* 150 bps with a ceiling of 5.5 per cent.
Department of Currency Management	
July 20, 2016	A scheme of penalties for bank branches based on performance in rendering customer service to the members of public was introduced.
September 15	The Reserve Bank would issue banknotes of ₹20 with numerals in ascending size in number panels and without intaglio printing
September 23	The Reserve Bank would issue banknotes of ₹50 with numerals in ascending size in number panels and without intaglio printing.
November 08	The legal tender status for banknotes of the Mahatma Gandhi Series in the denominations of ₹500 and ₹1000 was withdrawn from November 9, 2017.
	Banknotes in the denominations of ₹500 and ₹2000 in Mahatma Gandhi (New) Series were introduced.
November 14	The Reserve Bank clarified that the scheme of exchange/deposit of Specified Bank Notes (SBNs) was not allowed by DCCBs.
December 31	Facility for exchange of SBNs within a grace period was introduced for NRIs and citizens, who were abroad during November 9, 2016 to December 30, 2016.

Date of Announcement	Policy Initiative
January 30, 2017	Limits imposed earlier on cash withdrawals from bank accounts and ATMs stand completely withdrawn and *status quo ante* restored.
February 08	Removal of limits on withdrawal of cash from saving bank account effected in phases and all limits to be withdrawn effective March 13, 2017.
Department of Payment and Settlement Systems	
September 01, 2016	In order to enhance transparency in Merchant Discount Rates (MDR) applicable at merchant level, acquiring banks were advised to ensure that MDR are clearly unbundled for different categories of cards and also to educate the merchants regarding this at the time of acquisition.
September 29	Banks were advised to ensure that all new card acceptance infrastructure deployed with effect from January 1, 2017 are enabled for processing payment transactions using Aadhaar-based biometric authentication also.
October 20	Framework was released for imposition of penalty on authorised payment systems operators/banks to cover offenses such as (i) contravention of provisions of the Act, (ii) non-compliance of directions or order made there under and (iii) violations of terms and conditions of authorisation.
November 22	As part of special measures to incentivise electronic payments, the limit of semi-closed Prepaid Payment Instruments (PPIs) issued with minimum details was enhanced from ₹10000 to ₹20000, and dispensation given for higher ceiling for funds transfers from PPIs to bank account for PPIs issued to small merchants.
December 02	Extension of timeline for Aadhaar-based authentication for all new card acceptance infrastructure for processing payment transactions till June 30, 2017.
December 06	Relaxation in Additional Factor of Authentication for payments up to ₹2000 for card network solutions.
December 09	To maintain a robust and fully secure digital ecosystem, the technical audit of PPI issuers was introduced.
December 16	Following the withdrawal of legal tender characteristics of existing ₹500 and ₹1000 Bank Notes (Specified Bank Notes – SBN), in order to facilitate wider acceptance of card payments, rationalisation of Merchant Discount Rate (MDR) for transactions upto ₹2000 was introduced.
December 27	To facilitate greater adoption of digital payments, the instructions contained in paragraph 7.9 of Master Circular on Issuance and Operations of Prepaid Payment Instruments was modified, permitting Banks to issue PPIs to entities for onward issuance to their staff/employees/contract workers etc.
December 30	White Label ATM Operators (WLAOs) were allowed to source cash from retail outlets subject to certain conditions.
May 08, 2017	To enhance the efficiency of the payment system and add to customer convenience, half hourly settlement of National Electronic Funds Transfer (NEFT) was introduced.
Department of Information Technology	
July 4, 2016	The Bank's IT Subsidiary - Reserve Bank Information Technology Pvt Ltd. (ReBIT) was incorporated on July 4, 2016 to take care of the IT requirements including cyber security needs of the Reserve Bank and its regulated entities.

APPENDIX TABLE 1: MACROECONOMIC AND FINANCIAL INDICATORS

Item	Average 2003-04 to 2007-08 (5 years)	Average 2009-10 to 2013-14 (5 years)	2014-15	2015-16	2016-17
1	2	3	4	5	6
I. Real Economy					
I.1 Real GDP at market prices (% change)*	8.8	7.4	7.5	8.0	7.1
I.2 Real GVA at basic prices (% change)*	8.7	7.1	7.2	7.9	6.6
I.3 Foodgrains Production (Million tonnes)	213.6	248.8	252.0	251.6	275.7
I.4 a) Food Stocks (Million tonnes at end-March)	18.6	50.0	41.3	43.6	38.0
b) Procurement	39.4	61.3	59.6	62.2	60.2
c) Off-take	41.5	56.9	55.9	63.7	67.4
I.5 Index of Industrial Production (% change)**	11.0	3.5	4.1	3.4	4.4
I.6 Index of Eight Core Industries (% change)**	5.9	5.8	4.9	3.0	4.8
I.7 Gross Domestic Saving Rate (% of GNDI at current prices)***	32.5	32.8	32.3	31.6	…
I.8 Gross Domestic Investment Rate (% of GDP at current prices)***	33.6	36.9	34.2	33.2	…
II. Prices					
II.1 Consumer Price Index (CPI) Combined (average % change)	…	…	5.8	4.9	4.5
II.2 CPI- Industrial Workers (average % change)	5.0	10.3	6.3	5.6	4.1
II.3 Wholesale Price Index (average % change)#	5.5	7.1	1.3	-3.7	1.7
III. Money and Credit					
III.1 Reserve Money (% change)	20.4	12.1	11.3	13.1	-12.9
III.2 Broad Money (M_3) (% change)	18.6	14.7	10.9	10.1	7.3
III.3 a) Aggregate Deposits of Scheduled Commercial Banks (% change)	20.2	15.0	10.7	9.3	11.8
b) Bank Credit of Scheduled Commercial Banks (% change)	26.7	16.7	9.0	10.9	5.1
IV. Financial Markets					
IV.1 Interest rates (%)					
a) Call/Notice Money rate	5.6	7.2	8.0	7.0	6.2
b) 10 year G-Sec yield	7.0	8.0	8.3	7.8	7.0
c) 91-Days T-bill yield	…	…	8.5	7.4	6.4
d) Weighted Average cost of Central Government Borrowings	…	…	8.5	7.9	7.2
e) Commercial Paper	7.7	8.4	8.8	8.1	7.4
f) Certificate of Deposits##	8.9	8.2	8.7	7.8	6.9
IV.2 Liquidity (₹ billion)					
a) LAF Outstanding~	…	…	-1,938.8	-2,995.2	3,140.7
b) MSS Outstanding~~	…	…	0.0	0.0	0.0
c) Average Daily Call Money Market Turnover	184.9	255.3	255.7	269.5	305.8
d) Average Daily G-Sec Market Turnover###	77.1	241.4	501.2	474.9	829.9
e) Variable Rate Repo$	…	…	1,628.7	2,635.7	129.9
f) Variable Rate Reverse Repo$	…	…	…	…	2,032.0
g) MSF$	…	…	416.4	600.5	19.3
V. Government Finances&					
V.1 Central Government Finances (% of GDP)					
a) Revenue Receipts	9.8	9.1	8.9	8.7	9.1
b) Capital Outlay	1.2	1.5	1.3	1.7	1.7
c) Total Expenditure	14.4	14.8	13.4	13.1	13.0
d) Gross Fiscal Deficit	3.6	5.3	4.1	3.9	3.5
V.2 State Government Finances&&					
a) Revenue Deficit (% of GDP)	0.4	0.0	0.4	0.1	0.3
b) Gross Fiscal Deficit (% of GDP)	2.7	2.2	2.6	2.5	2.9
c) Primary Deficit (% of GDP)	0.3	0.6	1.1	1.2	1.5

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)	2014-15	2015-16	2016-17
1	2	3	4	5	6
VI. External Sector					
VI.1 Balance of Payments					
a) Merchandise Exports (% change)	25.3	12.2	-0.6	-15.9	5.2
b) Merchandise Imports (% change)	32.3	9.7	-1.0	-14.1	-1.0
c) Trade Balance/GDP (%)	-5.4	-9.0	-7.1	-6.2	-5.0
d) Invisible Balance/GDP (%)	5.1	5.7	5.8	5.2	4.3
e) Current Account Balance/GDP (%)	-0.3	-3.3	-1.3	-1.1	-0.7
f) Net Capital Flows/GDP (%)	4.6	3.7	4.4	2.0	1.6
g) Reserve Changes [(BoP basis) (US $ billion) [(Increase (-)/Decrease (+)]	-40.3	-6.6	-61.4	-17.9	-21.6
VI.2 External Debt Indicators					
a) External Debt Stock (US$ billion)	156.5	359.0	474.7	485.0	471.9
b) Debt-GDP Ratio (%)	17.7	20.7	23.9	23.5	20.2
c) Import cover of Reserves (in Months)	14.0	8.5	8.9	10.9	11.3
d) Short-term Debt to Total Debt (%)	13.6	21.3	18.0	17.2	18.6
e) Debt Service Ratio (%)	8.3	5.6	7.6	8.8	8.3
f) Reserves to Debt (%)	113.7	84.8	72.0	74.3	78.4
VI.3 Openness Indicators (%)					
a) Export plus Imports of Goods/GDP	30.4	40.7	38.2	31.7	29.7
b) Export plus Imports of Goods & Services/GDP	40.8	52.8	50.0	43.1	41.1
c) Current Receipts plus Current Payments/GDP	46.6	59.0	56.2	49.0	46.7
d) Gross Capital Inflows plus Outflows/GDP	36.8	50.0	49.7	46.8	47.0
e) Current Receipts & Payments plus Capital Receipts & Payments/GDP	83.5	109.0	105.9	95.9	93.8
VI.4 Exchange Rate Indicators					
a) Exchange Rate (Rupee/US Dollar)					
End of Period	43.1	51.1	62.6	66.3	64.8
Average	44.1	51.2	61.1	65.5	67.1
b) 36 - Currency REER (% change)	3.1^	0.8	5.5	2.9	2.2
c) 36 - Currency NEER (% change)	1.7^	-4.9	2.4	0.9	-0.1
d) 6 - Currency REER (% change)	4.4^	1.9	6.3	2.3	2.7
e) 6 - Currency NEER (% change)	1.6^	-5.4	1.2	-1.6	-0.5

… : Not Available.
* : 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 2014-15, 2015-16 and 2016-17, 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 pertains 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 means injection).
~~ : Outstanding as on last Friday of the financial year.
$: Outstanding as on March 31.
& : Data for 2015-16 are actuals and for 2016-17 are provisional estimates.
&& : Data for 2015-16 onwards are provisional and pertain to budgets of 26 states.
^ : Average of period 2005-06 to 2007-08.
Note : Real Effective Exchange Rate (REER) are based on CPI (combined).

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 2016-17	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
1	2	3	4	5	6	7	8
Expenditure Side GDP							
1. Private Final Consumption Expenditure	7.1	6.2	6.1	8.7	56.0	55.0	55.8
2. Government Final Consumption Expenditure	8.6	9.6	3.3	20.8	10.2	9.8	11.0
3. Gross Fixed Capital Formation	3.5	3.4	6.5	2.4	31.3	30.9	29.5
4. Change in Stocks	20.1	108.6	1.4	6.1	2.6	2.4	2.4
5. Valuables	-9.5	26.2	-4.1	-17.5	1.8	1.6	1.2
6. Net Exports	33.6	11.8	15.1	37.4	-1.5	-1.2	-0.7
a) Exports	2.2	1.8	-5.3	4.5	23.8	20.9	20.4
b) Less Imports	-2.7	0.9	-5.9	2.3	25.3	22.1	21.1
7. Discrepancies	-167.8	34.8	-476.6	-50.0	-0.4	1.5	0.7
8. GDP	**7.3**	**7.5**	**8.0**	**7.1**	**100.0**	**100.0**	**100.0**
GVA at Basic Prices (Supply Side)							
1. Agriculture, forestry and fishing	**2.7**	**-0.2**	**0.7**	**4.9**	**16.5**	**15.4**	**15.2**
2. Industry	**7.5**	**8.6**	**10.2**	**7.0**	**22.6**	**23.1**	**23.2**
of which :							
a) Mining and quarrying	6.0	11.7	10.5	1.8	3.0	3.1	3.0
b) Manufacturing	8.0	8.3	10.8	7.9	17.4	17.8	18.1
c) Electricity, gas, water supply & other utility services	5.9	7.1	5.0	7.2	2.2	2.1	2.2
3. Services	**7.9**	**8.9**	**9.1**	**6.9**	**60.9**	**61.5**	**61.7**
of which :							
a) Construction	3.5	4.7	5.0	1.7	8.6	8.4	8.0
b) Trade, hotels, transport, communication and services related to broadcasting	8.4	9.0	10.5	7.8	18.5	19.0	19.2
c) Financial, real estate & professional services	9.7	11.1	10.8	5.7	21.4	21.9	21.7
d) Public Administration, defence and other services	7.6	8.1	6.9	11.3	12.4	12.2	12.8
4. GVA at basic prices	**7.0**	**7.2**	**7.9**	**6.6**	**100.0**	**100.0**	**100.0**

Source: Central Statistics Office (CSO).

APPENDIX TABLE 3: GROSS SAVINGS

(Per cent of GNDI)

Item	2012-13	2013-14	2014-15	2015-16
1	2	3	4	5
I. Gross Savings	**33.1**	**31.4**	**32.3**	**31.6**
1.1 Non-financial corporations	**9.7**	**10.5**	**11.1**	**11.8**
1.1.1 Public non-financial corporations	1.2	1.1	1.0	1.0
1.1.2 Private non-financial corporations	8.5	9.4	10.1	10.8
1.2 Financial corporations	**3.0**	**2.5**	**2.7**	**2.1**
1.2.1 Public financial corporations	1.7	1.4	1.3	1.3
1.2.2 Private financial corporations	1.2	1.1	1.3	0.8
1.3 General Government	**-1.6**	**-1.5**	**-1.5**	**-1.0**
1.4 Household sector	**21.9**	**19.8**	**20.0**	**18.7**
1.4.1 Net financial saving	7.2	7.2	7.2	7.8
Memo: Gross financial saving	*10.5*	*10.4*	*10.1*	*10.9*
1.4.2 Saving in physical assets	14.4	12.3	12.4	10.7
1.4.3 Saving in the form of valuables	0.4	0.3	0.4	0.3

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		
	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
1	2	3	4	5	6	7	8	9	10
General Index (All Groups)	**6.2**	**5.6**	**5.0**	**5.5**	**4.1**	**4.0**	**5.8**	**4.9**	**4.5**
Food and beverages	6.6	5.4	4.7	6.4	4.6	3.9	6.5	5.1	4.4
Housing	…	…	…	5.9	4.9	5.2	5.9	4.9	5.2
Fuel and light	5.1	6.8	4.6	2.7	2.7	1.0	4.2	5.3	3.3
Miscellaneous	4.9	4.7	5.1	4.2	2.8	3.7	4.6	3.7	4.5
Excluding Food and Fuel	5.8	5.5	5.5	5.1	3.9	4.3	5.4	4.6	4.8
Other Price Indices	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**
1. Wholesale Price Index (2011-12=100)*									
All Commodities	**8.1**	**3.8**	**9.6**	**8.9**	**7.4**	**5.2**	**1.3**	**-3.7**	**1.7**
Primary Articles	11.0	12.7	17.7	9.8	9.8	9.8	2.2	-0.4	3.4
of which : Food Articles	9.1	15.3	15.6	7.3	9.9	12.3	5.6	2.6	4.0
Fuel and Power	11.6	-2.1	12.3	14.0	10.3	7.1	-6.1	-19.7	-0.3
Manufactured Products	6.2	2.2	5.7	7.3	5.4	3.0	2.6	-1.8	1.3
Non-Food Manufactured Products	5.7	0.2	6.1	7.3	4.9	2.7	2.7	-1.8	-0.1
2. CPI- Industrial Workers (IW) (2001=100)	9.1	12.4	10.4	8.4	10.4	9.7	6.3	5.6	4.1
of which : CPI- IW Food	12.3	15.2	9.9	6.3	11.9	12.3	6.5	6.1	4.4
3. CPI- Agricultural Labourers (1986-87=100)	10.2	13.9	10.0	8.2	10.0	11.6	6.6	4.4	4.2
4. CPI- Rural Labourers (1986-87=100)	10.2	13.8	10.0	8.3	10.2	11.5	6.9	4.6	4.2
Money and Credit									
	2008-09	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17^**
Reserve Money (RM)	**6.4**	**17.0**	**19.1**	**3.6**	**6.2**	**14.4**	**11.3**	**13.1**	**-12.9**
Currency in Circulation	17.0	15.7	18.8	12.4	11.6	9.2	11.3	14.9	-19.7
Bankers' Deposits with RBI	-11.3	21.0	20.2	-15.9	-10.0	34.0	8.3	7.8	8.4
Currency-GDP Ratio$	12.3	12.3	12.2	12.2	12.0	11.6	11.6	12.2	8.8
Narrow Money (M1)	**9.0**	**18.2**	**10.0**	**6.0**	**9.2**	**8.5**	**11.3**	**13.5**	**-3.4**
Broad Money (M3)	**19.3**	**16.9**	**16.1**	**13.5**	**13.6**	**13.4**	**10.9**	**10.1**	**7.3**
Currency-Deposit Ratio	16.1	15.9	16.3	16.1	15.7	15.1	15.2	16.0	10.9
Money Multiplier	4.9	4.8	4.7	5.2	5.5	5.5	5.5	5.3	6.8
GDP/M_3 **$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Scheduled Commercial Banks									
Aggregate Deposits	19.9	17.2	15.9	13.5	14.2	14.1	10.7	9.3	11.8
Bank Credit	17.5	16.9	21.5	17.0	14.1	13.9	9.0	10.9	5.1
Non-food Credit	17.8	17.1	21.3	16.8	14.0	14.2	9.3	10.9	5.8
Credit-Deposit Ratio	72.4	72.2	75.7	78.0	77.9	77.8	76.6	77.7	72.9
Credit-GDP Ratio$	49.3	50.1	50.6	52.8	52.9	53.4	52.5	53.0	51.9

\# : 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.

* : 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 2016-17. **: Ratio.

$: 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 unless specified otherwise.

APPENDIX TABLE 5: CAPITAL MARKET - PRIMARY AND SECONDARY

(Amount in ₹ billion)

Item	2015-16		2016-17	
	Number	Amount	Number	Amount
1	2	3	4	5
I. PRIMARY MARKET				
A. Prospectus and Rights Issues				
1. Private Sector (a+b)	**96**	**267.2**	**132**	**599.0**
a) Financial	12	29.4	26	454.4
b) Non-Financial	84	237.8	106	144.6
2. Public Sector (a+b+c)	**11**	**311.0**	**2**	**21.6**
a) Public Sector Undertakings	1	7.0	1	10.4
b) Government Companies	2	133.0	…	…
c) Banks/Financial Institutions	8	171.0	1	11.2
3. Total (1+2, i+ii, a+b)	**107**	**578.2**	**134**	**620.7**
Instrument Type				
(i) Equity	87	240.0	118	325.2
(ii) Debt	20	338.2	16	295.5
Issuer Type				
(a) IPOs	73	142.6	105	291.0
(b) Listed	34	435.7	29	329.7
B. Euro Issues (ADRs and GDRs)	**…**	**…**	**…**	**…**
C. Private Placement[&]				
1. Private Sector (a+b)	**2,493**	**2,620.1**	**3,189**	**4,201.7**
a) Financial	1,993	1,844.2	2,588	3,083.4
b) Non-Financial	500	775.9	601	1,118.3
2. Public Sector (a+b)	**185**	**1,505.9**	**247**	**2,471.3**
a) Financial	111	1,146.7	155	1,586.2
b) Non-Financial	74	359.2	92	885.0
3. Total (1+2, i+ii)	**2,678**	**4,126.0**	**3,436**	**6,672.9**
(i) Equity	21	194.2	24	137.4
(ii) Debt	2,657	3,931.8	3,412	6,535.5
D. Qualified Institutional Placement	**24**	**145.9**	**20**	**84.6**
E. Mutual Funds Mobilisation (Net)[#]		**1,341.8**		**3,430.5**
1. Private Sector		913.9		2,793.9
2. Public Sector		427.9		636.6
II. SECONDARY MARKET				
BSE				
BSE Sensex: End-Period	25,341.9		29,620.5	
Period Average	26,322.1		27,338.2	
Price Earning Ratio	19.3		22.6	
Market Capitalisation to GDP ratio (%)	69.3		80.0	
Turnover Cash Segment		7,400.9		9,982.6
Turnover Derivatives Segment		44,750.1		69.4
NSE				
S&P CNX Nifty: End-Period	7,738.4		9,173.8	
Period Average	7,983.8		8,421.2	
Price Earning Ratio	20.9		23.3	
Market Capitalisation to GDP ratio (%)	68.0		78.9	
Turnover Cash Segment		42,369.8		50,559.1
Turnover Derivatives Segment		648,258		943,703

…: Nil &: Provisional (for 2016-17). #: 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
2008-09	2.6	4.5	1.1	6.0	56.1	58.6
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	50.5	51.9
2016-17 (RE)	0.3	2.0	-1.1	3.5	49.0	50.3
2016-17 (PA)	0.4	2.0	-1.1	3.5	…	…
2017-18 (BE)	0.1	1.9	-1.2	3.2	47.3	48.4
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	27.4	27.4
2008-09	0.6	-0.2	-2.1	2.4	26.1	26.1
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	1.2	0.1	-1.2	2.5	19.0	19.0
2016-17 (RE)	1.5	0.3	-1.1	2.9	19.8	19.8
2017-18 (BE)	0.9	-0.1	-1.5	2.3	20.1	20.1
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
2008-09	3.3	4.3	-0.8	8.3	69.7	72.2
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	1.9	2.6	-1.9	6.4	63.0	64.5
2016-17 (RE)	1.8	2.4	-2.2	6.4	62.6	63.9
2017-18 (BE)	1.0	1.9	-2.6	5.5	61.6	62.7

… : 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.
Columns 6 and 7 are outstanding figures as at end-March of respective years.

* : Data from 2015-16 onwards are provisional and pertain to budgets of 26 states.

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.

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	2012-13	2013-14	2014-15	2015-16	2016-17 (RE)	2017-18 (BE)
1	2	3	4	5	6	7
1 Total Disbursements	**26,949.3**	**30,003.0**	**32,852.1**	**33,782.6**	**40,599.7**	**43,958.0**
1.1 Developmental	15,741.6	17,142.2	18,720.6	19,429.4	24,271.1	26,194.5
1.1.1 Revenue	12,807.1	13,944.3	14,830.2	14,971.4	18,457.9	19,701.6
1.1.2 Capital	2,446.1	2,785.1	3,322.6	3,400.5	4,471.0	5,515.0
1.1.3 Loans	488.4	412.9	567.8	1,057.5	1,342.2	977.9
1.2 Non-Developmental	10,850.5	12,427.8	13,667.7	13,984.1	15,870.2	17,261.8
1.2.1 Revenue	9,991.4	11,413.7	12,695.2	12,739.1	15,031.9	16,430.7
1.2.1.1 Interest Payments	4,543.1	5,342.3	5,845.4	6,134.7	6,881.7	7,536.9
1.2.2 Capital	837.1	990.4	946.9	1,207.7	816.4	807.2
1.2.3 Loans	21.9	23.8	25.6	37.3	21.9	23.9
1.3 Others	357.2	432.9	463.8	369.0	458.3	501.6
2 Total Receipts	**27,690.3**	**30,013.7**	**31,897.4**	**34,487.6**	**39,810.1**	**42,551.1**
2.1 Revenue Receipts	19,716.2	22,114.8	23,876.9	24,504.6	30,356.6	33,511.4
2.1.1 Tax Receipts	16,879.6	18,465.5	20,207.3	20,754.4	23,917.5	27,066.7
2.1.1.1 Taxes on commodities and services	10,385.9	11,257.8	12,123.5	12,912.5	15,168.5	16,914.5
2.1.1.2 Taxes on Income and Property	6,462.7	7,176.3	8,051.8	7,803.2	8,706.2	10,105.3
2.1.1.3 Taxes of Union Territories (Without Legislature)	30.9	31.3	32.0	38.8	42.8	46.8
2.1.2 Non-Tax Receipts	2,836.6	3,649.3	3,669.7	3,750.2	6,439.1	6,444.7
2.1.2.1 Interest Receipts	355.4	401.6	396.2	347.4	322.1	275.3
2.2 Non-debt Capital Receipts	389.2	391.1	609.5	588.5	595.3	1,246.0
2.2.1 Recovery of Loans & Advances	129.3	93.8	220.7	155.9	136.0	519.1
2.2.2 Disinvestment proceeds	259.9	297.3	388.8	432.7	459.3	726.8
3 Gross Fiscal Deficit [1 - (2.1 + 2.2)]	**6,844.0**	**7,497.1**	**8,365.6**	**8,689.5**	**9,647.8**	**9,200.6**
3A Sources of Financing: Institution-wise						
3A.1 Domestic Financing	6,771.9	7,424.2	8,236.3	8,562.0	9,499.0	9,042.7
3A.1.1 Net Bank Credit to Government	3,352.8	3,358.6	-374.8	2,310.9	6,306.1	...
3A.1.1.1 Net RBI Credit to Government	548.4	1,081.3	-3,341.9	604.7	1,958.2	...
3A.1.2 Non-Bank Credit to Government	3,419.1	4,065.6	8,611.1	6,251.1	3,193.0	...
3A.2 External Financing	72.0	72.9	129.3	127.5	148.7	157.9
3B Sources of Financing: Instrument-wise						
3B.1 Domestic Financing	6,771.9	7,424.2	8,236.3	8,562.0	9,499.0	9,042.7
3B.1.1 Market Borrowings (net)	6,536.9	6,392.0	6,640.6	6,354.2	6,472.7	6,970.1
3B.1.2 Small Savings (net)	-85.7	-142.8	-565.8	-785.1	-1,091.8	-941.2
3B.1.3 State Provident Funds (net)	329.9	312.9	343.4	298.8	326.2	332.0
3B.1.4 Reserve Funds	-4.1	34.6	51.1	-33.2	-82.4	-10.4
3B.1.5 Deposits and Advances	27.2	255.4	275.5	134.7	387.0	502.1
3B.1.6 Cash Balances	-741.0	-10.7	954.7	-705.0	789.6	1,406.9
3B.1.7 Others	708.6	582.8	536.8	3,297.7	2,697.7	783.1
3B.2 External Financing	72.0	72.9	129.3	127.5	148.7	157.9
4 Total Disbursements as per cent of GDP	*27.1*	*26.7*	*26.4*	*24.7*	*26.7*	*26.1*
5 Total Receipts as per cent of GDP	*27.8*	*26.7*	*25.6*	*25.2*	*26.2*	*25.3*
6 Revenue Receipts as per cent of GDP	*19.8*	*19.7*	*19.2*	*17.9*	*20.0*	*19.9*
7 Tax Receipts as per cent of GDP	*17.0*	*16.4*	*16.2*	*15.2*	*15.8*	*16.1*
8 Gross Fiscal Deficit as per cent of GDP	*6.9*	*6.7*	*6.7*	*6.4*	*6.4*	*5.5*

…: Not available. RE: Revised Estimates. BE: Budget Estimates.

Note: GDP data from 2011-12 onwards including 2014-15 are based on new base 2011-12. Data from year 2015-16 pertains to 26 states.

Source: Budget documents of the central and state governments.

APPENDIX TABLE 8: INDIA'S OVERALL BALANCE OF PAYMENTS

(US $ million)

	2012-13	2013-14	2014-15	2015-16	2016-17 P
1	2	3	4	5	6
A. CURRENT ACCOUNT					
1 Exports, f.o.b.	3,06,581	3,18,607	3,16,545	2,66,365	2,80,138
2 Imports, c.i.f.	5,02,237	4,66,216	4,61,484	3,96,444	3,92,580
3 Trade Balance	-195,656	-147,609	-144,940	-130,079	-112,442
4 Invisibles, Net	107,493	115,313	118,081	107,928	97,147
a) 'Non-Factor' Services of which :	64,915	73,066	76,529	69,676	67,455
Software Services	63,504	67,002	70,400	71,454	70,064
b) Income	-21,455	-23,028	-24,140	-24,375	-26,291
c) Private Transfers	64,342	65,481	66,264	63,139	56,573
5 Current Account Balance	-88,163	-32,296	-26,859	-22,151	-15,296
B. CAPITAL ACCOUNT					
1 Foreign Investment, Net (a+b)	46,711	26,386	73,456	31,891	43,224
a) Direct Investment	19,819	21,564	31,251	36,021	35,612
b) Portfolio Investment	26,891	4,822	42,205	-4,130	7,612
2 External Assistance, Net	982	1,032	1,725	1,505	2,013
3 Commercial Borrowings, Net	8,485	11,777	1,570	-4,529	-6,102
4 Short Term Credit, Net	21,657	-5,044	-111	-1,610	6,467
5 Banking Capital of which :	16,570	25,449	11,618	10,630	-16,616
NRI Deposits, Net	14,842	38,892	14,057	16,052	-12,367
6 Rupee Debt Service	-58	-52	-81	-73	-99
7 Other Capital, Net$	-5,047	-10,761	1,109	3,315	7,594
8 Total Capital Account	89,300	48,787	89,286	41,128	36,482
C. Errors & Omissions	**2,689**	**-983**	**-1,021**	**-1,073**	**364**
D. Overall Balance [A(5)+B(8)+C]	**3,826**	**15,508**	**61,406**	**17,905**	**21,550**
E. Monetary Movements (F+G)	**-3,826**	**-15,508**	**-61,406**	**-17,905**	**-21,550**
F. IMF, Net					
G. Reserves and Monetary Gold (Increase -, Decrease +) of which : SDR allocation	**-3,826**	**-15,508**	**-61,406**	**-17,905**	**-21,550**
Memo: As a ratio to GDP					
1 Trade Balance	-10.7	-7.9	-7.1	-6.2	-5.0
2 Net Services	3.6	3.9	3.8	3.3	3.0
3 Net Income	-1.2	-1.2	-1.2	-1.2	-1.2
4 Current Account Balance	-4.8	-1.7	-1.3	-1.1	-0.7
5 Capital Net (Excld. changes in reserves)	4.9	2.6	4.4	2.0	1.6
6 Foreign Investment, Net	2.6	1.4	3.6	1.5	1.9

P : Provisional.
$: 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.

APPENDIX TABLE 9: FOREIGN DIRECT INVESTMENT FLOWS TO INDIA: COUNTRY-WISE AND INDUSTRY-WISE

(US $ million)

Source/Industry	2012-13	2013-14	2014-15	2015-16	2016-17 P
1	2	3	4	5	6
Total FDI	**18,286**	**16,054**	**24,748**	**36,068**	**36,317**
Country-wise Inflows					
Mauritius	8,059	3,695	5,878	7,452	13,383
Singapore	1,605	4,415	5,137	12,479	6,529
Japan	1,340	1,795	2,019	1,818	4,237
Netherlands	1,700	1,157	2,154	2,330	3,234
U.S.A.	478	617	1,981	4,124	2,138
United Kingdom	1,022	111	1,891	842	1,301
Germany	467	650	942	927	845
U.A.E.	173	239	327	961	645
Switzerland	268	356	292	195	502
France	547	229	347	392	487
South Korea	224	189	138	241	466
Italy	63	185	167	279	364
Cyprus	415	546	737	488	282
Spain	348	181	401	141	213
British Virgin Islands	3	0	30	203	212
China	148	121	505	461	198
Belgium	33	66	47	57	172
Others	1,394	1,501	1,754	2,677	1,109
Sector-wise Inflows					
Manufacturing	6,528	6,381	9,613	8,439	11,972
Communication Services	92	1,256	1,075	2,638	5,876
Financial Services	2,760	1,026	3,075	3,547	3,732
Retail & Wholesale Trade	551	1,139	2,551	3,998	2,771
Business Services	643	521	680	3,031	2,684
Computer Services	247	934	2,154	4,319	1,937
Miscellaneous Services	552	941	586	1,022	1,816
Electricity and other Energy Generation, Distribution & Transmission	1,653	1,284	1,284	1,364	1,722
Construction	1,319	1,276	1,640	4,141	1,564
Transport	213	311	482	1,363	891
Restaurants and Hotels	3,129	361	686	889	430
Education, Research & Development	150	107	131	394	205
Mining	69	24	129	596	141
Real Estate Activities	197	201	202	112	105
Trading	140	0	228	0	0
Others	43	292	232	215	470

P: Provisional.
Note: Includes FDI through SIA/FIPB and RBI routes only.

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