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Report of the Central Board of Directors on the working of the Reserve Bank of India for the year ended June 30, 2010 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 2009-10

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

गवर्नर
GOVERNOR

LETTER OF TRANSMITTAL

REF. No. SYD. 674 / 02.16.001 /2010-11

August 24, 2010
Bhadra 2, 1932 (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 pleasure in transmitting the following documents:

(i) A copy of the Annual Accounts for the year ended the June 30, 2010 signed by me, the Deputy Governors and the Chief General Manager, and certified by the Bank's Auditors; and

(ii) Two copies of the Annual Report of the Central Board on the working of the Bank during the year ended June 30, 2010.

Yours faithfully,

[D. Subbarao]

केन्द्रीय कार्यालय भवन, शहीद भगतसिंह मार्ग, मुम्बई - 400 001, भारत
फोन: +91 22 2266 0868 / 2266 1872 / 2266 2644 फैक्स: +91 22 2266 1784 ई-मेल: governor@rbi.org.in
Central Office Building, Shahid Bhagat Singh Marg, Mumbai - 400 001, India
Tel: +91 22 2266 0868 / 2266 1872 / 2266 2644 Fax: +91 22 2266 1784 E-mail: governor@rbi.org.in

हिंदी आसान है, इसका प्रयोग बढ़ाइए

CENTRAL BOARD / LOCAL BOARDS

GOVERNOR

D. Subbarao

DEPUTY GOVERNORS

Shyamala Gopinath
Usha Thorat
K.C. Chakrabarty
Subir Gokarn*

* Joined on November 24, 2009.

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

Y. H. Malegam
Suresh D. Tendulkar
U.R. Rao
Lakshmi Chand

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

H. P. Ranina
Azim Premji
Kumar Mangalam Birla
Shashi Rajagopalan
Suresh Neotia
A. Vaidyanathan
M. M. Sharma
Sanjay Labroo
#
$

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

Ashok Chawla

Dr. Ashok S. Ganguly (Resigned) on November 18, 2009.

MEMBERS OF LOCAL BOARDS

WESTERN AREA

Y. H. Malegam
K. Venkatesan
Dattaraj V. Salgaocar
Jayantilal B. Patel

EASTERN AREA

Suresh D. Tendulkar
A. K. Saikia
Sovan Kanungo

NORTHERN AREA

U. R. Rao
Mitha Lal Mehta
Ram Nath
Pritam Singh

SOUTHERN AREA

Lakshmi Chand
C. P. Nair
M. Govinda Rao
Devaki Jain

AS ON JUNE 30, 2010

$ Dr. D. Jayavarthanavelu (Expired) on June 11, 2010.

PRINCIPAL OFFICERS

(As on June 30, 2010)

EXECUTIVE DIRECTORS	
	V.K. Sharma
	C. Krishnan
	Anand Sinha
	V.S. Das
	G. Gopalakrishna
	H.R. Khan
	Deepak Mohanty

CENTRAL OFFICE	
Department of Administration and Personnel Management	Prabal Sen, Principal Chief General Manager
Customer Service Department	Kaza Sudhakar, Chief General Manager
Department of Banking Operations and Development	B. Mahapatra, Chief General Manager-in-Charge
Department of Banking Supervision	N. Krishna Mohan, Chief General Manager-in-Charge
Department of Communication	A.I. Killawala, Press Relations Officer (Gr. F)
Department of Currency Management	R. Gandhi, Chief General Manager
Department of Economic Analysis and Policy	K.U.B. Rao, Officer-in-Charge
Department of Expenditure and Budgetary Control	Deepa Srivastava, Chief General Manager
Department of External Investments and Operations	Meena Hemchandra, Chief General Manager-in-Charge
Department of Government and Bank Accounts	S.V. Raghavan, Chief General Manager-in-Charge
Department of Information Technology	A.S. Ramasastri, Chief General Manager
Department of Non-Banking Supervision	Uma Subramaniam, Chief General Manager-in-Charge
Department of Payment and Settlement Systems	G. Padmanabhan, Chief General Manager
Department of Statistics and Information Management	A.M. Pedgaonkar, Principal Adviser
Financial Markets Department	P. Krishnamurthy, Chief General Manager
Financial Stability Unit	Rabi N. Mishra, General Manager (OIC)
Foreign Exchange Department	Salim Gangadharan, Chief General Manager-in-Charge
Human Resources Development Department	Deepak Singhal, Chief General Manager
Inspection Department	Karuna Sagar, Chief General Manager
Internal Debt Management Department	K.K. Vohra , Chief General Manager
Legal Department	G.S. Hegde, Legal Adviser-in-Charge
Monetary Policy Department	Janak Raj, Adviser-in-Charge
Premises Department	S. Venkatachalam, Chief General Manager
Rajbhasha Department	Roopam Misra, General Manager-in-Charge
Rural Planning and Credit Department	Deepali Pant Joshi, Chief General Manager-in-Charge
Secretary's Department	G.E. Koshie, Chief General Manager & Secretary
Urban Banks Department	A. Udgata, Chief General Manager-in-Charge

COLLEGES	PRINCIPALS/CHIEF GENERAL MANAGERS
Centre for Advanced Financial Learning, Mumbai	-
College of Agricultural Banking, Pune	Kamala Rajan
Reserve Bank Staff College, Chennai	J. Sadakkadulla

OFFICES	REGIONAL DIRECTORS
Chennai	K. R. Ananda
Kolkata	S. Karuppasamy
Mumbai	J.B. Bhoria
New Delhi	Sandip Ghose

BRANCHES	
Ahmedabad	A. K. Bera
Bangalore	P. Vijaya Bhaskar
Bhopal	Rajesh Verma
Bhubaneswar	B.K. Bhoi
Chandigarh	Jasbir Singh
Guwahati	Surekha Marandi
Hyderabad	A.S. Rao
Jaipur	B.P. Kanungo
Jammu	Arnab Roy
Kanpur	Bazil Shaikh
Lucknow	D.P.S. Rathore
Nagpur	Phulan Kumar
Patna	G. Mahalingam
Thiruvananthapuram	Suma Varma

	OFFICERS-IN-CHARGE
Belapur	Shekhar Bhatnagar, General Manager (OIC)
Dehradun	V.S. Bajwa, General Manager (OIC)
Gangtok	E.E. Karthak, General Manager (OIC)
Kochi	E. Madhavan, General Manager (OIC)
Panaji	M.A.R. Prabhu, Deputy General Manager (OIC)
Raipur	Arvind Kumar Sharma, General Manager (OIC)
Ranchi	Hrudananda Panda, General Manager (OIC)
Shimla	S.K. Bal, General Manager (OIC)

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LIST OF ABBREVIATIONS

ACU	-	Asian Clearing Union
AD	-	Authorised Dealer
ADR	-	Asset Development Reserve
AFI	-	Annual Financial Inspection
AIFIs	-	All India Financial Institutions
ALM	-	Asset Liability Management
AMA	-	Advanced Measurement Approach
AML	-	Anti Money Laundering
APG	-	Asia Pacific Group
APRs	-	Annual Performance Reports
AS	-	Accounting Standard
ASEAN	-	Association of South East Asian Nations
ASSOCHAM	-	The Associated Chambers of Commerce and Industry of India
ATM	-	Automated Teller Machine
BC	-	Business Correspondent
BCBS	-	Basel Committee on Banking Supervision
BCSBI	-	Banking Codes and Standards Board of India
BF	-	Business Facilitator
BFS	-	Board for Financial Supervision
BIS	-	Bank for International Settlements
BO	-	Banking Ombudsman
BPLR	-	Benchmark Prime Lending Rate
BPO	-	Business Process Outsourcing
BPSS	-	Board for Regulation and Supervision of Payment and Settlement Systems
BRBNMPL	-	Bharatiya Reserve Bank Note Mudran Private Limited
BSE	-	Bombay Stock Exchange
BWA	-	Broadband Wireless Access
CA	-	Concurrent Audit
CAB	-	College of Agricultural Banking
CAFL	-	Centre for Advanced Financial Learning
CAS	-	Central Account Section
CBLO	-	Colaterised Borrowing and Lending Obligation
CBS	-	Core Banking Solution
CCR	-	Counterfeit Currency Report
CCs	-	Currency Chests
CDs	-	Certificates of Deposit
CDBS	-	Currency Disintegration and Briquetting System
CDS	-	Credit Default Swaps
CFC	-	Customer Facilitation Centre
CFT	-	Combating Financing of Terrorism
CGFS	-	Committee on Global Financial System
CGRA	-	Currency and Gold Revaluation Account
CII	-	Confederation of Indian Industry
CMBs	-	Cash Management Bills
CNP	-	Card not Present
CoR	-	Certificate of Registration
COSMOS	-	Computerised Offsite Monitoring System
CP	-	Commercial Paper
CPADS	-	Centralised Public Accounts Department System
CPC	-	Cash Processing Centre
CPCs	-	Cheque Processing Centres
CPI	-	Consumer Price Index
CPIO	-	Chief Public Information Officer
CPSS	-	Committee on Payment and Settlement Systems
CR	-	Contingency Reserve
CRAR	-	Capital to Risk-Weighted Assets Ratio
CRCS	-	Central Registrar of Cooperative Societies
CRE	-	Commercial Real Estate Exposure
CRR	-	Cash Reserve Ratio
CSAA	-	Control Self Assessment Audit
CSF	-	Consolidated Sinking Fund
CSGL	-	Constituent Subsidiary General Ledger
CTS	-	Cheque Truncation System
CTS	-	Complaint Tracking Software
CVPS	-	Currency Verification and Processing System
DAD	-	Deposit Accounts Department
DAPM	-	Department of Administration and Personnel Management
DBIE	-	Database on Indian Economy

LIST OF ABBREVIATIONS

DBOD	-	Department of Banking Operations and Development
DBS	-	Department of Banking Supervision
DCCB	-	District Central Cooperative Bank
DCM	-	Department of Currency Management
DEAP	-	Department of Economic Analysis and Policy
DEBC	-	Department of Expenditure and Budgetary Control
DEIO	-	Department of External Investments and Operations
DGBA	-	Department of Government and Bank Accounts
DICGC	-	Deposit Insurance and Credit Guarantee Corporation
DIT	-	Department of Information Technology
DMIS	-	Document Management Information System
DNBS	-	Department of Non-Banking Supervision
DOC	-	Department of Communication
DPSS	-	Department of Payment and Settlement Systems
DR	-	Disaster Recovery
DRG	-	Development Research Group
DRI	-	Differential Rate of Interest
DSIM	-	Department of Statistics and Information Management
DTC	-	Direct Tax Code
D*v*P	-	Delivery *versus* Payment
EBT	-	Electronic Benefit Transfer
ECB	-	External Commercial Borrowing
ECS	-	Electronic Clearing Services
EEA	-	Exchange Equalisation Account
EFT	-	Electronic Fund Transfer
EKP	-	Enterprise Knowledge Portal
EMEs	-	Emerging Market Economies
EMS	-	Estate Management System
EPCG	-	Export Promotion Capital Goods
FATF	-	Financial Action Task Force
FCs	-	Financial Conglomerates
FCA	-	Foreign Currency Asset
FCCB	-	Foreign Currency Convertible Bond
FCI	-	Food Corporation of India
FCL	-	Flexible Credit Line
FDI	-	Foreign Direct Investment
FEDAI	-	Foreign Exchange Dealers' Association of India
FEMA	-	Foreign Exchange Management Act
FICCI	-	Federation of Indian Chambers of Commerce and Industry
FIEO	-	Federation of Indian Export Organisations
FII	-	Foreign Institutional Investor
FIMMDA	-	Fixed Income Money Market and Derivatives Association of India
FIP	-	Financial Inclusion Plan
FIR	-	First Information Report
FIRC	-	First International Research Conference
FLCCs	-	Financial Literacy and Credit Counseling Centres
FMC	-	Financial Markets Committee
FMD	-	Financial Markets Department
FMS	-	Focus Market Scheme
FPS	-	Focus Product Scheme
FRAs	-	Forward Rate Agreements
FRBs	-	Floating Rate Bonds
FRBM	-	Fiscal Responsibility and Budget Management
FRLs	-	Fiscal Responsibility Laws
FSB	-	Financial Stability Board
FSDC	-	Financial Stability Development Council
FSI	-	Financial Soundness Indicator
FSR	-	Financial Stability Report
FSS	-	Farmers' Service Societies
FSU	-	Financial Stability Unit
GCCs	-	General-purpose Credit Cards
GDP	-	Gross Domestic Product
GFCF	-	Gross Fixed Capital Formation
GFD	-	Gross Fiscal Deficit
GMRA	-	Global Master Repo Agreement
GoI	-	Government of India
GRF	-	Guarantee Redemption Fund
GSDP	-	Gross State Domestic Product

LIST OF ABBREVIATIONS

GST	-	Goods and Services Tax
HAPAs	-	High Access Precautionary Access
HLC	-	High Level Committee
HP	-	Hodrick Prescott
HRDD	-	Human Resources Development Department
HRMS	-	Human Resources Management System
HVC	-	High Value Clearing
IAS	-	Integrated Accounting System
IASs	-	Indian Accounting Standards
IAIS	-	International Association of Insurance Supervisors
IBA	-	Indian Banks Association
IBPC	-	Inter-Bank Participation Certificates
ICCL	-	Indian Clearing Corporation Limited
ICCOMS	-	Integrated Computerised Currency Operations and Management Systems
ICOR	-	Incremental Capital Output Ratio
ICT	-	Information and Communication Technology
IDMD	-	Internal Debt Management Department
IDR	-	Indian Depository Receipt
IDRBT	-	Institute for Development and Research in Banking Technology
IES	-	Integrated Establishment System
IFCs	-	Infrastructure Finance Companies
IFRSs	-	International Financial Reporting Standards
IGIDR	-	Indira Gandhi Institute of Development Research
IIBM	-	Indian Institute of Bank Management
IIP	-	Index of Industrial Production
ILO	-	International Labour Organisation
IMA	-	Internal Models Approach
IMF	-	International Monetary Fund
INFINET	-	Indian Financial Network
IOs	-	Inspecting Officers
IOSCO	-	International Organisation of Securities Commissions
IPO	-	Initial Public Offering
IRA	-	Investment Revaluation Account
IRB	-	Internal-Ratings Based
IRDA	-	Insurance Regulatory and Development Authority
IRS	-	Interest Rate Swaps
IS	-	Information Systems
ISO	-	International Organisation for Standardisation
IT	-	Information Technology
ITIL	-	Information Technology Infrastructure Library
IVRS	-	Interactive Voice Response System
KCCs	-	Kisan Credit Cards
KLEMS	-	Capital, Labour, Energy, Material and Services
LAF	-	Liquidity Adjustment Facility
LAMPS	-	Large *Adivasi* Multi-purpose Co-operative Societies
LAN	-	Local Area Network
LOBOM	-	Lower of Book Value or Market Price
LOLR	-	Lender of Last Resort
LPA	-	Long Period Average
MASI	-	Management Audit and Systems Inspection
MDB	-	Multilateral Development Bank
MFIs	-	Micro-Finance Institutions
MFs	-	Mutual Funds
MGNREGA	-	Mahatma Gandhi National Rural Employment Guarantee Act
MICR	-	Magnetic Ink Character Recognition
MLFPS	-	Market Linked Focus Product Scheme
MoU	-	Memorandum of Understanding
MMA	-	Macro Management of Agricultural Scheme
MMS	-	Mail Messaging Solution
MSEs	-	Micro and Small Enterprises
MSS	-	Market Stabilisation Scheme
MSMEs	-	Micro, Small and Medium Enterprises
MTFPS	-	Medium Term Fiscal Policy Statement
MTM	-	Mark-to-Market
NABARD	-	National Bank for Agriculture and Rural Development

LIST OF ABBREVIATIONS

NBFCs	-	Non-Banking Financial Companies
NCDs	-	Non-Convertible Debentures
NCPA	-	National Centre for Performing Arts
NCR	-	National Capital Region
NDS	-	Negotiated Dealing System
NDTL	-	Net Demand and Time Liabilities
NECS	-	National Electronic Clearing Service
NEFT	-	National Electronic Funds Transfer
NFSM	-	National Food Security Mission
NGO	-	Non-Government Organisation
NHB	-	National Housing Bank
NIBM	-	National Institute of Bank Management
NKA	-	Net Capital Account
NPA	-	Note Purchase Agreement
NPA	-	Non Performing Asset
NPCI	-	National Payments Corporation of India
NRI	-	Non Resident Indian
NREGA	-	National Rural Employment Guarantee Act
NSCCL	-	National Securities Clearing Corporation Limited
NSE	-	National Stock Exchange
NSM	-	Note Sorting Machines
NSSF	-	National Social Security Fund
ODI	-	Overseas Direct Investment
OECD	-	Organisation for Economic Co-operation and Development
OIS	-	Overnight Index Swap
OMO	-	Open Market Operation
OPEC	-	Organisation of the Petroleum Exporting Countries
ORFS	-	Online Returns Filing System
OSMOS	-	Offsite Monitoring System
OSS	-	Offsite Surveillance System
OTC	-	Over the Counter
OTS	-	One Time Settlement
PACS	-	Primary Agricultural Credit Societies
PAD	-	Public Accounts Department
PCR	-	Provisioning Coverage Ratio
PD	-	Primary Dealer
PDO	-	Public Debt Office
PDS	-	Public Distribution System
PDAI	-	Primary Dealers Association of India
PKI	-	Public Key Infrastructure
POS	-	Points of Sale
PRGT	-	Poverty Reduction and Growth Trust
PSLC	-	Priority Sector Lending Certificates
QIS	-	Quantitative Impact Assessment
RBIA	-	Risk Based Internal Audit
RBSC	-	Reserve Bank Staff College
RCS	-	Registrar of Cooperative Societies
RD	-	Revenue Deficit
RECS	-	Regional Electronic Clearing Service
RIDF	-	Rural Infrastructure Development Fund
RoA	-	Return on Assets
RoE	-	Return on Equity
RKVY	-	Rashtriya Krishi Vikas Yojana
RMA	-	Royal Monetary Authority
RMD	-	Resource Management Discussion
RRB	-	Regional Rural Bank
RTGS	-	Real Time Gross Settlement
RTP	-	Reserve Tranche Position
SAARC	-	South Asian Association for Regional Cooperation
SACP	-	Special Agricultural Credit Plan
SCB	-	Scheduled Commercial Bank
SCDs	-	Small Coin Depots
SDLs	-	State Development Loans
SDR	-	Special Drawing Right
SEBI	-	Securities and Exchange Board of India
SEZ	-	Special Economic Zone
SGL	-	Subsidiary General Ledger
SHG	-	Self-Help Group
SIDBI	-	Small Industries Development Bank of India
SIFIs	-	Systemically Important Financial Institutions
SIPS	-	Systemically Important Payment Systems

LIST OF ABBREVIATIONS

SLAF	-	Second Liquidity Adjustment Facility
SLR	-	Statutory Liquidity Ratio
SMEs	-	Small and Medium Enterprises
SPMCIL	-	Security Printing and Minting Corporation of India Ltd.
SPV	-	Special Purpose Vehicle
SREP	-	Supervisory Review and Evaluation Process
StCBs	-	State Co-operative Banks
STOs	-	Sub Treasury Offices
STRIPS	-	Separate Trading of Registered Interest and Principal of Securities
SWIPS	-	System-Wide Important Payment System
TAC	-	Technical Advisory Committee
TAG	-	Technical Advisory Group
TBs	-	Treasury Bills
TFP	-	Total Factor Productivity
TwFC	-	Twelfth Finance Commission
ThFC	-	Thirteenth Finance Commission
TSA	-	The Standardised Approach
UBD	-	Urban Banks Department
UCB	-	Urban Cooperative Bank
UID	-	Unique Identity
UIN	-	Unique Identification Number
VAR	-	Vector Autoregression
WMA	-	Ways and Means Advances
WOS	-	Wholly Owned Subsidiary
WPI	-	Wholesale Price Index
ZCYC	-	Zero Coupon Yield Curve
ZTC	-	Zonal Training Centre

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*For the Year July 1, 2009 to June 30, 2010**

PART ONE: THE ECONOMY - REVIEW AND PROSPECTS

I ASSESSMENT AND PROSPECTS

Policy attention shifted from crisis management to recovery in the second half of 2009-10. While growth consolidated, inflationary pressures emanated from the supply side due to weak South-West monsoon in 2009-10. The Reserve Bank had to initiate a process of calibrated exit from the accommodative monetary policy stance starting in October 2009 to contain inflation and anchor inflationary expectations. A clear indication of growth consolidation came during Q4 of 2009-10, when inflation became increasingly generalised. As a result, the Reserve Bank had to accelerate the pace of calibrated monetary adjustment going into 2010-11. While the growth outlook for 2010-11 remains robust, inflation has emerged as a major concern. Going forward, as the monetary position is normalised, addressing structural constraints in several critical sectors is necessary to sustain growth and also contain supply side risks to inflation. The fiscal exit, that has already started, will need to continue. Improving the overall macro-financial environment through fiscal consolidation, a low and stable inflation regime, strengthening of the financial stability framework and progress on structural reforms will help sustain growth and boost productivity. In the domain of central banking, the Reserve Bank will continue to address the medium-term objective of improving the contribution of finance to rapid and inclusive growth.

I.1 Following the global financial crisis, the domestic macroeconomic environment changed significantly over four distinct half-yearly phases starting from the second half of 2008-09. Each phase posed various challenges for the Reserve Bank. First, GDP growth decelerated in the second half of 2008-09, reflecting the impact of the global crisis. The Reserve Bank swiftly introduced a comprehensive range of conventional and unconventional measures to limit the impact of the adverse global developments on the domestic financial system and the economy. Second, in the first half of 2009-10, weakness in the economic activity necessitated continuation of the monetary policy stimulus. The low inflation environment also created the space for continuation of an accommodative monetary policy stance. But, by the middle of the year, a deficient South-West monsoon triggered renewed concerns for recovery as well as food inflation. Third, despite the dampening pulls of the deficient monsoon and an adverse global economic environment, growth in GDP exhibited a robust recovery ahead of the global economy in the second half of 2009-10. Food inflation, that had started rising in response to the weak *kharif* production, turned out to be more persistent in the

* : 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, data are analysed on the basis of financial year. Where available, the data have been updated beyond March 2010. 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.

second half of the year. Rising and increasingly generalised inflation warranted withdrawal of the policy stimulus. Since the policy challenge for the Reserve Bank was to anchor inflationary expectations without harming the recovery, a calibrated approach to monetary unwinding was adopted. Fourth, in the first few months of 2010-11, it became increasingly evident that growth momentum would further consolidate amidst persistent signs of weakness in the global economy, taking the annual growth closer to the pre-global crisis trajectory. But the headline inflation remained at or close to double digits over four successive months of the year and the inflation process had also become more generalised. The balance of policy attention, thus, had to shift from recovery to inflation.

ASSESSMENT OF 2009-10

I.2 In 2009-10, the focus of macroeconomic policy shifted from containing the contagion of the global crisis to management of recovery. The impact of the global crisis on the Indian economy was particularly visible in the extent of deceleration in GDP growth over two successive quarters in the second half of 2008-09, and the weakness in both private consumption and investment demand. While exports declined, growth in industrial production decelerated sharply, capital inflows reversed, corporate sales growth dipped, exchange rate of the Rupee depreciated and asset prices, particularly stock prices, fell.

I.3 Towards managing the crisis, the Reserve Bank had lowered the repo rate by 425 basis points, the reverse repo rate by 275 basis points and the CRR by 400 basis points over a period of about seven months between October 2008 and April 2009. The overall provision of potential liquidity through conventional as well as several non-conventional liquidity windows was close to ₹5,60,000 crore, or equivalent of about 9.0 per cent of GDP. The magnitude and the speed of monetary policy response were unprecedented, reflecting the scale and potential impact of the global crisis. The fiscal response, that involved deviation from the fiscal consolidation path defined by the FRBM, had also led to expansion in gross fiscal deficit of the central government from 2.5 per cent of GDP in 2007-08 to 6 per cent in 2008-09.

I.4 By the beginning of 2009-10, it was apparent that the risk of contagion to the financial system was minimal, even though sustained weakness in the real economy put some stress on the financial system. To enable a faster recovery, the growth supportive fiscal and the monetary policy stances continued into the first half of the year. As headline inflation turned negative during June-August 2009, the risks from policy stimulus were low in the near term. Financial market activities recovered ahead of GDP, and with the return of capital inflows, the Rupee also appreciated, reversing part of the depreciation that took place in the second half of 2008-09. Subdued private consumption demand and depressed private investment demand were reflected in the deceleration in credit and money growth. The large borrowing programme of the government, which was frontloaded in the first half, was managed in a non-disruptive manner, reflecting pro-active liquidity management by the Reserve Bank.

I.5 In the second half of the year, firmer signs of robust recovery gradually emerged. Investment demand accelerated, corporate sales growth picked up, credit demand recovered, exports and imports turned around, industrial production witnessed sharp recovery and capacity utilisation levels improved. Although a deficient monsoon dampened agricultural output, given the lower share of agriculture, adverse impact on overall GDP growth was small. However, against the backdrop of structural imbalances in many agricultural products, deficient monsoon had a stronger impact on inflation. Inflation in primary commodities moved up from single digit in October 2009 to 18.3 per cent by March 2010. There was also increasing generalisation of the inflation process, with high inflation in both manufactured products and fuel group. There was evidence of inflation persistence,

and relative price variability also declined, indicating increasing generalisation.

I.6 Notwithstanding the limitations of monetary policy in dealing with inflation driven by supply shocks, the Reserve Bank initiated calibrated normalisation of monetary policy aimed at anchoring inflationary expectations without hurting the recovery. Plans for fiscal exit were also announced in the Union Budget for 2010-11 in February 2010. Thus, while fiscal and monetary policy responses to the global crisis contributed to a faster recovery in growth in 2009-10, the need for appropriately timed policy exit was recognised early, in view of the emerging inflationary pressures as also the challenge to medium-term growth from high inflation and a weak fiscal position.

PROSPECTS FOR 2010-11

I.7 The outlook for GDP growth in 2010-11 has improved significantly, given the broad-based, robust recovery seen in the last quarter of 2009-10. The prospects of continuation of the momentum are good, driven by buoyant performance of the industrial sector, a better performance of the monsoon relative to last year, and sustained resilience of services. From the demand side, investment demand had already witnessed a sharp acceleration by the fourth quarter of 2009-10 and trends in the growth of production of capital goods in the first quarter of this year suggest continuation of the momentum. Private consumption demand, going by the recent pattern in corporate sales, the production of consumer durables and auto sales suggest a gradual pick-up, which could accelerate to make the growth process more self-sustaining. Although concerns about a possible weakening of global recovery persist, domestic risks to growth have receded significantly. As a result, the Reserve Bank revised upwards its GDP growth projection for 2010-11 to 8.5 per cent in July 2010, from 8 per cent with an upward bias in April 2010.

I.8 Supply bottlenecks, whether in the form of inability of production to respond to growing demand or in the form of inadequacy of the supply chain, have exerted significant inflationary pressures in recent years, impeding the progress on inclusive growth through asymmetric impact on different sections of the society. In the first quarter of 2010-11, headline inflation remained in double digits. Continuation of the monetary policy normalisation process that started in October 2009 led to cumulative increase in the repo rate by 100 basis points, the reverse repo rate by 125 basis points and CRR by 100 basis points, effected over the period February 2010 to July 2010. The effective policy rate has, of course, been raised by 250 basis points in view of the repo rate emerging as the operating rate. Taking into account the double digit inflation in the first quarter of 2010-11, as well as the expected beneficial effect of a relatively better monsoon on food inflation, the base line projections available about global commodity prices, and the lagged impact of monetary policy measures, the Reserve Bank revised its inflation projection to 6.0 per cent for March 2011 in July 2010 from the earlier projection of 5.5 per cent made in April 2010.

I.9 The global economy, which recovered faster than expected in the first quarter of 2010, slipped again into a state of uncertainty caused by concerns relating to fiscal sustainability in the Euro zone and other advanced economies. Advanced economies will need to resolve the tension between continuing the fiscal stimulus to sustain the recovery and returning to fiscal consolidation to preserve medium-term growth prospects. The volatility in global markets so far has affected Indian stock markets, and the global near term outlook for trade and capital flows is uncertain. While the strength of domestic growth implies that import growth will exceed export growth, persistence of risk aversion among global investors due to uncertain global environment could make capital inflows more volatile. The multi-speed growth pattern across advanced and emerging economies and their divergent inflation paths would widen further the asymmetry in monetary exit, all of which could potentially add volatility to global commodity and asset prices as well as exchange rates. The uncertain global environment warrants adoption of caution in the formulation of policies during 2010-11.

I.10 In the evolving domestic and external environment, the Reserve Bank would have to deal with several near to medium-term challenges, many of which are complex and involve trade-offs. Some of the major challenges are outlined here.

NEAR TO MEDIUM-TERM CHALLENGES FOR THE RESERVE BANK

Monetary Policy Response to Supply Shocks

I.11 Negative supply shocks in last two years have imparted significant volatility to the inflation path in India, besides causing headline inflation to remain high. This has posed a challenge to the low and stable inflation objective of the Reserve Bank, given the usual limitations of monetary policy to deal with supply side pressures on inflation. Unlike demand shocks, supply shocks have asymmetric implications for inflation and growth. In the case of a negative demand shock, such as wealth loss arising from a crash in asset prices, the impact on output and prices generally moves in the same direction. As a result, the policy response becomes unambiguous. In the case of a negative supply shock, such as an increase in international oil prices or failure of monsoon, however, while headline inflation goes up, output may come down. Thus, in the case of a negative supply shock, a central bank encounters the dilemma of stabilising output *versus* containing inflation.

I.12 The Reserve Bank had to face this dilemma when the economy was recovering from a slowdown in growth in the second half of 2009-10. Despite the high headline inflation and increasing persistence and generalisation of the inflation path, the output stabilisation objective had to be pursued along with the anti inflationary measures aimed at anchoring inflation expectations. Given the asymmetric impact of negative supply shocks on output and inflation, the Reserve Bank's monetary policy actions needed to be crafted carefully, based on an assessment of what monetary policy could do effectively for such sources of inflation and the risk to recovery it may pose by premature monetary tightening. This was reflected in the Reserve Bank's calibrated approach to monetary policy normalisation, where the direction of policy was clear, even though the timing and magnitude of each action was conditioned by the evolving growth-inflation outlook, along with assessment of risks, both domestic and external.

I.13 Repeated supply shocks pose a constant challenge to ensuring a low inflation regime in India, which is necessary for achieving inclusive high growth. A medium-term approach is required to augment the supply by addressing structural supply constraints, particularly in items of mass consumption. Agricultural productivity requires particular attention, since demand-supply gaps in basic items such as pulses, oilseeds, vegetables and dairy products are growing, and with rising income and growth of the middle class, demand for such items will exhibit sustained increase. There are certain other items where the supply situation is also highly volatile, as has been the case with sugar in recent periods. One of the objectives of maintaining buffer stocks is to stabilise prices when output of basic consumption items decline. During 2009-10, however, the stocks of wheat and rice actually increased even when retail prices were high and domestic foodgrain production declined. While the critical significance of food security suggests the need for continuation of the policy of maintaining adequate buffer stocks, their timely use through more efficient distribution during periods of adverse shocks to farm output should receive grater policy attention. It has to be recognised that to meet the demand of a 1.2 billion population, India cannot depend on imports on a sustained basis, since imports at high cost, besides not helping in containing inflation will also potentially dilute efforts that may have to be put in place to address the domestic supply constraints.

I.14 Crude oil has been another major source of supply shock, and import dependence in oil to the extent of more than 80 per cent adds complexity to management of inflation. Unlike food, the spillover to the core inflation in the case of oil is much faster, through the input cost

channel. While the past policy of allowing only partial pass-through to domestic inflation through an administered pricing mechanism helped in stabilising the influence of volatile international oil prices on domestic inflation, it also exerted significant fiscal pressures. Weak fiscal conditions represent a potential risk to both medium-term inflation and growth outlook. The June 2010 decision of the government to deregulate petrol prices completely while also revising the prices of other administered petroleum products to better reflect the international price trends is an important, long overdue reform, even though it came at a time when the headline inflation was already high. Complete deregulation of all petroleum products in due course will have to be the next logical step of this important reform. This will, first of all, help in avoiding suppressed inflation, which in turn will facilitate better adjustment of demand through greater energy conservation. Secondly, public sector oil companies often delay necessary investment plans under the burden of large under-recoveries associated with the administered pricing system. Greater investment on exploration activities and addition of refining capacity could also be possible with complete price deregulation. More importantly, full pass-through of international prices to domestic prices will encourage greater investment in alternative sources of energy. Since fuel for cooking purposes is a basic need, that may have to be subsidised at the margin, given particularly the risk to environment through deforestation as a possible response to high cost of cooking. But such subsidies must be better targeted and also appear explicitly in the budget, and be financed within the broad contours of the envisaged fiscal consolidation.

I.15 With services accounting for the largest share of the country's GDP, and increasing proportion of disposable income of the people being spent on services, prices of commonly used services have become important from the stand point of assessment of consumer welfare. While prices of certain services like telecommunications have declined considerably, prices of other services like private education and health care have gone up significantly, though part of that may reflect premium for improving quality of services. For a realistic assessment of inflation conditions, thus, there is a need for a more representative national level measure of consumer inflation that covers the consumers across all sections of the society and also includes mass consumption services.

Improving Monetary Policy Transmission

I.16 The ability of monetary policy actions to achieve the ultimate goals relating to inflation, growth and even financial stability depends largely on the efficiency of the transmission process. Monetary policy decisions normally transmit through the financial system to the economy. Long and variable lags noticed in a country-specific context suggest that monetary policy should be forward-looking. In the wake of the global crisis, most of the advanced economies experienced sudden weakness in the transmission channel as their financial markets ceased to function normally. In India, since the financial system did not face a crisis, the damage to the transmission channel was minimal, even though the pre-global crisis time structural rigidities continued to limit the effectiveness of Reserve Bank's monetary policy actions. The major factors weakening transmission in India have been the administered interest rate structure on small savings, which are effective substitutes of bank deposits, structural asymmetry faced by banks in terms of the extent of rigidity seen in interest rates on outstanding term deposits in relation to cycles of policy rates, the fiscal stance often conditioning the market interest rates through the size of the borrowing programme, and the practice of large percentage of loans extended by the banks at below benchmark prime lending rate (BPLR), which added opacity to the assessment of transmission, besides also creating the scope for cross-subsidisation in terms of under-pricing of credit for corporates and overpricing of loans to agriculture and small and medium enterprises.

I.17 With a view to imparting transparency to the loan pricing process, and improving the assessment of monetary policy transmission and promoting competition in the credit market, the Reserve Bank introduced a new system of "base rate" effective from July 1, 2010, which replaced the earlier BPLR system. Transparency is critical for effective functioning of markets and promotion of competition. Moreover, there was a need for putting in place a relevant benchmark for pricing of loans, where the benchmark is linked to cost of funds as well as cost of operations. The base rate, thus, is expected to help in improving and enhancing the visibility of the transmission of monetary policy signals to credit markets. The recent decision of the government to appoint a committee to examine the issue of deregulating interest rates on small savings or to benchmark to market rates is important, given the known constraint to transmission from current arrangements of fixing interest rates on small savings unrelated to trends in market interest rates.

I.18 The other issue of policy relevance in the context of transmission is the possible existence of asymmetry in the pace of transmission in relation to different phases of the policy rate cycles. While the transmission during a phase of falling policy rates could be slow, the transmission may be somewhat faster when the policy rate cycle reverses. The impact of the Bank's calibrated monetary tightening was reinforced by sudden withdrawal of liquidity from the system in June 2010 due to 3G/BWA auction related increase in government's surplus balances with the Reserve Bank. The resultant shift in the LAF from reverse repo to repo involved a significant effective increase in the call rates, where the impact was 150 basis points higher than the extent of the increase in repo rates, given the 150 basis point width of the policy interest rate corridor. In July 2010, the width was brought down to 125 basis points; the narrowing of the band with a larger increase in the reverse repo rate will contribute to the intended anti-inflationary stance even if the LAF returns to the reverse repo mode temporarily. More importantly, given the large effective transmission of the policy rate changes through the call rate, both deposit and lending rates can be expected to edge up gradually to enhance the impact of monetary tightening measures already effected to contain inflation, with a lag. In pursuing anti-inflationary tightening of policy rates, faster transmission would enhance the effectiveness of monetary policy.

I.19 Policy rate changes do not operate only through changes in the term structure of the interest rate, but also through changes in the exchange rate, asset prices, and capital flows, all of which are sensitive to policy rate changes. The complexity of the process in transmission also has to be seen in the context of multiple assets of varied maturity held in the economy, all of which are not part of the conventionally measured stock of money. Besides deposit and lending through the banking system which are captured in the usual measures of monetary aggregates, alternative financing of transactions or economic activities, both from non-banking and external sources have increased significantly in step with the financial sector reforms. Thus, while complexity in the transmission process has increased over the years, the Reserve Bank has consistently taken measures to improve the transmission process, primarily through the development of financial markets as well as deregulation of interest rates, while also promoting competition in the financial system.

Fiscal Space for Increasing the Flexibility of Monetary Policy

I.20 In response to the global crisis, there was significant coordination between the government and the Reserve Bank in planning policy actions, conditioned by the compelling circumstances. Low inflation and weak demand for credit from the private sector allowed the Reserve Bank to maintain ample liquidity conditions and complete large borrowings of the government in a non-disruptive manner during 2009-10. With inflation firming up in the second half of 2009-10 and demand for credit from the private sector also exhibiting acceleration

in growth, fiscal exit became essential to gain the space required for monetary policy to respond effectively to the situation. Persistence of fiscal imbalances over extended periods tends to increase risks for inflation through money-financed pressures on aggregate demand, interest rates through crowding-out pressures, and exchange rate through the twin deficit channel. The Reserve Bank, thus, stressed the importance of fiscal consolidation once signs of a stronger recovery in growth started to emerge during 2009-10. The extent to which fiscal imbalances could pose risks to growth and financial stability became evident in several Euro zone countries, starting from the beginning of 2010-11 when market assessment of sovereign risks changed significantly in anticipation of possible default by Greece and a few other countries. The medium to long-term costs of fiscal stimulus used by countries in response to the global crisis have now started to surface, leading to the realisation that a financial crisis managed through fiscal interventions could potentially lead to a fiscal crisis.

I.21 The Union Budget for 2010-11, recognising the importance of fiscal consolidation to improve the overall macro-economic environment, announced plans for exit, both during the year and over the medium-term. The high growth phase of India during 2003-08 benefited from as well as facilitated the progress on fiscal consolidation. The emphasis in the current phase of consolidation, however, should be on the quality of adjustment, while also building adequate fiscal space to deal with future adverse shocks to growth and inflation. The strategy of consolidation in the medium-term cannot place undue importance on one-off gains in revenue, as they will not be available in the future. The receipts from 3G/BWA spectrum auctions turned out to be ₹1,06,262 crore, more than three times of the budgeted expectations of ₹35,000 crore. These additional resources, however, would be used to fund additional expenditure as reflected in the first batch of Supplementary Demands for Grants for 2010-11. Thus, such one-off gains are not available to contain fiscal deficit. It would be desirable to adopt a holistic approach involving measures to augment revenue collection on a sustainable basis and rationalisation of recurring expenditure, with a focus on curtailing non-plan revenue expenditure. In this regard, subsidy reforms, such as the pricing of petroleum products linked to international prices are important to eliminate the scope for accumulated under-recoveries, which have been a major potential source of stress on the fiscal situation. The proposed implementation of the Direct Tax Code (DTC) and Goods and Services Tax (GST) by April 2011 will also ensure much needed reforms reflecting the changing structure of the economy and increasing integration of the economy with the rest of the world.

I.22 Fiscal consolidation needs to be carried forward, with particular emphasis on the quality of fiscal adjustment. The fiscal space in India is critical not only for the usual output stabilisation requirements around a high growth path, but also for limiting the impact of temporary but large supply shocks on headline inflation. After the sovereign debt-related concerns and the associated economic impact in the Euro zone, it is also possible that international investors will assign much greater importance to fiscal conditions of a country while planning their country exposures. This, in turn, has implications for capital flows.

Capital Flows – Managing Surges and Sudden Stops

I.23 Volatile capital movements have influenced the domestic stock price movements, exchange rate and domestic liquidity conditions significantly in the past. In 2009-10, the current account deficit widened to 2.9 per cent of GDP. Volatile capital flows have been a potential source of instability for EMEs. Costs could magnify for an economy during periods of both too little and too much of capital flows, unless they are managed judiciously. India, in recent years, had to manage phases characterised by large net inflows as well as sudden outflows in the midst of a global crisis. A judicious mix of flexible exchange rate, sterilisation of the

impact of inflows on domestic liquidity, cautious approach to liberalisation of the capital account, and the cushion of foreign exchange reserves has been used to deal with the adverse ramifications of capital flows.

I.24 While capital inflows last year and this year so far have remained moderate, there is a possibility of return of another phase of surge in capital flows to India, in response to global search for yield in an environment of easy liquidity conditions in advanced economies and the prospect of relatively higher return on investment in India in view of its superior growth outlook. While stronger growth could help in absorbing higher magnitude of foreign capital within the limits of sustainable current account deficit, excess inflows would entail the risk of exerting appreciation pressure on the exchange rate of the rupee, which in turn could weaken the competitive advantage of Indian exports. Sterilised interventions could limit the pressure on appreciation, but may lead to a higher interest rate environment. Unsterilised intervention, that could relieve the pressure on both exchange rate and interest rate, however, would involve excess liquidity creation. In an environment of high inflation, this option could only exacerbate the situation further.

I.25 High inflation would also adversely impact export competitiveness, through appreciation of the real effective exchange rate (REER), which would further widen the CAD. Excess capital flows, thus, would continue to pose challenges for the country's exchange rate, interest rate and inflation environment, and through these channels, may at times also weaken the beneficial impact of capital flows on economic growth. Unlike the pre-global crisis period, international perception seems to have changed significantly in terms of support for use of soft capital controls to deal with excessive capital flows. In the case of EMEs, surges in capital flows have contributed to asset price build up, along with exchange rate appreciation. Given the complications asset price build-up could pose for monetary policy and the potential risks to financial stability, management of capital flows in India would need to constantly strike a balance between the objectives of growth and financial stability.

Financing of Infrastructure

I.26 The infrastructure gap of India, both in relation to other major countries and its own growing demand, has been a key factor affecting the overall productivity of investments. In a global context, India's productivity gap continues to be significant relative to several Asian countries. According to a recent report of the ILO (2010), India's labour productivity lags behind China and ASEAN, though the gap is narrowing. Preliminary findings of the India-KLEMS project on total factor productivity estimates also suggest moderation in productivity over the period 1997-2005 compared to the period 1992-97, due to significant decline in productivity in agriculture and industry (Box II.3). To raise productivity levels, higher investment in technology and infrastructure would be critical. Entrepreneurship needs to be incentivised for promotion of innovation and raising expenditure on research and development. The infrastructure gap in the power sector has been particularly high, and given the growing demand, larger capacity addition on a sustained basis would be required. Recent peak deficit levels in the case of power has been about 14 per cent, and the transmission and distribution losses also exceed 25 per cent. The requirement of high initial capital outlay, that too over longer terms, necessitates measures to address the financing constraint to capacity expansion in infrastructure.

II.27 The infrastructure investment need during the Twelfth Plan (2012-17) period is estimated to be about US$ 1 trillion. The scale of the requirements needs to be seen in relation to India's GDP of US$ 1.3 trillion in 2009-10 and total outstanding credit for the banking system as a whole of US$ 0.7 trillion. Despite increasing participation of the private sector in bridging the infrastructure gap, public investment still has to play a dominant role. Fiscal consolidation and reorientation of expenditure towards capital expenditure would be important to meet the target.

The banking system, despite the risk of asset-liability mismatch while lending long-term for infrastructure projects, has seen high growth in credit to this sector in recent years. Bank credit to the infrastructure sector witnessed an annual compound growth of 48.6 per cent during the last ten years, and the share of bank finance to infrastructure in gross bank credit increased from about 2 per cent to more than 12 per cent during the corresponding period. Thus, while banks continue to be a prime source of financing for infrastructure projects, alternative non-banking financing has to be attracted with appropriate policies to be able to address the financing constraint to growth in infrastructure.

I.28 This suggests that private non-banking financing has to increase significantly, from both domestic and external sources. Equity and debt financing needs would require more accommodative FDI policies, development of a domestic corporate debt market and creation of debt funds. The India Infrastructure Debt Fund (IIDF) (proposed by the India-US Business CEOs Forum, the feasibility of which is being examined by the Planning Commission) aims at addressing a key challenge in the current financing pattern of infrastructure in India. The IIDF could be attractive for investors since they will acquire the infrastructure assets when the earnings from the investment would have started flowing in the form of user charges or tolls. The initial funding during the gestation lag, when the risk on investment is higher, may still have to come from banks or the government. While banks will get return in relation to higher risk, they would also be able to limit the asset liability mismatch. How the takeout financing market develops in India would be important, since banks may find little sense in transferring assets after the risky phase of investment gets over.

Financial Inclusion – Strengthening the Contribution of Finance to Sustainable Growth

I.29 The benefits of financial sector reforms have been visible in the step up in India's growth trajectory. Along with higher growth, better distribution of the benefits of growth across different sections of the society and regions so as to contain inequality, reduce the incidence of poverty and improve the employment situation also needs to be pursued. While the incidence of poverty declined from 36 per cent in 1993-94 to 27.5 per cent in 2004-05 (as per the latest available NSS data), the absolute level of poverty remains daunting. Employment growth in the organised sector during 1994-2007 had also declined (Economic Survey, 2009-10). Because of the high food price inflation in recent years, the impact on the poorer sections of society in terms of erosion in purchasing power of income would have been stronger, since they lack an effective hedge against inflation. One of the avenues through which the welfare of the poor and unemployed could be improved is better access to credit and financial services. The potential of the financial system has not been harnessed fully due to the extent of financial exclusion prevailing today. Standard indicators of financial inclusion, ranging from percentage of population having bank accounts, insurance protection and debit/credit cards to distribution of availability of banking business across states, across different sections of the society and between urban and rural centres, suggest the possible existence of enormous untapped growth potential, which has not been exploited, partly due to lack of access to finance at reasonable cost. The current level of banking penetration, measured in terms of outstanding bank credit to GDP, is significantly below the levels reached in advanced economies and several EMEs.

I.30 The Reserve Bank has significantly scaled up its efforts aimed at increasing the level of penetration of bank financing in the economy, using appropriate regulation as well as moral suasion. The regulation on branch licensing has been relaxed to promote financial inclusion. The recent deregulation of bank lending rates for small loans below ₹2 lakh should promote financial inclusion by increasing the credit flow to small borrowers at reasonable rate and direct bank finance would

provide effective competition to other forms of high cost credit. Domestic commercial banks are also required to prepare their own Financial Inclusion Plans (FIPs) and implement over coming years, adhering to their laid out performance assessment norms. The Unique Identification Number (UID) project of the government will also help banks in meeting the Know Your Customer (KYC) norms while furthering financial inclusion. The government has already set up two funds – the Financial Inclusion Fund for meeting the costs of developmental and promotional interventions towards financial inclusion, and the Financial Inclusion Technology Fund for meeting the costs of technology adoption. Many government schemes involving large amounts of money often do not reach the targeted group of people in the absence of adequate penetration of banks. Financial inclusion could enhance the benefits of government programmes through direct transfer of the amounts to the bank accounts of the beneficiaries.

I.31 While the contribution of agriculture and allied activities to overall GDP has declined over time to about 15 per cent, a large segment of the labour force and population still depends on agriculture and unorganised production activities and also live in rural areas. The proposal to set up a National Rural Financial Inclusion Plan with a target of providing access to financial services to at least 50 per cent of the excluded rural households by 2012, and the remaining by 2015, needs to be adopted.

I.32 Given that the recent trend in urbanisation will accelerate, financial inclusion initiatives may also need to focus on the urban population since the needs, expectations, and constraints of the financially excluded people in the urban centers could be completely different. Financial inclusion is a win-win proposition for the people, banks and the nation. The merits of financial sector reform need to be seen through the prism of what finance could do to harness the growth potential with stability, and financial inclusion represents a critical component of the policy process that intends to make the financial system serve the needs of the real economy.

Financial Sector Reforms – What Next?

I.33 The Indian approach to financial sector reforms, so far, has been driven by the predominant objective of enhancing the role of finance in promoting growth and economic development, while preserving financial stability, which is equally critical for sustained economic progress. While balancing the goals of efficiency and stability in introducing reforms, the Reserve Bank has moved towards deregulation of interest rates, encouraged competition, both from outside and within the country, promoted development of markets, and strengthened the legal infrastructure to facilitate better enforcement of financial contracts.

I.34 It has progressively liberalised the branch authorisation policy, providing in-built incentives for branch expansion in the unbanked areas. With regard to bank consolidation, the Reserve Bank has generally favoured a market-driven process. While there are merits in mergers/amalgamations from the regulatory point of view, such as creation of stronger banks with larger capital base, improved financial parameters, higher exposure thresholds, international acceptance and capacity to reap economies of scale and scope, larger benefits from mergers would accrue only where there may be synergy in operations and technology. If compatibility issues are not addressed properly, mergers could pose problems such as customer attrition, implementation costs and staff issues. On the issue of consolidation, the general preference on size of a bank should be neither too small to lack scale efficiency nor too large to cause too-big-to-fail and market dominance concerns.

I.35 As regards the entry of foreign banks, the roadmap, which was up for review in 2009, was put on hold in light of the crisis. As announced in the Annual Monetary Policy for 2010-11, the Reserve Bank is in the process of preparing a discussion paper on the mode of presence of foreign bank in India or through wholly owned subsidiaries (WOS). Lessons from the global crisis have supported the subsidiary route or domestic

incorporation of foreign banks as it would provide better regulatory control over foreign banks and would also facilitate a simpler resolution in the event of bankruptcy, in relation to a branch structure.

I.36 Market development continued in India, even when the impact of the global crisis was still not over, as evident from the Bank's initiatives to introduce currency futures in more currency pairs, interest rate futures, and credit default swaps (CDS). Going forward, three areas will continue to be important in policy debates, *i.e.*, development of long-term corporates bond markets, derivative markets to facilitate better price discovery and risk transfers, and more competition by allowing greater foreign participation.

I.37 Financial sector reforms will comprise banking, pension and insurance sectors. After the global crisis, the issue of inter-connectedness and systemic risks concerns will require greater policy focus while furthering the next course of reforms. The Financial Stability and Development Council (FSDC), that was announced to be set up in the Union Budget for 2010-11, aims at strengthening the institutional mechanism for financial stability, with an emphasis on macro-prudential supervision, large conglomerates and regulatory coordination. While coordination councils comprising both government functionaries and regulators would serve the intended objectives, particularly through exchange of information and views, there has to be a clear recognition that committees cannot assume executive responsibility for financial stability, especially in a crisis situation where speed and surprise could be the key elements of response. Moreover, explicit demarcation of responsibilities can help in strengthening crisis prevention, through speedy and effective response in the demarcated areas. Clarity in responsibilities is critical for effective accountability.

I.38 Since the global crisis, there has been a decisive shift in trend towards assigning increased responsibility to the central banks for both "systemic oversight" and "macro-prudential regulation". This greater responsibility is driven by the capability of the central banks among regulators and public institutions to perform the intended task. In order for the Reserve Bank to effectively discharge such responsibilities, the issue of institutional independence and autonomy becomes important. The recent enactment of the Securities and Insurance Laws (Amendment and Validation) Bill 2010 amending *inter alia* the RBI Act, 1934 had raised concerns in this regard. During the Parliamentary debate on the Bill, the government gave an assurance that the scope of the proposed Bill will be restricted to jurisdictional disputes on regulation. In operationalising the arrangement envisaged under the Bill, it is important to ensure that the autonomy of the regulators is not compromised, either in fact or in perception.

I.39 Central banks have robust frameworks for macroeconomic analysis, and in India, the Reserve Bank has the responsibility for micro-prudential supervision of banks and non-banking financial companies. As a result, while macroeconomic analysis has helped in strengthening the micro-prudential supervision, supervisory information aggregated for the financial system as a whole has also helped in conducting more appropriate macroeconomic policies.

I.40 The Reserve Bank has been deeply involved in the development of markets, and it monitors and analyses the impact of market trends on the economy and financial institutions. One responsibility which is already being undertaken by the Financial Stability Unit in the Bank relates to analysis of interactions between markets, financial institutions and the economy. Based on such macro-prudential analysis, it is expected to guide the course of macro-prudential supervision and regulation in India. Another important reason why central banks have to be the systemic risk regulator is because of their mandate on Lender of Last Resort (LOLR). It became evident during the global crisis how liquidity support through unconventional measures had to be extended by central banks to market entities not regulated by the central banks, in order to avert a liquidity crisis magnifying into a financial crisis. In India, the

unique combination of responsibilities for macro-prudential regulation and micro-prudential supervision together with an implicit mandate for systemic oversight has allowed the Reserve Bank to exploit the synergies across various dimensions. Going forward, given the complex nature of the challenge, strengthening significantly the capacity for systemic risk assessment and macro-prudential regulation would be critical for the Reserve Bank.

Systemic Stability Risks – The New Regulatory Architecture for the Financial System

I.41 Addressing the regulatory gaps based on the lessons from the global financial crisis in advanced economies will be a major challenge for regulators all around the world. Much of the challenges in the domain of financial stability regulation would arise from complexities surrounding the assessment of systemic risk, interconnectedness, common exposures, risk concentrations in complex innovative products and use of models to manage and price risks which at times mask information. Even in areas where there is convergence of opinion, such as dynamic provisioning and counter-cyclical prudential regulation, their effectiveness is yet to be validated fully, since such measures may not be enough to avoid asset price bubbles and the associated risks to financial system stability. Errors in judgement while using macro-prudential measures could also trigger unanticipated adverse effects for the real economy.

I.42 The post-crisis deliberations on future approach to strengthening financial stability broadly cover areas such as systemic risk regulation, tighter capital and liquidity standards, regulation and treatment of derivatives, restricting the activities of banks, resolution mechanisms to deal with failure of too-big-to-fail institutions, consumer protection, and introduction of a levy on banks. Some of the issues are yet to see international consensus, while others will be adopted in due course, either in response to development of clear international standards or as felt appropriate in country specific context. The common international response supporting stronger minimum capital adequacy requirements, with a focus on both the quality and quantity of the capital, and higher liquidity requirements could also involve some sacrifice of growth and employment. Thus, just as conflicting demands of growth and inflation objectives at times warrant clearer prioritisation of the focus of monetary policy, the apparent conflict between financial stability and economic growth would also have to be managed while adopting new regulatory changes to strengthen financial stability.

I.43 In view of the ambiguity persisting even after the global crisis about the role of monetary policy in relation to asset prices, use of prudential measures to regulate the exposure of regulated entities to asset price cycles could help in strengthening the overall stability framework, even though volatility in asset prices may still persist. The financial stability goal will require use of a combination of instruments involving regulation, supervision and monetary/macroeconomic policies to enhance the effectiveness of crisis prevention. Monetary policy, in pursuing the growth objective may remain accommodative for an extended period at times, which in turn could fuel credit and asset bubbles and thereby jeopardise the financial stability goal. Similarly, use of fiscal stimulus to limit the adverse real effects of a financial crisis could at times give rise to a fiscal crisis, which in turn could be a source of instability for the financial system. Thus, in the process of balancing inflation and growth considerations in the conduct of macroeconomic policies, financial stability has become a critical component, which would add complexity to policy formulation.

I.44 Countries like India are yet to fully benefit from the financial system in harnessing the growth potential and achieving various developmental objectives. Any regulatory actions that may limit the flow of credit to the productive sectors of the economy would clearly bring to the fore the trade-off between stability and growth. In India, financial inclusion as a means to sustainable and inclusive growth will be a key factor in managing the trade-off.

Globalisation-induced Challenges to Monetary and Financial Sector Policies

I.45 The global crisis revealed how countries are interlinked beyond the conventional channels of trade and capital flows. Globalisation will continue to be a source of opportunity to maximise the country's growth potential, but there would be increasing pressures on current comparative advantages of India, besides raising the scope for faster transmission of shocks from the global economy to the domestic economy. Changes in global growth and inflation conditions, monetary policy stance of advanced economies, asset market trends, movements in exchange rates of key currencies and global commodity prices increasingly affect domestic macroeconomic and financial conditions, quite unrelated to domestic fundamentals or policies. In the past, global imbalances and the pattern of "capital flowing uphill", the challenge of the impossible trinity and costs of country specific approach to deal with the trinity, and inadequacy of global safety nets have posed complex globalisation-induced policy challenges for India, like other globalising EMEs.

I.46 For the purposes of appropriate and effective domestic policy response to global developments, constraints arise from two sources; first, the uncertainty about how stress originating in the domestic financial markets because of external developments could transmit to the real economy and second, how monetary policy responses could transmit through the financial markets to the ultimate goal variables. While past experience and empirical regularities can guide the actual conduct of policy response, at times, this may prove inadequate, if not inappropriate. Sound domestic policy environment is increasingly more important to minimise the impact of global shocks on domestic real economy. Past experience shows that some of the global shocks will emerge suddenly as black swans, and hence, policy space must be created and preserved at every stage to deal with such shocks.

Summing-up

I.47 The period since the middle of 2008-09 has been exceptionally challenging for the Reserve Bank, as it had to contend with testing conditions in three dimensions of its major objectives for the economy, *i.e.,* financial stability, growth and inflation. By the beginning of 2009-10, policy measures taken simultaneously in different segments of the financial markets in response to the global crisis had ensured return of normal conditions. Preventing a financial crisis at home in the face of a strong contagion from the global crisis became possible because of both swift and comprehensive policy measures introduced by the Bank, sound financial regulation and supervision, as well as moderate financial integration.

I.48 Even while financial contagion could be contained, the real economy slowed down in the second half of 2008-09 as the impact of the trade and confidence channels of contagion turned out to be much stronger than expected. Dealing with such a shock to the growth process was a challenge, since revival of confidence in response to recovery supportive monetary policy actions remained uncertain. The confidence building measures required strong coordination between the government and the Reserve Bank. This was reflected in deviation from the fiscal consolidation path, large increase in the borrowing programme of the government, ample liquidity conditions created by the Reserve Bank and significant reduction in policy interest rates. Even though India avoided a crisis, the magnitude of the policy response was akin to what was necessary to manage a crisis.

I.49 In moving from the "crisis management" phase in the second half of 2008-09 to "managing the recovery" during 2009-10, the same level of policy stimulus was allowed to continue till there was visible evidence of recovery in growth. In sustaining the growth supportive monetary policy stance, the pace and sustainability of recovery in private demand and risks to inflation were the two

critical factors. While persisting with a growth-supportive monetary policy stance, the Bank also ensured smooth completion of a large borrowing programme of the government, which was necessary to ensure the efficacy of the fiscal stimulus. Well functioning financial markets, with access to liquidity available from the Bank at low rates, helped in avoiding any constraint from the financial sector to the recovery.

I.50 The balance sheet of the Bank was managed prudently, and the asset and liability side developments reflected the result of operations of the Bank undertaken during the year in pursuit of its broad macroeconomic and financial sector objectives. The economy recovered with a lag in response to the stimulus, but in the second half of 2009-10 inflation exhibited acceleration, persistence and generalisation, as a result of which the balance of policy concerns shifted from recovery to inflation.

I.51 In 2010-11 so far, downside risks to growth have subsided significantly; on the other hand, high and generalised inflation has persisted. The Reserve Bank has stated its commitment to containing inflation through its calibrated monetary policy normalisation, with clarity on the direction of the policy rates in the near-term as well as timely actions in cautious steps based on careful assessment of risks to both inflation and growth. With a near normal monsoon, it is expected that the economy will again reach the high growth-moderate inflation trajectory that was experienced before the global crisis. Structural bottlenecks to capacity creation in sectors where demand has been high and continues to grow will have to be addressed to minimise future possible disruptions to growth and inflation paths.

I.52 Financial stability will receive greater focus in the Reserve Bank, as in central banks around the world, while the untapped potential in finance as an instrument to attain higher and more inclusive growth will have to be harnessed better. However, global recovery related uncertainties may increase if the market concerns about fiscal sustainability spread from few countries in the Euro zone to other advanced economies. Conduct of monetary policy of the Reserve Bank, while driven by the possible domestic outlook, will have to recognise the possibility of sudden changes in the global outlook, which could spill over. While managing global shocks, India will also have to increase its resilience and productivity levels so as to strengthen its position in the global economy.

*For the Year July 1, 2009 to June 30, 2010**

PART ONE: THE ECONOMY – REVIEW AND PROSPECTS

II ECONOMIC REVIEW

The Indian economy exhibited broad based recovery in the second half of 2009-10 from the slowdown that had started in the second half of 2008-09. Despite deficient monsoon and the fragile global recovery, India achieved 7.4 per cent growth in GDP in 2009-10, one of the highest in the world. The focus of macroeconomic policies was on management of the recovery. The expansionary fiscal stance helped offset the impact of sluggish private consumption and investment demand on economic growth. The accommodative monetary policy stance of the Reserve Bank, besides ensuring non-disruptive financing of the fiscal plans, created an overall liquidity and interest rate condition that was conducive for growth. The stable financial system of India continued to have a favourable impact on the overall business confidence, while also ensuring availability of resources from banks, non-banks and markets to meet the financing needs of the recovery. However, inflationary conditions changed significantly during the course of the year. After remaining subdued during the first half of the year, headline inflation spiked in the second half, initially driven by high food prices, but turning more generalised thereafter over successive months. The policy dilemma of containing inflation while supporting growth warranted reprioritisation of the policy goals. Stronger and broad-based recovery in growth provided necessary headroom for the gradual unwinding of monetary policy stimulus. In the second half, the need for faster return to the path of fiscal consolidation was generally recognised in view of the potential adverse implications of high fiscal deficit for medium-term growth, inflation and financial market conditions. The Union Budget for 2010-11, accordingly, announced plans for the beginning of the process of gradual fiscal exit. By the end of the year, developments in the Euro area following the sovereign debt crisis in Greece underscored the need for and significance of timely fiscal exit, with an emphasis on the quality of adjustment, for ensuring sustainable robust growth in the medium-run.

II.1.1 The Indian economy exhibited acceleration in the momentum of recovery during the course of the year and registered a growth of 7.4 per cent in 2009-10. The expansionary monetary and fiscal stance adopted in response to the global crisis contributed to the recovery. With the pickup in private investment demand, particularly by the last quarter of 2009-10, the recovery gradually became self-sustaining. This created the precondition for beginning of the policy exit. Moreover, the headline inflation path changed course significantly in the second half of the year, spurting to 11 per cent towards the end of the year, from near zero or negative in most of the months in the first half of the year. The changing output-inflation path, thus, warranted withdrawal of monetary policy stimulus. Accordingly, the focus of policy attention shifted gradually from "responding to the crisis" to "management of recovery".

II.1.2 The timing and stance of monetary policy actions had to be calibrated carefully during the year because of the uncertainty about the strength of the recovery in domestic private consumption

demand as well as the global economic and financial conditions. While by the first quarter of 2010-11, clearer information on robust revival in private investment demand started to emerge, sovereign debt concerns in the Euro area added to the uncertainty about the durability of the global recovery. The underlying momentum of recovery in growth, however, continues. The Reserve Bank ensured that monetary and financial conditions remain supportive of the recovery, while containing inflation.

I. THE REAL ECONOMY

II.1.3 Real GDP growth showed a turnaround from 6.7 per cent in 2008-09 to 7.4 per cent in 2009-10. In relation to the pre-global crisis high growth phase of 8.9 per cent recorded during 2003-08, however, it suggests the scope for further acceleration. A strong recovery in industrial sector combined with a resilient services sector muted the impact of a deficient South-West monsoon on overall output. The contribution of the industrial sector to the overall growth increased sharply from 9.5 per cent in 2008-09 to 28 per cent in 2009-10 (Chart II.1a and b).

II.1.4 The services sector witnessed growth moderation from 9.3 per cent in 2008-09 to 8.3 per cent in 2009-10, essentially due to the “Community, Social and Personal Services” on partial withdrawal of fiscal stimulus and the base effect attributed to large disbursements of arrears under the Sixth Pay Commission Award in 2008-09.

II.1.5 In the context of the build-up of generalised inflation in the second half of the year, for meaningful assessment of the demand pressures in relation to the capacity constraints at the macro level, potential output after the global crisis emerged as a key variable for a decision on policy exit. Although past experience in crisis affected countries suggests that many of them tend to undergo a loss in potential output, since India avoided a financial crisis at home, the risk of a potential output shock was remote (Box II.1).

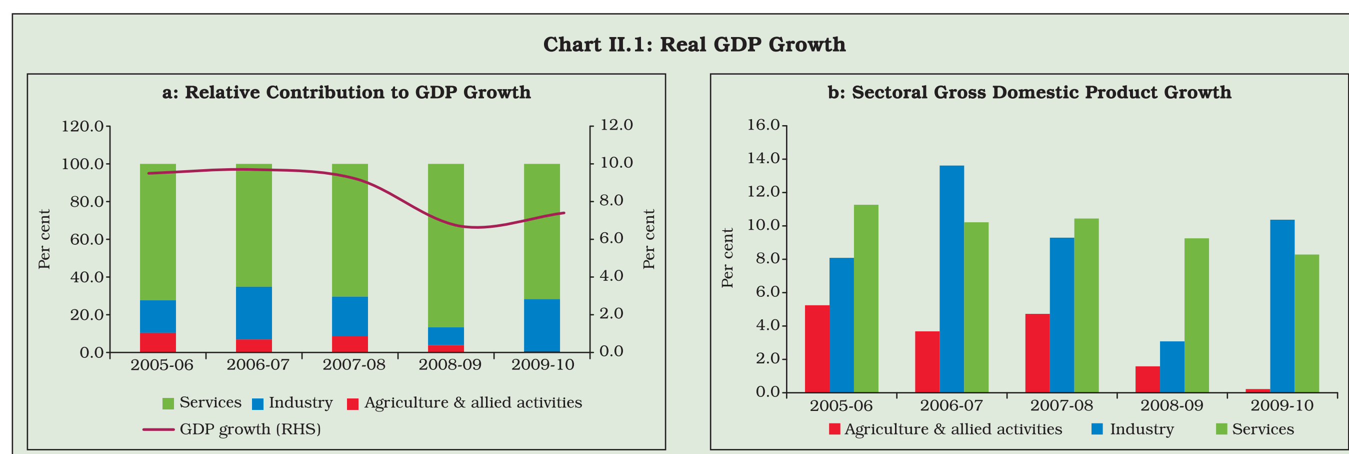
AGGREGATE SUPPLY

Agriculture

II.1.6 In spite of 22 per cent deficiency in the South-West Monsoon, agricultural GDP registered an increase of 0.2 per cent in 2009-10. The overall impact of the deficient rainfall on the recovery was modest, which partly reflects the weakening inter-sectoral linkages, particularly in relation to the agriculture sector (Box II.2).

II.1.7 Despite a steady decline in the share of agriculture and allied activities in GDP to about 14.6 per cent, it continues to be the mainstay of majority of the population, of about 52 per cent of the work force, and remains critical from the point of view of achieving the objectives of food security and price stability.

Chart II.1: Real GDP Growth



Box II.1
Potential Output Path for India, after the Global Crisis

The potential output is defined as the maximum level of output that an economy can sustain without creating macroeconomic imbalances. Deviation of actual output from the potential level, *i.e.,* the "output gap" is a key variable in the information set used for the conduct of monetary policy. The contemporary empirical literature finds it difficult to define potential output through a deterministic rule and considers it to be a time varying variable. Major international financial crises during the past 140 years were typically followed by persistent output losses relative to pre-crisis trend (IMF 2009).

The impact of a crisis on potential output and its persistence may not be the same across countries due to asymmetry in the nature and severity of the crises faced and manner of the policy responses, which may differ significantly. For example, Japan had suffered persistent output losses following the banking crisis in the 1990s. On the other hand, Mexico and Norway recorded faster recovery and higher post-crisis output (Haugh, *et al*., 2009). It is estimated that the cumulative output loss in the Asian crisis for the period 1997–1999 was only 1.5 per cent in the Philippines as compared to 22.3 per cent in Indonesia, 10.3 per cent in Korea and 19.0 per cent in Malaysia. Furceri and Mourougane (2009) estimated that financial crises lowered potential output by 1.5-2.4 percentage points, on an average, in the OECD economies. If potential output loss is permanent, the appropriate policy response is to address structural constraints.

A recent study examining the impact of the global crisis shows that there was no or negligible potential growth reductions in the case of China, Indonesia, and India. In the case of India, it is due to its lower level of export dependency compared to the East Asian economies. Simple HP filtered estimates, however, suggest a drop in potential output growth in most of the emerging East Asian economies, *albeit*, marginally in the case of India (*i.e.,* by 0.4 percentage points) (Park C.Y. *et al,* 2010).

The Indian economy grew at a rate close to 9.0 per cent during 2003-04 to 2007-08, which decelerated to around 7 per cent during 2008-10. Although a part of the growth difference is certainly cyclical, different estimation methods such as filtering of the trend component and smoothened incremental capital output ratio (ICOR) on the existing capital stock, suggest a potential output growth estimate of about 8 per cent for the post- global crisis period. The pre-crisis level was about 8.5 per cent, implying modest moderation after the global crisis (Chart A).

The loss in potential output could be due to a sharp temporary slowdown in investment growth, besides investment relocation from the more efficient private to public sector and tradable to non-tradable sectors of the economy. This output loss could also be viewed as temporary. India's growth trajectory is mostly domestic demand driven and even in the absence of the global crisis, India might have still experienced some moderation due to cyclical factors. The cyclical factors revert to their underlying trend in due course of time, as the GDP series in India essentially follows a trend stationary process. In fact during Q4: 2009-10, fixed capital formation growth exhibited significant acceleration. With fiscal consolidation, favourable demography, and further structural reforms, the potential growth path could be raised to double-digit level.

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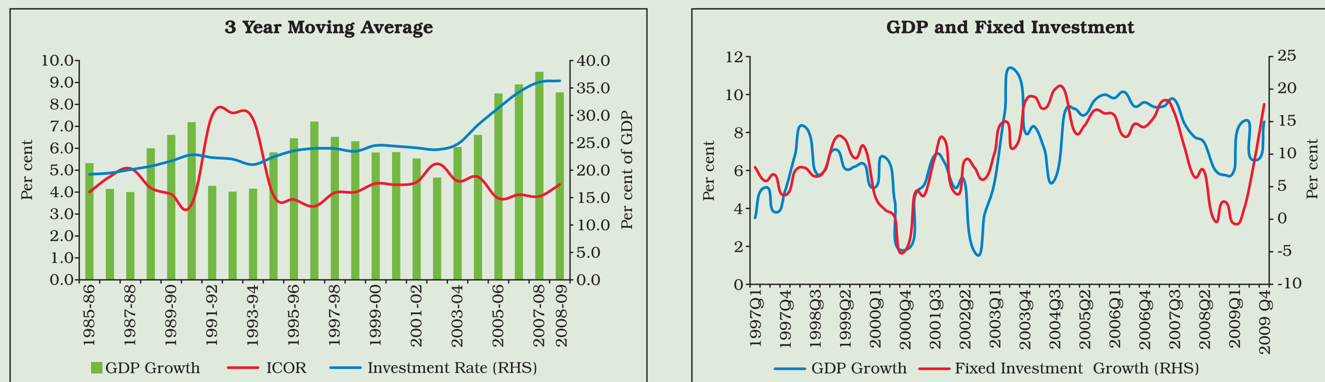
Chart A: GDP and Fixed Investment Growth



Box II.2
Economic Growth and Inter-Sectoral Linkages

The linkages between agriculture and other sectors of the economy have been extensively investigated in the development literature. In the early analysis, agriculture was assumed to play the role of providing food, fibre, labour and raw material for the development of industry and services (Rosenstein-Rodan, 1943). It was also held that surplus resources available in the agriculture sector could be transferred for rapid industrialisation as well as for tertiary sector growth. In the subsequent analysis, the inter-sectoral linkages, both from the demand and supply sides, gained prominence. In India, it was earlier viewed that the supply side linkages of the agriculture sector had weakened, while the demand side linkages remained strong (Sastry, *et al,* 2003).

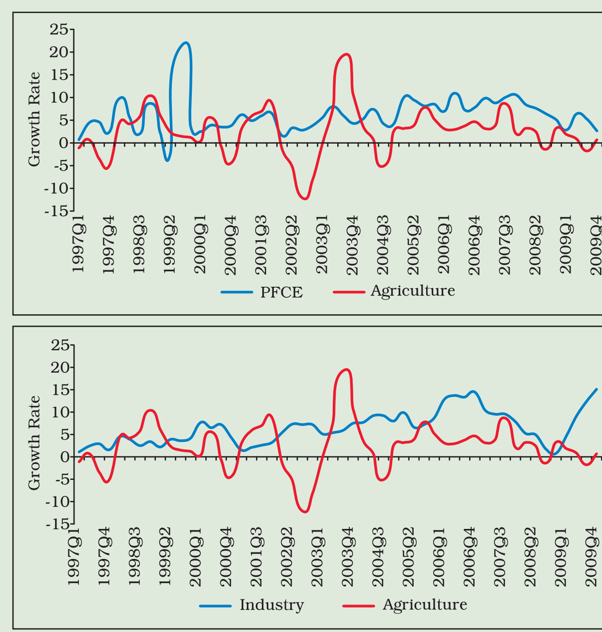
There could be a number of developments contributing to the gradual weakening of the relationship between the performance of the agriculture sector with the rest of the economy:

- Services sector has increasingly driven the growth of the economy backed by the services exports;
- The consumption of services by the manufacturing sector is on the rise; similar linkages are yet to be observed for the agriculture sector;
- The manufacturing sector is moving away from traditionally agro-based industries towards the machinery, consumer goods and construction based activities, which cater to the market segments characterised by high income elasticity;
- Supply side linkages are also weakening due to increasing linkages of industrial sector with the rest of the world;
- Given the surplus labour in the agriculture sector and low agricultural productivity, demand linkages are getting muted;
- The share of 'food and beverages' in private consumption expenditure has been declining.

Any sustained fall in the growth of agriculture for more than four to six quarters tends to affect the performance of the industrial sector as well as the growth of overall private consumption. The poor South-West monsoon led to a decline in the production of *kharif* crops during 2009-10, even though industry recorded a strong recovery from the impact of global financial crisis. The growth pattern between the two was significantly divergent by the end of the year. However, from the demand side, weak agriculture growth affected the private consumption demand (PFCE) on account of fall in income in the rural areas (Chart A).

Empirical estimates indicate that there is a weakening of inter-sectoral linkages in the post-reform period in India (Table A). Major dilution in the strength of the relationship has occurred in the case of linkages between: (a) industry

Chart A: Demand and Supply Side Linkages of Agriculture Sector Growth



and services sector and (b) industry and agriculture sector. As per the latest input-output matrices, the share of agro inputs in manufacturing has declined from 20 per cent in 1993-94 to 5 per cent in 2006-07. At the same time, the services sector linkages have increased relatively more with the rest of the world than the domestic economy as

Table A: Inter-Sectoral Linkages

	Correlation Matrix			Input- Output Table - Leontief Inverse**			Inter-Sectoral Elasticities@		
	Agr	Ind	Serv	Agr	Ind	Serv	Agr	Ind	Serv
Period I									
Agriculture	-	0.27	0.42	-	0.20	0.06	-	0.41	#
Industry	0.27	-	0.54	0.13	-	0.27	0.23	-	0.80
Services	0.42	0.54	-	0.15	0.52	-	0.25	0.88	-
Period II									
Agriculture	-	0.07	0.05	-	0.05	0.02	-	0.29	#
Industry	0.07	-	0.38	0.07	-	0.15	0.23	-	0.23^
Services	0.05	0.38	-	0.08	0.16	-	0.21	0.56	-

Agr: Agriculture, Ind: Industry, Serv: Services
Period I: correlation matrix (1966-90), I-O Table (1993-94) and elasticity (1951-90); Period II: correlation matrix (1991-2008), I-O Table (2006-07) and elasticity (1991-2008).
** : Coefficient represents requirement of row variable for producing one unit of column variable.
@: Represents percentage change in column variable with one per cent change in row variable.
: Statistically insignificant; ^: Lagged impact.

(Contd...)

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evident from an increase in the proportion of services exported to total output of the services sector by nearly four-fold from about 3.2 per cent in 1990-91 to more than 12.0 per cent in 2009-10.

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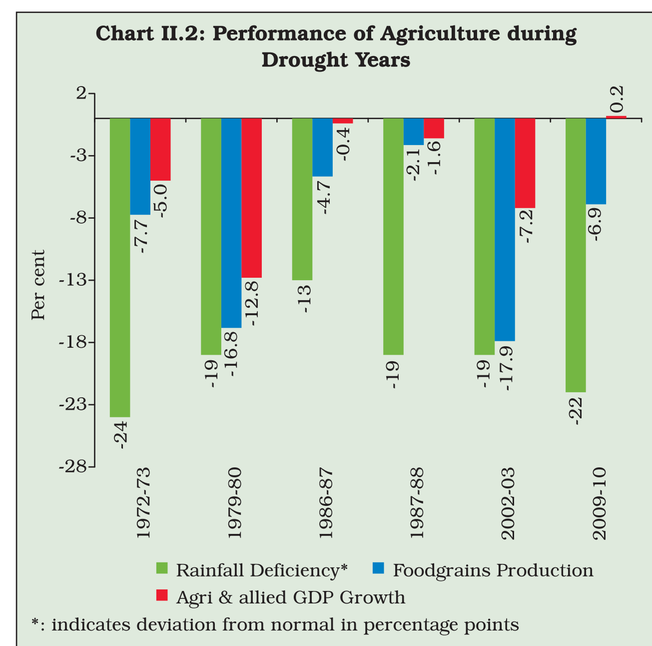
Drought Mitigation

II.1.8 The performance of the South-West monsoon in 2009, with a shortfall of 22 per cent in precipitation, was the weakest since 1972. Of the 36 meteorological sub-divisions, the cumulative rainfall was excess/normal in 14 sub-divisions and deficient/scanty/no rain in 22 sub-divisions. Overall, a drought situation was declared in 352 districts by 15 State Governments. Drought episodes in the past have always adversely affected the agriculture sector performance. The magnitude of decline in production has varied depending upon the severity of the drought. During 2009-10, foodgrains production at 218.2 million tonnes declined only by 6.9 per cent as compared with a decline of around 18 per cent in 2002-03 - the previous drought year. Moreover, GDP emanating from agriculture sector increased by 0.2 per cent during 2009-10, despite the decline in agricultural production (Chart II.2).

II.1.9 In order to mitigate the impact of drought during 2009, several measures were initiated by the Government. These include, (a) adoption of an area-specific strategy to achieve higher production through improved provision of inputs, *viz.,* fertilisers, credit and pest control measures in areas with higher rainfall, (b) advising the States to prepare alternate plans for unsown/germination-failed areas with short duration/alternate crops, (c) holding of zonal conferences and a Rabi Campaign Programme with the State Governments to enable formulation of an appropriate action plan for the rabi season, (d) media telecasting/ broadcasting of agricultural advisories for appropriate crop programmes for the benefit of farmers, (e) relaxing restrictions on seeds and distribution of seed mini-kits under the National Food Security Mission (NFSM) and Rashtriya Krishi Vikas Yojana (RKVY), (f) making available funds under Centrally sponsored programmes like the NFSM, RKVY, Macro Management of Agriculture Scheme (MMA) and Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize (ISOPOM) to enable taking up of an agricultural reconstruction programme, and (g) launching of Diesel Subsidy Scheme to provide supplementary protective irrigation to save the standing crops (50 per cent of the cost of the subsidy with a cap of ₹7.50/litre given by the States was borne by the Central Government).

Chart II.2: Performance of Agriculture during Drought Years



II.1.10 The positive contribution of the agriculture sector to overall GDP during 2009-10 could partly be ascribed to the structural changes, *viz.,* declining share of foodgrains and commercial crops in total agricultural GDP, with a corresponding rise in the share of horticulture, livestock, forestry and logging, and fisheries. Moreover, rainfall in the month of July 2009, which is crucial for sowing of crops, was more than normal. There was also an improvement in soil moisture conditions, following satisfactory performance of North-East monsoon season (8 per cent above normal). Going forward, the long range forecast for South-West monsoon season (June to September 2010) released by the India Meteorological Department indicates that the rainfall for the country as a whole is likely to be normal. Quantitatively, monsoon season rainfall is likely to be 102 per cent of the long period average (LPA) with a model error of ± 4 per cent. Although cumulative rainfall during the season so far (up to August 11, 2010) has been 4 per cent below the LPA, the monsoon has been better than the last year (-29 per cent). Area sown during *kharif* 2010 so far (as on August 13, 2010) has been higher than in the corresponding period of previous year for all crop categories. Thus, with higher *kharif* output, the prospects for agricultural growth during 2010-11 would improve.

II.1.11 While the performance of agriculture sector in 2009-10 in the face of a deficient monsoon has been better than in previous drought episodes, concerns still remain over the ability to withstand successive years of drought. This underscores the need to harness a second green revolution that is also environmentally sustainable, with the focus shifting from resource rich regions to those with unfavourable agro-climatic conditions, so as to bring about more inclusive growth. The Union Budget for 2010-11, in this context, has announced a strategy towards extending the green revolution to the Eastern region.

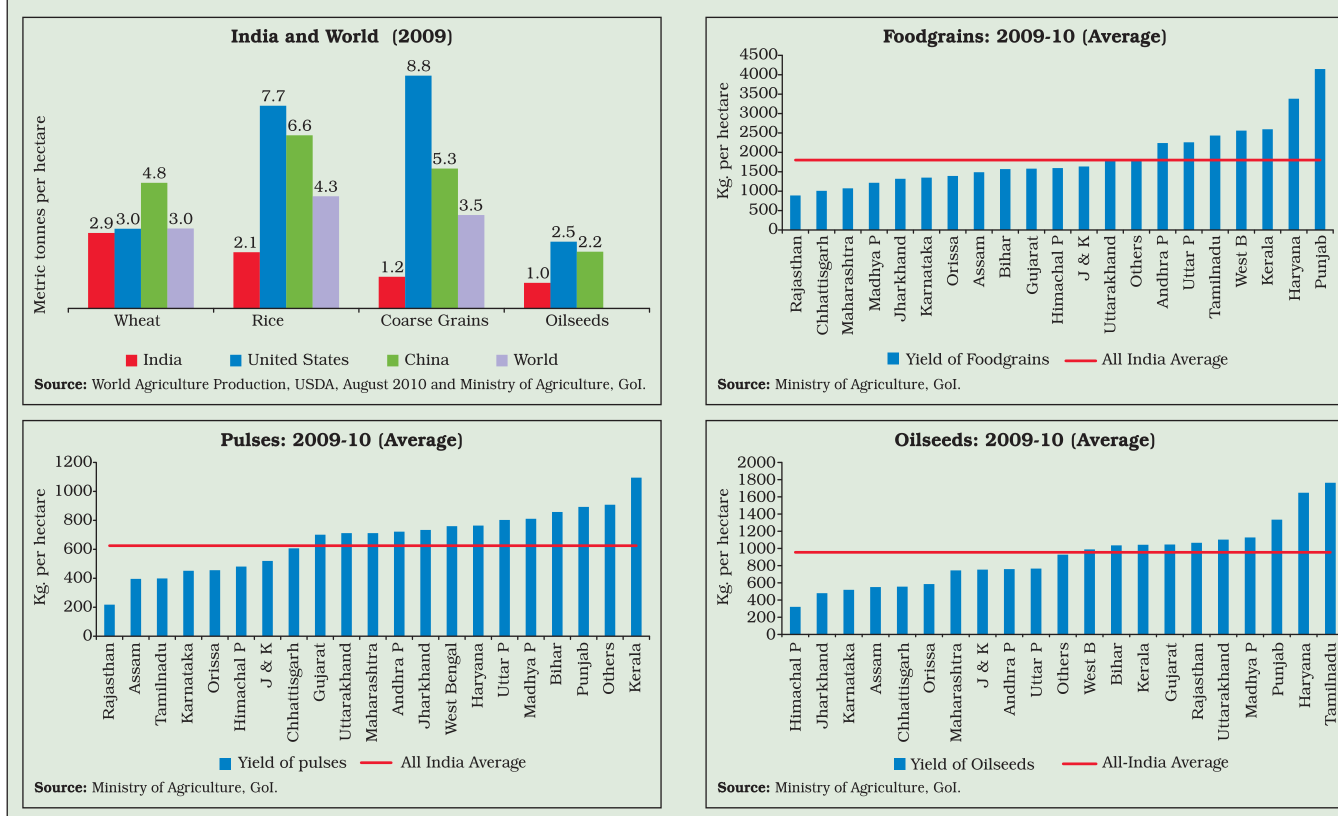
II.1.12 Furthermore, heavy dependence on the monsoon has resulted in a high degree of variability in agriculture production leading to demand-supply mismatches that exert pressure on commodity prices, particularly food prices. The year 2009-10 witnessed sharp increases in food prices, particularly in pulses and sugar where demand-supply imbalances at the margin led to a spurt in prices. Farmers, however, often do not realise the benefit of price hikes as there exist wide disparities between farm gate and market prices. India, despite being amongst the largest producers of several agricultural commodities, lags in yields. Inter-State and inter-crop yield differentials are also large (Chart II.3). Consequently, demand-supply imbalances have persisted, particularly in the case of pulses and oilseeds. Although the shortfall in domestic production has been met through imports to an extent, this option at times is constrained by the high international prices. As a result, whenever there is a shortfall in domestic production, food prices tend to come under pressure, leading subsequently to a situation of generalised inflation.

Food Management

II.1.13 Reflecting the high levels of procurement in 2008-09 and 2009-10, total food stocks increased from 35.6 million tonnes at end-March 2009 to 43.4 million tonnes at end-March 2010 and further to 55.4 million tonnes as on August 1, 2010, *i.e.,* significantly higher than the buffer stock norm of 31.9 million tonnes for the quarter beginning July 1 (inclusive of food security reserves of 5 million tonnes). The rise in food stocks in the drought year is in sharp contrast to what was observed in 2002-03 - the previous drought year (Chart II.4). The high level of food stocks and resilient production conditions suggest that with better supply management, the pressure on food inflation could have been moderated. Moreover, maintaining high food stocks involves significant carry costs.

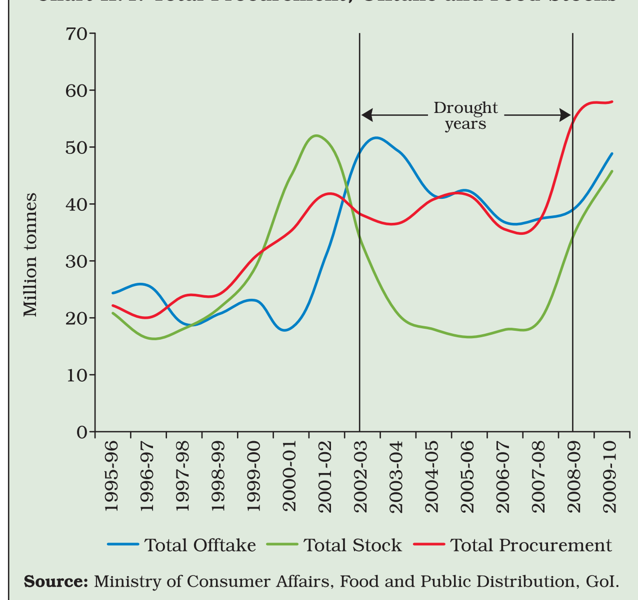
II.1.14 The average growth rate of foodgrains production at 1.6 per cent during 1990-2010 trailed behind the average population growth of 1.9 per cent. This has been reflected in the decline in the per capita daily net availability of foodgrains from 472.6 grams per day in 1990 to 436.0 grams per

Chart II.3: Comparative Yield Levels



day in 2008. There is clearly a need for a renewed focus on improving agricultural productivity. Higher investment backed by sustained research and extension activities could be critical for augmenting yield. Greater focus needs to be placed on agricultural research in the coming years as the success so far has been restricted to select crops. Moreover, the consumption basket is getting diversified more in favour of milk, vegetables, fruits, meat, poultry, fish and the like, which are important from the nutritional angle. Hence, it is also equally important to gradually move away from the cereal-centric policy towards these items, with supportive policy framework and the required infrastructure. Market infrastructure is important for the performance of various marketing functions and for transmitting price signals for efficient resource allocation. The policy efforts need to be geared towards a reduction in wastage of produce that occurs during storage and management of supply chains. Public policies have so far, focused more on price interventions in the form of minimum support prices for the producers and public distribution system for the

Chart II.4: Total Procurement, Offtake and Food Stocks



consumers. There is need for reorientation of public expenditure towards building capital infrastructure for agriculture, which in turn, would crowd-in private investment and help realise the full potential of agriculture growth. The growth strategy, to be effective and inclusive, has to necessarily focus on stabilising the agricultural production by achieving improved efficiency and accelerated productivity levels in the farm sector.

Industrial Performance

II.1.15 The Index of Industrial Production (IIP) clocked a growth of 10.5 per cent during 2009-10 (2.8 per cent in 2008-09), bolstered by the double digit growth since October 2009 (Chart II.5). The recovery was broad-based with high growth in manufacturing industries (10.9 per cent), followed by mining (9.9 per cent) and electricity (6.0 per cent) (Chart II.6). The manufacturing output growth rate was supported by increases in consumer durables, capital goods and intermediate goods production. The strong performance of the manufacturing sector during the second half of 2009-10 could partly be attributed to the base effect. Despite the large increase in the production of natural gas, iron ore and other minerals, growth in the mining sector remained at less than 10 per cent due to continued slack in crude oil and coal output. The electricity sector also lagged behind, owing to lower hydel power generation in view of weak monsoon conditions and the low level of reservoir capacity.

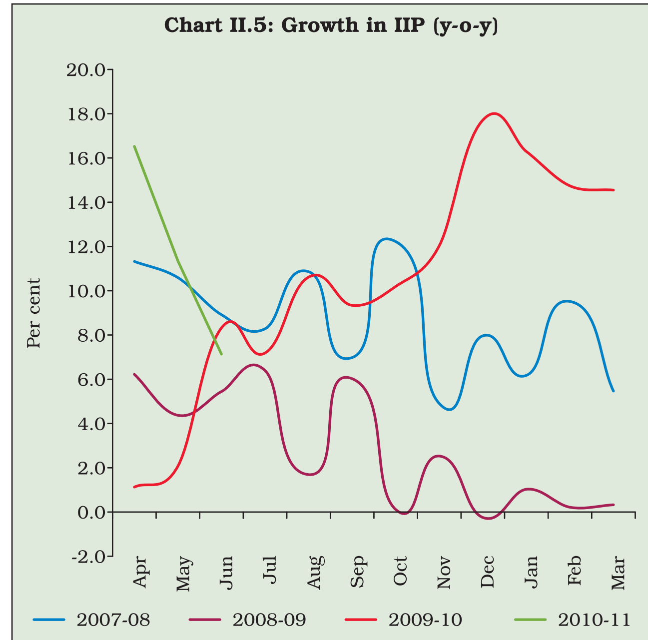


Chart II.5: Growth in IIP (y-o-y)

Similarly, inadequate coal production and delayed imports adversely affected the coal availability, leading to lower thermal generation.

II.1.16 The pace of recovery in industrial production during 2009-10 is evident from the fact that the IIP almost reached the level, which would have been achieved had the high growth phase of 2005-07 not been interrupted in the subsequent two years, on account of the global crisis (Chart II.7).

II.1.17 Besides the pace, the recovery was relatively broad-based. The fastest growing five industries with a combined weight of 24.6 per cent

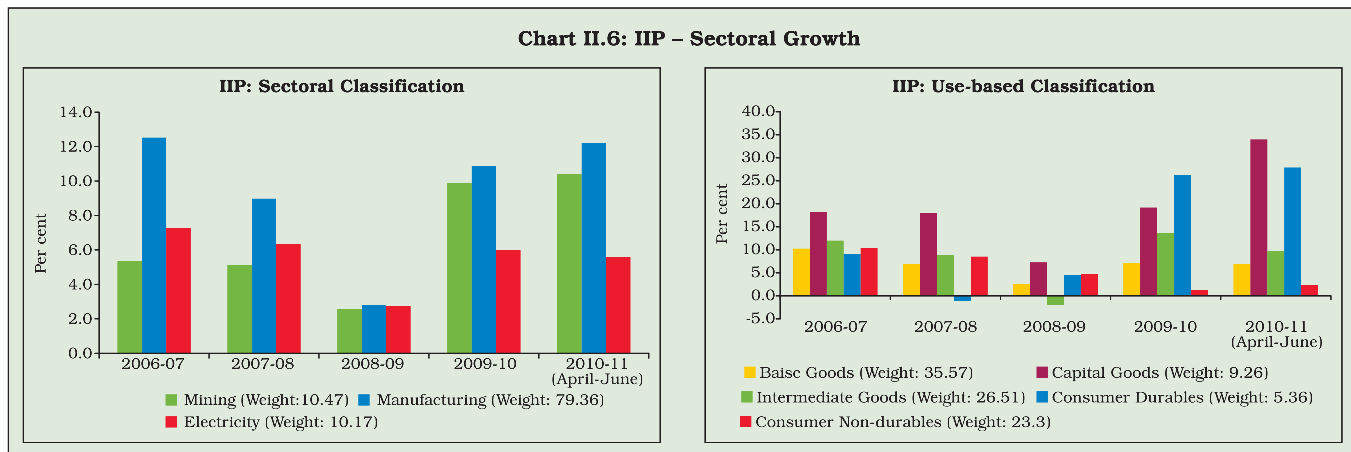


Chart II.6: IIP – Sectoral Growth

accounted for 63.5 per cent of overall manufacturing growth in 2009-10 as compared with 134.6 per cent (weight 35.9 per cent) in 2008-09. Similarly, the bottom 12 industries also contributed to a substantially higher 36.5 per cent (weight 54.7 per cent) of the manufacturing growth in 2009-10 as compared with (-) 34.6 per cent (weight 43.4 per cent) in 2008-09.

II.1.18 While the output of consumer durables (26.2 per cent) and capital goods industries (19.2 per cent) gained strength during 2009-10, recovery in the growth of non-durables (1.3 per cent) was held back due to sluggishness in private consumption demand (Chart II.8). The growth of basic goods industries (7.2 per cent) supported the recovery momentum, despite some concerns that it may be difficult to sustain the growth in the wake of capacity constraints in some industries. The recovery in the intermediates goods segment (13.6 per cent) was initially driven by the turnaround in inventory cycle, followed by a strong recovery in investment demand.

II.1.19 During 2010-11 (up to June 2010), consumer durables continued to record high growth at 27.9 per cent. Basic goods (6.9 per cent), intermediate goods (9.8 per cent) and capital goods industries (34.0 per cent) supported the buoyancy in industrial growth. The growth in the capital goods segment was aided by the rapid rise in output of several industries like broad gauge covered wagons, commercial vehicles, printing machinery and air and gas compressors. This can be attributed to the higher allocation for the infrastructure sector by the Government, thereby facilitating crowding-in of private investment in machinery and construction sectors and contributing to higher gross fixed capital formation in the economy (Chart II.9).

II.1.20 During the current financial year 2010-11 (up to June 2010), industrial sector maintained double digit growth at 11.6 per cent. Though the industrial output showed deceleration in the months of May and June 2010, the pace of increase is still robust. Notwithstanding some moderation in the pace of industrial growth due to base effect and possible subdued global demand, the industrial activity is expected to remain buoyant.

II.1.21 The continuation of growth momentum in the industrial sector in April-June 2010 suggests stronger outlook for growth. However, concerns

Chart II.7: Current IIP Level as Compared to the Extrapolated 2005-07 Trend

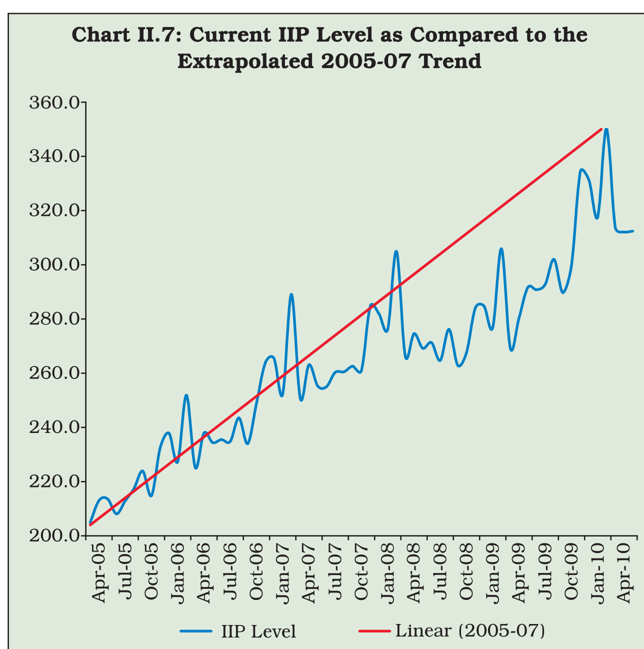
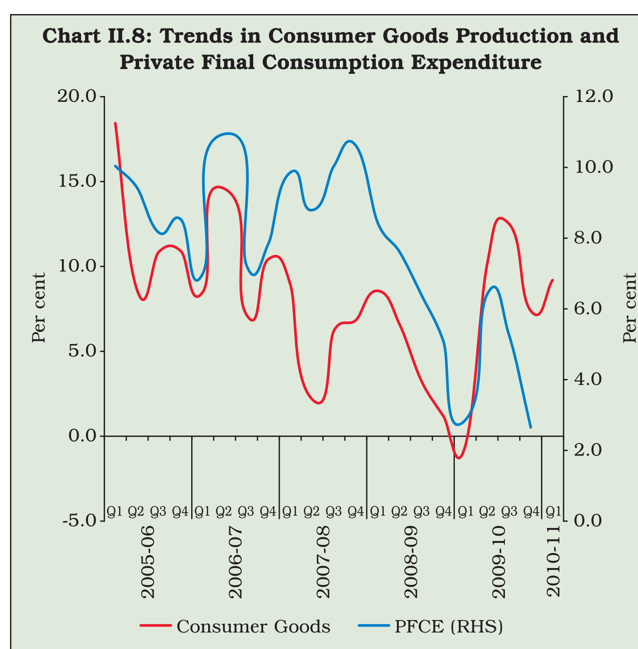


Chart II.8: Trends in Consumer Goods Production and Private Final Consumption Expenditure



about the sustainability of high industrial growth at the same pace during 2010-11 need to be recognised. Weak external demand, notwithstanding the pick-up in exports and moderation in government expenditure on account of the fiscal exit could moderate industrial growth. Revival in private consumption demand, therefore, would be critical for sustaining the recent performance of the industrial sector. Improvement in the South-West monsoon performance during June-July 2010, better agricultural production prospects, change in income tax slabs in 2010-11 and the permanent effect of the implementation of the Sixth Pay Commission recommendations on income should be supportive of consumption demand.

Infrastructure

II.1.22 During 2009-10, the six core infrastructure industries posted an improved performance over the previous year. During 2010-11 (up to April-June 2010), the infrastructure industries recorded a growth of 4.6 per cent, marginally higher than that in the corresponding period last year (4.3 per cent) (Chart II.10).

II.1.23 Infrastructure remains a key constraint to growth in India. In several infrastructure projects, significant time overruns and the resultant cost overruns have delayed the actual realisation of benefits of capacity addition. Capacity expansion in critical sectors like crude oil and petroleum refining remained weak and demand supply gap in power sector also persisted. Both power generation/transmission and distribution continue to be the areas of concern. Power capacity addition during 2009-10 was 9,585 MW as against the target of 14,507 MW for the year. There are significant capacity constraints in coal, ports and railways, which may restrain high growth.

II.1.24 There are, however, fresh investments taking place in power sector. The capacity constraint in the crude oil sector is being addressed through New Exploration Licensing Policy initiative of the Government. Gas production from KG-basin shows signs of optimism. Some external acquisitions, particularly in steel, oil, gas and coal too could support the domestic capacity gaps. The public-private partnership mode is being given new thrust with the help of multilateral institutions to enhance availability of resources for infrastructure investment. Recognising the challenge, the Union

Chart II.9: Growth Trends in Industries Supporting Capital Formation

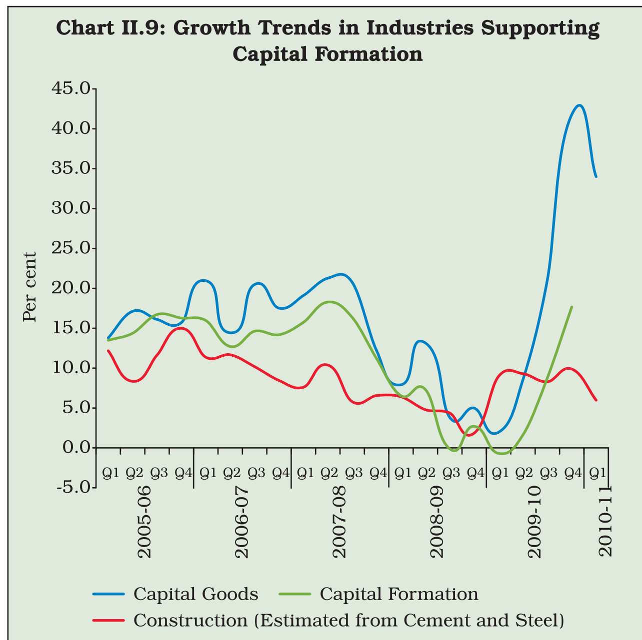
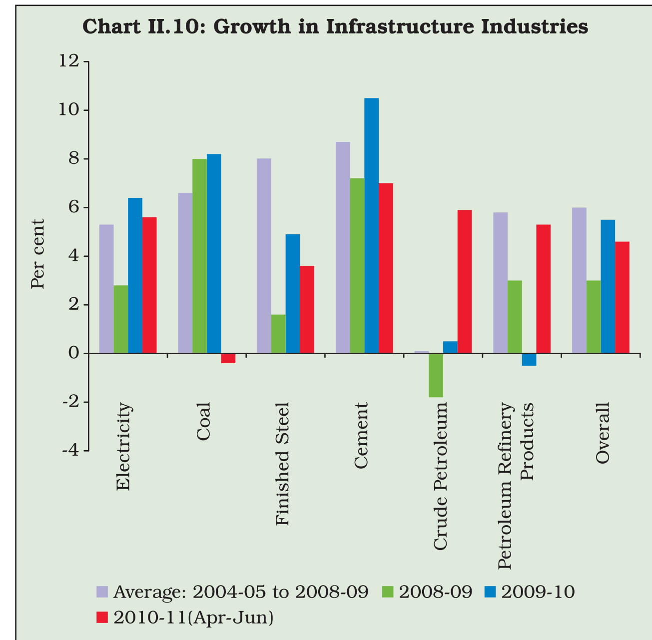


Chart II.10: Growth in Infrastructure Industries



Budget for 2010-11 has allocated 46 per cent of plan expenditure of the Central Government to infrastructure. Overall, under the current assessment, the Indian infrastructure industry is expected to see significant increase in capacity additions during 2010-11. This is also reflected in the double-digit growth in capital goods production during September 2009-June 2010.

Services Sector

II.1.25 The services sector had exhibited significant resilience to the contagion from the global crisis (Chart II.11). Services dependent on external demand such as tourist arrivals, cargo handled at major ports and passengers handled at international terminals recovered during 2009-10, although remained below the pre-crisis levels. Domestic demand driven services such as commercial vehicle sales, cell-phone connections, railway traffic and construction activity showed high growth, particularly during the second half of the year. While production of commercial vehicles is reflected under manufacturing activities, sales of commercial vehicles provide lead information about transportation services. Although the overall services sector growth moderated in 2009-10, the services sector excluding "Community, Social and Personal Services" showed a higher growth of about 10 per cent in Q4:2009-10, which is higher than average services sector growth rate recorded during the high growth phase of 2003-08.

II.1.26 Total automobile production recovered in 2009-10, partly reflecting the lower production base. Domestic sales rose substantially in 2009-10 (26.4 per cent) as compared to the preceding year (0.7 per cent), while exports moderated (17.9 per cent) from the level a year ago (23.6 per cent). In the road sector, construction and widening of national highways continued at a fast pace during 2009-10, while freight traffic carried by the railways also increased. Cell-phone connections, both public and private, continued to register a high growth (49.8 per cent), with the public sector connections growing significantly (62.8 per cent). This segment was not affected by the crisis induced slowdown in 2008-09. Aviation cargo movements, which had declined since the onset of industrial slowdown in 2008-09, recovered sharply during 2009-10 (Chart II.12). During April-July 2010, total automobile production increased on the back of significant increase in domestic sales (29.6 per cent) and substantially high growth in exports (54.5 per cent).

Chart II.11: Growth in Services Sector GDP

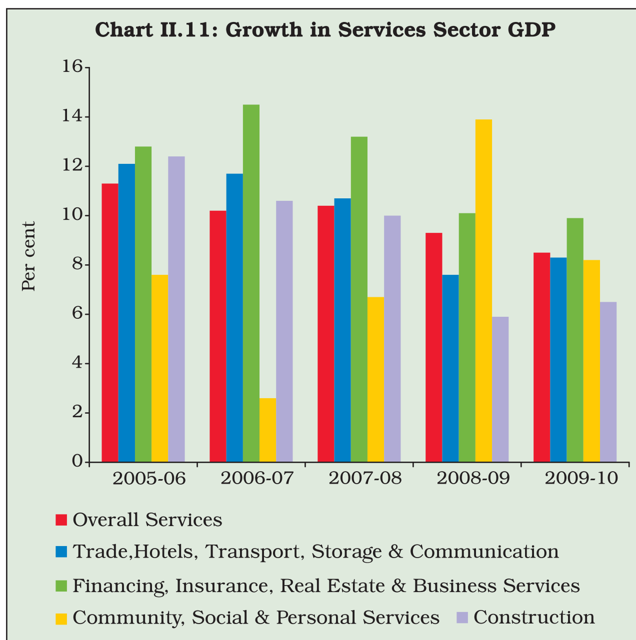
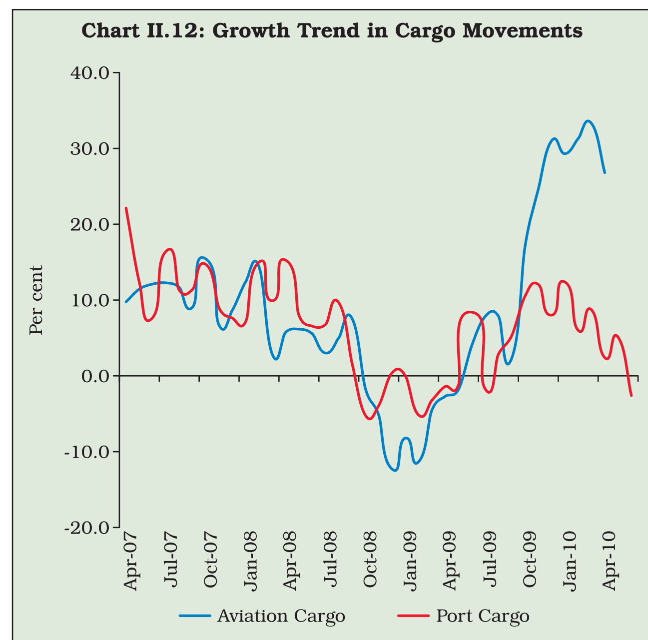


Chart II.12: Growth Trend in Cargo Movements



II.1.27 Going forward, the services sector is likely to pick up further momentum from the growth in the manufacturing sector. Retail trade and construction are already showing signs of buoyancy. The IT-BPO sector has also seen a turnaround in terms of revenue and value creation from the recessionary headwind of 2008-09. In addition to the traditional business verticals, the emerging verticals, *viz.,* computing systems, energy, infrastructure, industrial automation and medical devices would assume significance. In the domestic market, ICT enabled solutions will play a greater role in healthcare, education, financial and public services. In the case of a number of services like hotels, communication, information and financial services, domestic demand continues to be the major driver of growth.

II.1.28 With concerns about industrial recovery receding by the end of the year, the issue of productivity resurfaced in policy debates for sustaining the high growth in the medium-term. In this context, the Reserve Bank has taken a major initiative to study industrial productivity at disaggregated levels under India-KLEMS research project. The project is a part of the larger Global KLEMS initiative, which aims at an effective cross-country comparison of productivity at industry level for understanding the competitiveness of economies (Box II.3).

Box II.3
India KLEMS: An RBI Initiative to Measure Industrial Productivity in India

India KLEMS project is an extension of the existing productivity research in India to identify growth drivers. The project was commenced in September 2009, funded by the Reserve Bank of India (RBI) as a research co-ordination initiative between RBI and ICRIER.

The project is a part of the global initiative already undertaken in many countries like Australia, Canada, European Union (25 countries), USA, Latin America (4 countries), Russia, Japan, Korea, India and China to estimate productivity in the Capital, Labour, Energy, Material and Services (KLEMS) framework developed in the European Union. The final objective of World KLEMS project is to create an internationally comparable database for estimating productivity at the sectoral levels to enable cross-country comparisons of productivity.

KLEMS framework of productivity estimates differs from the traditional approach in a number of ways. *First,* it intends to measure sector-wise productivity differential explicitly. *Second,* it takes into account the heterogeneity in inputs by creating explicit account for factor services. To identify factor quality, it uses market price data, assuming a competitive market. *Third,* in view of its emphasis on disaggregated measurement, it attempts to create KLEMS database meticulously without losing comparability with the published and widely used National Accounts data series. As the National Accounts data series published by statistical agencies are hardly available at such disaggregated details, generating KLEMS database necessitates the use of extended sector-wise information or related surveys. *Fourth,* comparisons of KLEMS data over time and across countries could easily reveal structural change and evolving input-output relations between industries, input usage intensity (such as investment in human and physical capital) and productivity growth (technological change, terms of trade, *etc.*). *Finally,* it can link the proximate sources of growth to policy initiatives like market reforms, sector specific regulations, trade/external policies and regional policies.

India-KLEMS is a three year project. In the first phase, preliminary estimates of productivity of 31 sectors covering the entire economy using value added growth accounting model with labour hours and capital stock as factor inputs have been worked out (Table A). This exercise would be extended to compute productivity estimates in gross output based accounting framework by developing material, energy and services (MES) data series in the next two years of the project.

The overall GDP growth during 1992-97 at 6.2 per cent was accompanied by a sizeable TFP growth across sectors. Deceleration in overall growth during 1997-2005 is partly attributable to the deceleration in productivity growth to 1.7 per cent from 2.6 per cent during 1992-97, notwithstanding a rise in TFP growth in services sector.

For the entire period (1980-2005), the TFP growth in services sector (2.1 per cent) is higher than both in agriculture (1.6 per cent) as well as in industries (1.4 per cent). Productivity growth in industry improved considerably after 1986 compensating for the slowdown in the contribution of inputs to the overall growth. The higher TFP growth in agriculture during 1980-97 offsets a somewhat lower contribution of inputs during this period. While the productivity in agriculture fell during 1997-2005, its impact on growth was muted due to enhanced contribution of inputs.

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Table A: Total Factor Productivity (TFP) and GDP Growth (Per cent)

Sectors	1980-1986		1986-1991		1992-1997		1997-2005		1980-2005	
	TFP	GDP	TFP	GDP	TFP	GDP	TFP	GDP	TFP	GDP
Total Economy	2.2	5.3 (3.1)	1.6	5.9 (4.3)	2.6	6.5 (3.9)	1.7	5.7 (4.0)	1.9	5.7 (3.8)
Agriculture	2.5	3.7 (1.2)	2.4	3.8 (1.4)	3.0	4.8 (1.8)	-0.2	2.2 (2.4)	1.6	3.4 (1.8)
Industry	-0.3	6.2 (6.5)	1.6	7.2 (5.6)	3.1	7.3 (4.2)	1.4	5.1 (3.7)	1.4	6.0 (4.6)
Services	3.4	5.8 (2.4)	1.0	6.9 (5.9)	2.0	7.3 (5.3)	2.2	7.9 (5.7)	2.1	7.0 (4.9)

Note: Figures in parentheses represent overall growth explained by inputs alone.

Source: CSO (NAS) and India KLEMS estimation of sectoral TFPs. Construction is considered as part of services as per NAS. Weights are given as share of value added of 31 sectors.

References:

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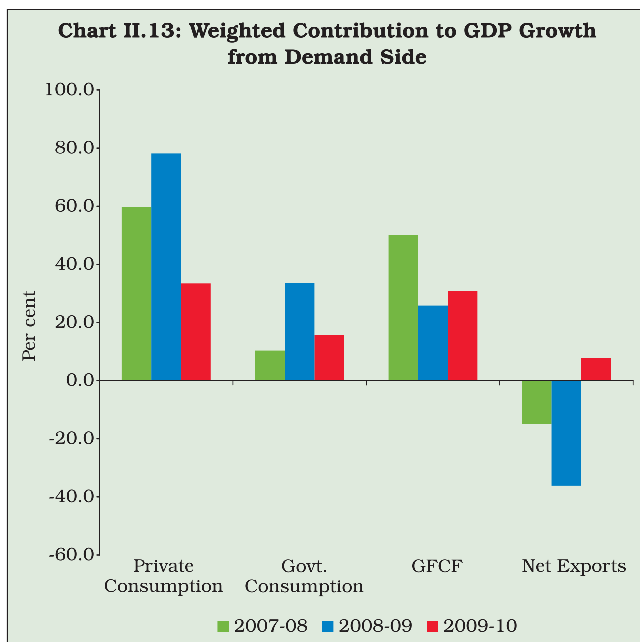
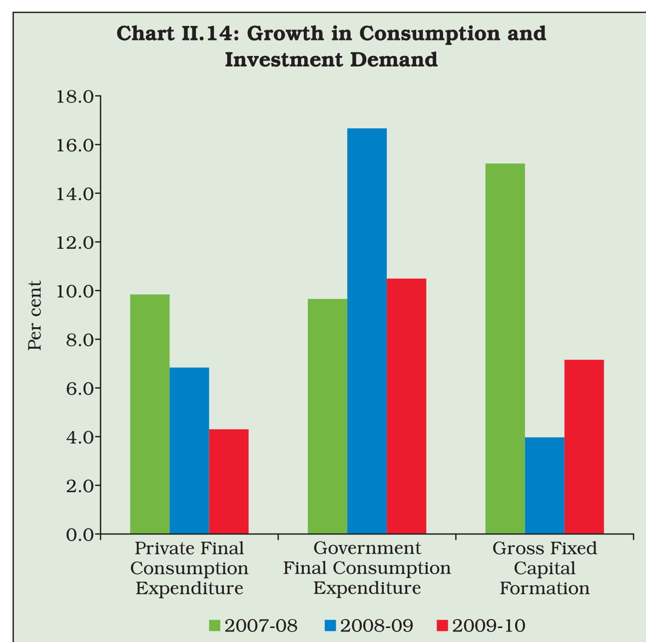
2. Jorgenson W. Dale (2009), "The Economics of Productivity", *The International Library of Critical Writings in Economics.*
3. University of Groningen (2010), "India KLEMS Workshop", April 15-16, Groningen, the Netherlands.

AGGREGATE DEMAND

II.1.29 The drivers of aggregate demand changed significantly during 2008-09 and 2009-10 (Chart II.13 and II.14). The growth in private final consumption expenditure moderated from 8.0 per cent in the first half of 2008-09 to 5.8 per cent in the second half and further to 4.6 per cent in the first half of 2009-10, reflecting economic slowdown, poor agriculture production and high food prices. Fiscal measures were initiated (for details see Section II.5) to offset the slack in private demand. Consequently, the growth in government final consumption expenditure increased significantly from 5.5 per cent in the first half of 2008-09 to 25.7 per cent in the second half of 2008-09 and 22.5 per cent in first half of 2009-10, reflecting the expansionary fiscal response to the crisis. The rate





of increase in gross fixed capital formation (GFCF) fell from 6.9 per cent in the first half of 2008-09 to 1.3 per cent in second half and further to 0.5 per cent in the first half of 2009-10.

II.1.30 In the second half of 2009-10, private consumption demand continued to remain sluggish, while the government consumption expenditure moderated substantially due to the base effect. The gross fixed capital formation emerged as the major driver of growth during the second half of 2009-10, exhibiting a growth of 13.4 per cent and contributing around 46.3 per cent to the overall GDP growth. Another notable shift in contribution to growth emerged from net exports, as exports recovered in the second half, ahead of imports. This was more due to declining imports than growing exports. As a result, the contribution of net exports to GDP growth improved from a negative 17.9 per cent in the first half to a positive 22.2 per cent in the second half of 2009-10.

II.1.31 The assessment of drivers of growth from the supply side and demand side suggests that due to lower contribution of agriculture to the strong recovery and subdued consumption demand, in which rural demand has a large share, the distribution of benefits of growth would have possibly changed. The expansionary fiscal stance that was adopted to stimulate the recovery, however, had a major component in the form of higher expenditure under NREGA. Thus, the policy stimulus contributed to a faster recovery, while also aiming at improving the distribution of the benefits of growth.

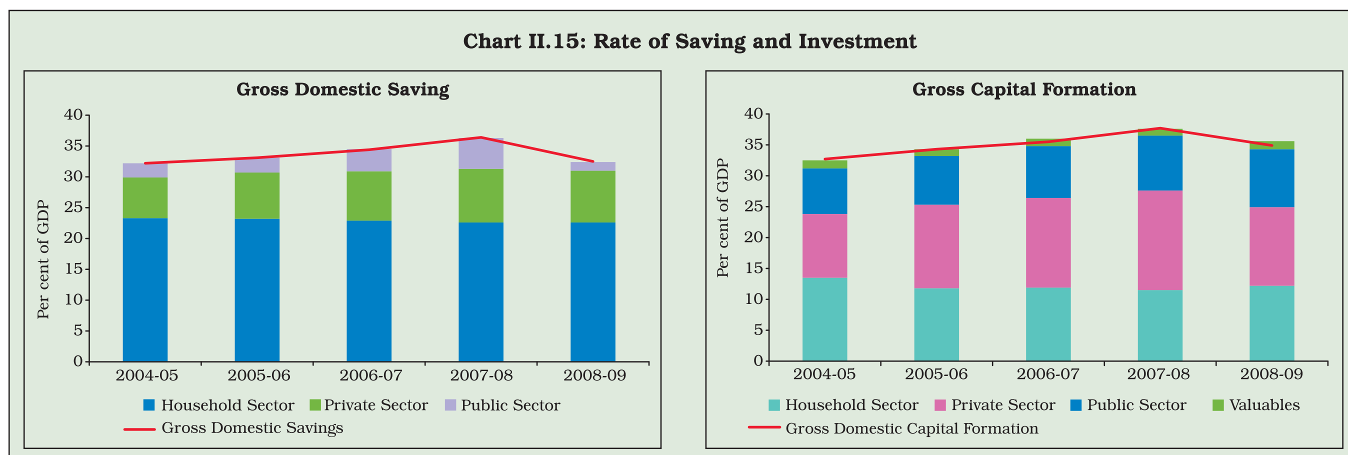
II.1.32 Going forward in 2010-11, with fiscal consolidation plans already outlined in the Budget and contribution of net exports to overall growth expected to reverse, the key drivers of growth would be private consumption and investment demand. The revival in private investment demand has been strong in recent quarters. Production trends in capital goods suggest that this pattern may continue. Industrial recovery, significant increase in government spending on infrastructure projects, improved business sentiments and capacity expansion plans in the pipeline for many industries suggest that the investment demand would provide momentum to growth in 2010-11.

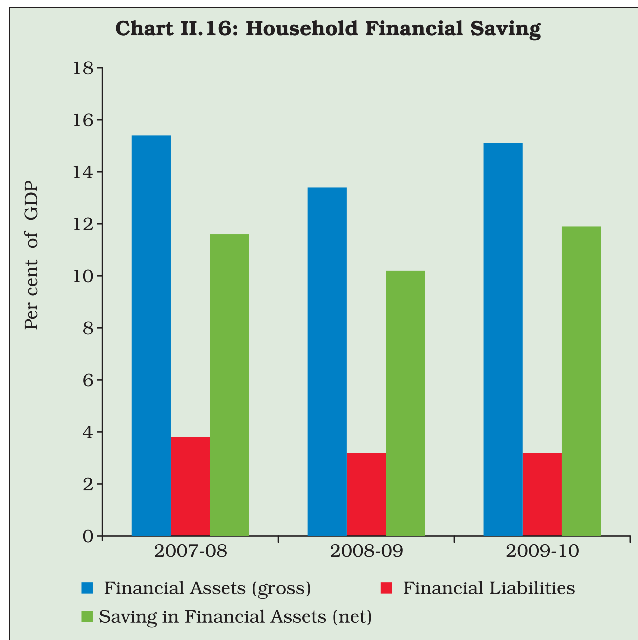
Saving and Capital Formation

II.1.33 The aggregate savings rate moderated from 36.4 per cent in 2007-08 to 32.5 per cent of GDP in 2008-09, reflecting a sharp fall in public sector savings on account of the impact of the fiscal stimulus measures. The investment rate moderated from 37.7 per cent in 2007-08 to 34.9 per cent in 2008-09, mainly on account of a decline in the investment of private corporate sector (Chart II.15).

II.1.34 During 2009-10, the public sector savings are likely to remain subdued on account of higher revenue deficit of the Government. The private corporate savings are expected to increase due to improved profitability.

Chart II.15: Rate of Saving and Investment





II.1.35 Preliminary estimates, based on the latest available information, place financial savings (net) of the household sector in 2009-10 at 11.9 per cent of GDP at current market prices, which is higher than the estimates for 2008-09 at 10.2 per cent (Chart II.16). Despite a slower growth in bank deposits partly due to lower deposit interest rates, a turnaround in the household financial savings in 2009-10 was made possible by a revival in almost all other components. Sharp recovery was noted in the household savings in life insurance, public provident funds, small savings, senior citizen deposit schemes and mutual funds. Moreover, recovery in economic growth contributed to a pick-up in household financial savings.

II. PRICE SITUATION

II.2.1 The inflation path changed course significantly over two distinct phases during 2009-10. The subdued headline inflation in the first half provided the necessary preconditions for sustaining the recovery supporting monetary policy stance. In the second half, increasing generalisation of the inflation process necessitated a gradual shift in the balance of policy focus to containment of inflation expectations while still remaining supportive of recovery. A stronger and broad-based recovery also facilitated gradual unwinding of the accommodative monetary policy stance. On account of the persisting uncertainties about the nature of the global recovery and strength of domestic private demand, the overall policy stance had to remain sensitive to the growth objective while increasing the weight of policy focus on management of inflation.

II.2.2 Year-on-year wholesale price index (WPI) inflation remained low during the first half of the year (negative during June-August 2009) and increased faster in the second half to reach 11.0 per cent by March 2010. The base effect of high prices in the first half of 2008-09 contributed to the low inflation during the first half of 2009-10. The waning of base effect along with sharp increase in food and oil prices on account of lower agricultural production and increase in international commodity prices, especially oil, contributed to the faster increase in inflation during the second half (Chart II.17). The build-up of inflationary pressures, however, was visible throughout the year as WPI exhibited strong uptrend over successive months during the year. Inflationary pressures, which remained concentrated on a few commodities during the major part of the year, became increasingly generalised during the last quarter of 2009-10, as more number of commodities exhibited increase in prices.

II.2.3 The contribution of different items/groups in the WPI basket to overall headline inflation during 2009-10 changed significantly (Chart II.18a). Food inflation remained high throughout 2009-10, showing some moderation since December 2009, particularly in manufactured food products (Chart II.18b). The decline in manufactured food price inflation was led by sugar prices, which fell by 16.0 per cent during January-July 2010 after increasing by 53.6 per cent during March 2009-January 2010. Reflecting this decline as also the increase in non-food inflation, the contribution of food items to overall inflation declined from over to 100 per cent in November 2009 to about 23 per cent by July 2010.

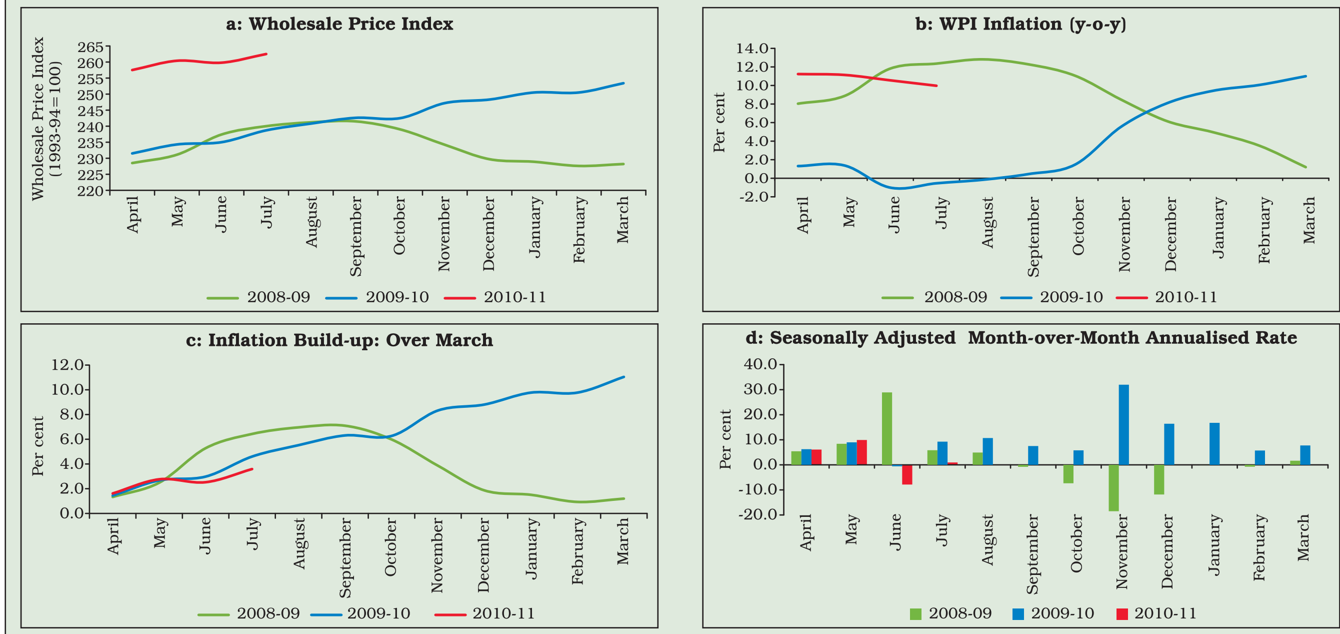


Chart II.17: Trends in Wholesale Price Inflation

II.2.4 Fuel group which contributed negatively to overall inflation since January 2009 showed a reversal of trend in the last four months of the year. The contribution of the non-food manufactured products group, which remained negative during April-November 2009, turned around and increased significantly thereafter, indicating generalisation of inflationary pressures. The year-on-year increase in WPI, however, was dominated by increase in prices of food and oil, with a combined weighted contribution of 59.4 per cent (Chart II.19). The weighted contribution of these two groups to the WPI inflation has generally been higher than their combined weight in the WPI (Chart II.20). This reflects persistent supply side pressures on the inflation path.

II.2.5 Significant increases in international commodity prices, particularly oil, during 2009-10 added further pressures on domestic prices (Chart II.21a). The increase in key international commodity prices during 2009-10 was significantly higher than the domestic inflation, thereby limiting import as an option for price control (Chart II.21b). Since April 2010, however, some decline in commodity prices has been observed, as greater

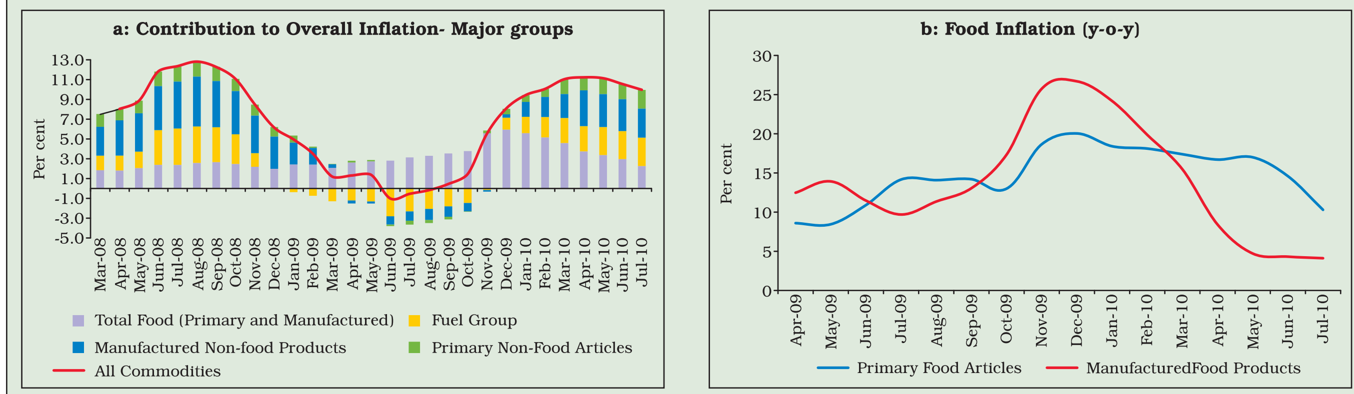


Chart II.18: Sources of WPI Inflation

Chart II.19: Inflation in Major Sub-groups (WPI, y-o-y) March 2010

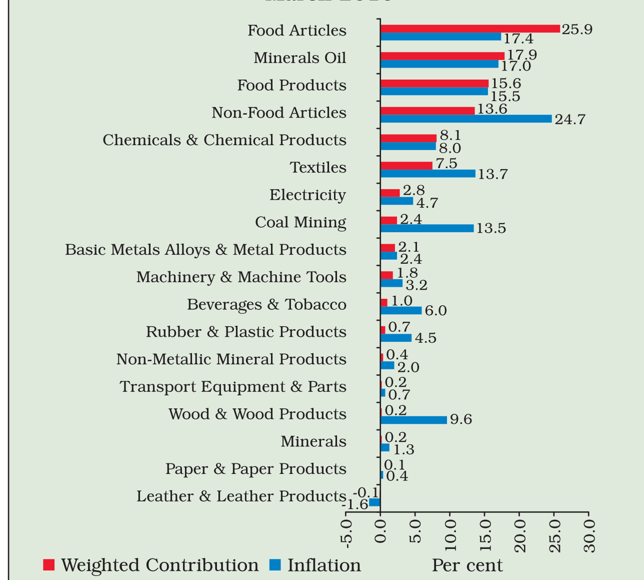
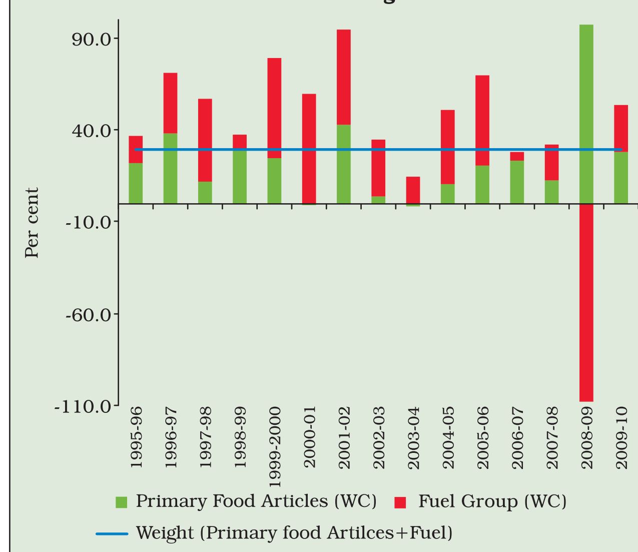


Chart II.20: Weighted Contribution (WC) of Food and Fuel to WPI Inflation (y-o-y) in Relation to Their Combined Weight in WPI



uncertainty relating to recovery in advanced economies following the developments in Euro zone spilled over to commodity markets.

II.2.6 Speculation in commodity futures was seen in some quarters as a factor behind the high food inflation during 2009-10. Whether activities in commodity futures market reflect genuine needs of hedging or speculation, and whether such activities systematically influence the commodity prices and lead to increased price volatility, are questions that largely remain unsettled in academic and policy discussions (Box II.4). In India, several commodities which are not traded in the commodities exchange, such as fruits and milk, exhibited price increases during the year. Moreover, certain commodities that were banned for trading in 2007, such as rice, wheat, *tur* and *urad*, also exhibited price increases subsequently. Even after the ban imposed on trading of sugar in 2009, sugar prices continued to increase. On the other hand, prices of certain essential commodities that are being traded in the futures market, such as gram, chillies, rapeseed oil and coconut oil, either remained moderate or declined during 2009-10. Despite the persisting ambiguity about the relationship between futures market activities and spot prices of commodities, activities in the futures

Chart II.21: Global and Domestic Inflation

Chart II.21a: International Commodity Prices

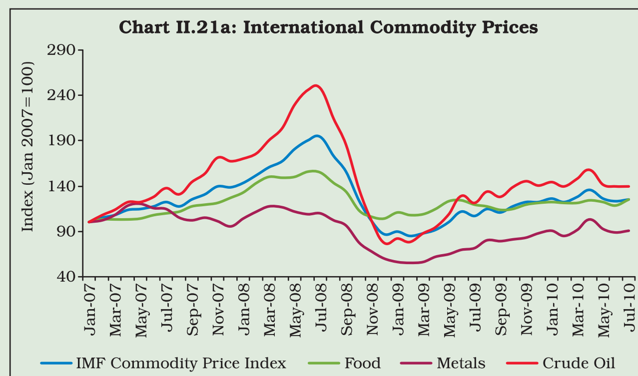
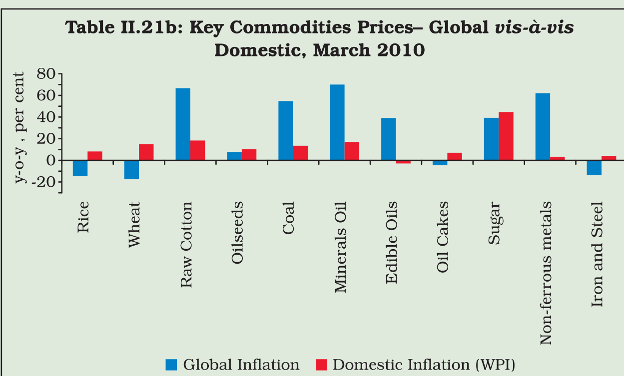


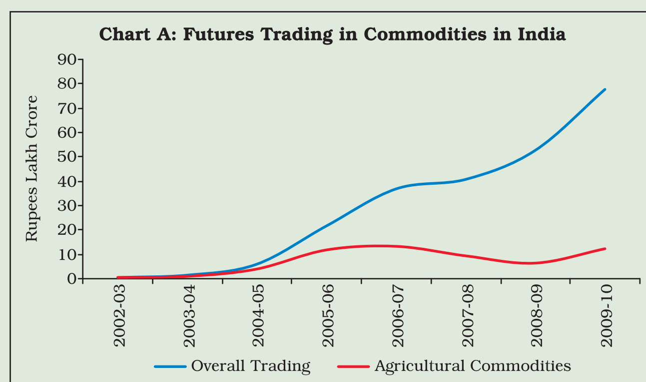
Table II.21b: Key Commodities Prices– Global *vis-à-vis* Domestic, March 2010



Box II.4
Impact of Trading in the Commodity Futures Market on Inflation

With growing financialisation of commodities, the role of speculative activities in commodity exchanges as a determinant of inflation has often been highlighted as an issue of policy relevance, particularly during episodes of high inflation driven by supply shocks involving commodities such as oil and metals as well as agricultural output. The financialisation channel is often perceived to have magnified the impact of disequilibrium between demand and supply in specific commodities on prices, weakening thereby the role of fundamentals in the price formation process. More importantly, speculation that affects futures prices has been argued to affect spot prices through the channel of arbitrage. The sharp volatility in international commodity prices since 2008 has increased the analytical focus on studying the interactions between prices in spot and futures markets for commodities. According to the UNCTAD (2010) "…extraordinary increases in the volume of commodity derivatives as asset classes attracted swings of short-term portfolio investments, causing prices to deviate further from their trend levels. This increasing interest in commodities as an asset class has been termed the financialisation of commodity markets, which is a relatively new factor in price formation in commodity futures markets…". According to the IMF (2006), perceptions are often driven by observation of correlation rather than assessment of causality. The IMF's assessment based on causality suggested "…little support for the hypothesis that speculative activity (as measured by net long non-commercial positions) affects either price levels over the long run or price swings in the short run. In contrast, there is evidence (both across commodities and over time) that speculative positions follow price movements."

Increases in food and essential commodity prices in India in 2009-10 brought to the fore the debate on the role of commodity futures market in influencing price trends. The share of agricultural commodities in overall futures trading has declined in recent years reflecting imposition of bans on trading of several commodities (Chart A). Against the backdrop of growing perception that manipulative activity was causing distortions in the futures market and stoking inflation, the Government of India had constituted an Expert Committee on Futures Trading (ECFT) in 2007 with Prof. Abhijit Sen as the Chairman to study the effects of futures trading on prices of agricultural commodities in the country.



The Committee viewed that no strong conclusion can be drawn on whether introduction of futures trade is associated with decrease or increase in spot price volatility. While many other studies have examined the relationship between spot and futures prices, empirical evidence remains mixed.

The standard approach to study the impact of futures trading in commodities on their spot prices is through Granger causality tests. The empirical analysis for India is often constrained by the breaks in data on account of imposition of frequent bans and subsequent permission for relisting of certain essential commodities in the commodities exchange. Causality test results relating to the sample period for which data are available indicate that futures prices have causal impact on spot prices in the case of sugar and *urad* (Table A). It is also observed that spot prices Granger cause futures prices in case of *urad, chana,* wheat and sugar. Sugar and *urad* seem to exhibit two-way causality between the spot and futures prices.

Table A: Granger Causality Tests of the Relationship Between Spot and Futures Prices of Agricultural Commodities

Commodity	Hypothesis on the Direction of Causality			
	Futures Prices do not cause Spot Prices		Spot Prices do not cause Futures Prices	
	Significant*	P Value	Significant*	P Value
1	2	3	4	5
Sugar	Yes	0.00	Yes	0.00
Urad	Yes	0.00	Yes	0.00
Tur	No	0.21	No	0.42
Wheat	No	0.42	Yes	0.04
Chana	No	0.74	Yes	0.07
Potatoes	No	0.14	No	0.81

* If significant, the null hypothesis is rejected.
Note: The tests relate to monthly data for the period 2004 to 2009. For commodities on which ban was imposed, data for the period 2004-2007 were used.

The empirical analysis, thus, does not provide any conclusive evidence in support of the relationship between spot and future prices. Commodity prices in India seem to be influenced more by other drivers of price changes, particularly demand-supply gap in specific commodities, the degree of dependence on imports and international price movements in these commodities.

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1. Government of India (2008), *Report of the Expert Committee to Study the Impact of Futures Trading on Agricultural Commodity Prices*, Ministry of Consumer Affairs, Food & Public Distribution.

2. IMF (2006), "The Boom in Non-Fuel Commodity Prices: Can it Last?", *World Economic Outlook*, October, Chapter-5.

3. UNCTAD (2010), *Recent Developments in Key Commodity Markets: Trends and Challenges,* United Nations Conference on Trade and Development, Geneva.

market need to be better monitored, given the possible role this market may have for the overall inflation conditions.

II.2.7 Demand-supply imbalances in certain commodities seem to be widening in recent years, causing significant swings in their prices. Barring a few edible oils and pulses, India has so far met the bulk of its food demand through domestic production. For wheat and sugar, India has occasionally resorted to imports, though generally it is an exporter of these commodities. In the case of edible oils, the demand has far outstripped the domestic supply and the deficit is met through imports, the share of imports being around 35 per cent of the total consumption. Pulses production has also lagged behind the demand resulting in dependence on imports to the extent of 14-15 per cent. There is a risk of Indian imports inflating international prices, and in that process, at times, the import option to contain inflationary pressures at home may not be there. In the case of commodities like crude oil, where the import dependence is more than 80 per cent, while full pass through of international prices to domestic prices has implications for inflation in the short-run, it will contribute to price stability by alleviating the pressure on the fiscal situation. The deregulation, besides contributing to improve the fiscal situation, could also promote energy efficiency and conservation.

II.2.8 The increase in inflation in certain commodities could also be on account of structural factors, which could create long-term supply bottlenecks. As the growth in food production has been lower than the overall growth in population, the net availability of food has come down, which gets partly reflected in sustained increase in prices. Moreover, as the economy exhibits stronger inclusive growth, the resultant increase in income of the population at large would lead to shift in the pattern of demand, and consumption of food items like pulses, milk and sugar could increase, which would exert pressure on prices of those products for which supply response may lag behind the growing demand.

II.2.9 In recent months, much of the pressure on the headline inflation has emanated from either upward revisions in administered prices (such as coal, fertiliser, electricity and petroleum products) or lagged reporting of inflation that gets reflected in the revised WPI data. Lower administered prices represent suppressed inflation and when their prices are revised upwards, the actual inflation path moves up. The increase in prices of petroleum products in June 2010 alone entailed an immediate increase in headline inflation by about one percentage points and the expected overall impact (including full pass-through across sectors in the second round, through higher input costs) could be about 2.9 percentage points.

II.2.10 The identification of sources of inflation is important for the conduct of monetary policy. Tightening of monetary policy in the face of demand pressures could yield desirable results by containing monetary policy sensitive part of the demand. However, when the inflationary pressures are dominated by adverse supply shocks, monetary policy could be less effective in containing price pressures. Supply shocks, however, generally tend to alter relative prices, and in certain conditions, relative price trends could necessitate monetary policy actions, as has been the case for India in the last quarter of 2009-10 (Box II.5).

II.2.11 Since the inflationary situation during 2009-10 largely emerged from the supply side constraints, the government took a number of short and medium-term fiscal and administrative measures to improve domestic availability of essential commodities and thereby moderate the pressure on inflation. These included, reduction of import duty to zero for select food items like rice, wheat, pulses, edible oils (crude), sugar and maize; additional allocation of foodgrains for sale through public distribution system (PDS) and allocation of wheat for release by the Food Corporation of India (FCI) in the open market; ban on export of non-basmati rice, edible oils and pulses; distribution of imported pulses and edible oils thorough PDS at subsidised rates and increase in Minimum Support Price of key agricultural commodities to augment production.

Box II.5
Supply Shocks, Relative Price Changes and the Role of Monetary Policy

Inflation refers to general increase in the price level, which is conventionally measured as the growth rate of a price index. Such a measure of inflation could be seen as a proper representative of the underlying inflationary pressures only when relative prices of commodities within the basket of the selected overall index remain constant. A measure of headline inflation rarely reflects the movements in prices of all the commodities in the basket in the same direction and by the same magnitude. Divergent trends in movements of prices across commodities within the basket and the resultant changes in relative prices could make the average inflation less representative, particularly for the purpose of conduct of monetary policy.

Changes in relative prices have been significant for India in recent years, particularly because of the dominance of supply shocks in conditioning the overall inflation path. In this context, four specific issues are important for the conduct of monetary policy: (a) possible misleading information from the headline inflation in the presence of divergent trends in inflation across commodities, (b) the risk of higher relative price variability in itself causing higher headline inflation, (c) the challenge of segregating supply side triggers for relative price changes from demand side factors, and most importantly (d) what monetary policy could do to contain inflationary pressures emanating from shifts in relative prices.

In India, the dominance of supply shocks in affecting the underlying trend inflation is borne out by the Granger causality tests (Table A). The test results suggest the presence of unidirectional causality with 'food and fuel inflation', reflecting the supply shocks, Granger causing the changes in core inflation. The "non-oil non-food component" is used as a measure of core inflation for this test. Although the results are significant only at 10 per cent level, the results indicate supply shocks contributing to possible second round effects.

Table A: Causal Relationship between Supply Shocks and Underlying Inflation

(Sample April 1994 to March 2010)

Null Hypothesis:	F-Statistic	Prob.
Core Inflation does not Granger cause food and fuel inflation	1.09	0.34
Food and fuel inflation does not Granger cause core Inflation	2.73	0.07

The second round effects represent the risks to overall inflation from shifts in relative prices that originate through supply shocks. The second round impact often materialises with a lag and operates through inflation expectations, wage settlements and price setting behaviour of firms. In practice, however, it is hard to distinguish first and second round impact. It may also be not correct to ascribe any change in relative prices to supply shocks. The variance decomposition analysis based on a structural VAR framework sheds light on the impact of supply shocks on India's headline inflation. About one-third of the variation in the headline inflation over the horizon of two years seems to have been explained by the supply shocks (food and oil). It is also to be noted that the impact of oil shocks has a relatively greater impact (about 20 per cent) on variation in headline inflation as compared to food shocks (about 14 per cent). The empirical results also indicate that about 54 per cent of the variation in the headline inflation is caused by the residual shocks to the headline inflation itself, which is suggestive of the role of inflation persistence and inflation expectations in explaining the inflation process.

As regards monetary policy response to relative price developments, it has been generally argued that monetary policy actions may not be effective in controlling relative price movements resulting from supply shocks. For temporary increases in prices of certain items, on account of supply shocks, monetary policy need not respond. In turn, if the changes in relative prices are permanent (*i.e.,* the changes in relative price persists), and lead to higher general inflation, through second round impact and adverse inflation expectations, monetary policy will have a role for anchoring inflationary expectations. As emphasised by Mishkin (2007), higher inflation resulting from adverse supply shocks may not merit monetary tightening "... as long as the permanent changes in relative energy price do not lead to a change in the underlying trend rate in inflation". Given the possibility of the short-term trade-off between inflation and growth, however, monetary policy actions aimed at containing inflation may induce some sacrifice of growth. In this context, Feldstein (2009) noted that an appropriate strategy for a central bank could be to recognise "...that a tight monetary policy will slow growth in the short-term... (but) produce stronger growth and lower risks for the longer term".

Relative price changes can be identified by looking at the variability in inflation across commodities within the general price index. The index of relative price variability (RPV) is measured as the weighted sum of deviations in commodities inflation from overall inflation:

$$\mathrm{RPV}_t = \sqrt{\sum_{i=1}^{n} w_{it}\,(\pi_{it} - \pi_t)^2}$$

(where, π_{it} is the inflation in commodity *i* at period *t,* π_t is the average rate of inflation at period *t* and w_{it} is the weight of commodity *i* in price index.)

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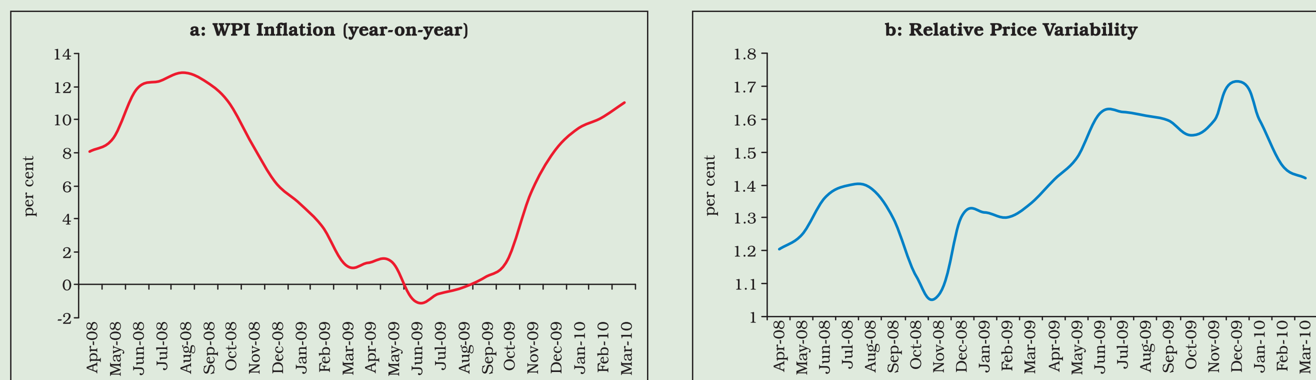
Chart A: Inflation and Relative Price variability



In India, during the first half of 2009-10, despite inflation remaining low, relative price variability increased substantially indicating the presence of supply shocks (Chart A). Since November 2009, the relative price variability has declined, despite inflation remaining high, indicating that the inflation has become increasingly generalised, and hence, requiring appropriate monetary policy actions to anchor inflation expectations.

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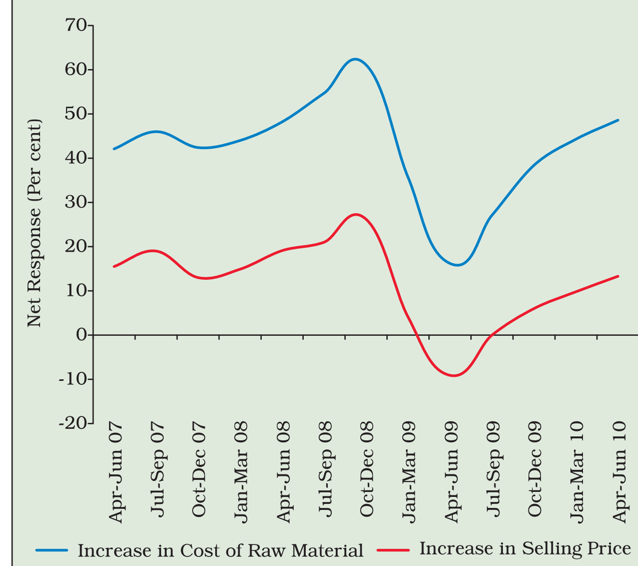
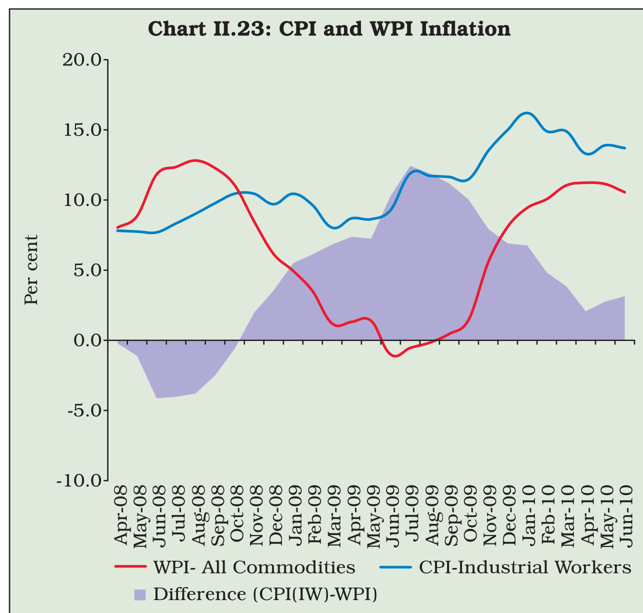
1. Feldstein, Martin (2009), "Beyond Price Stability: the Challenges Ahead", *BIS Papers* No.45, Bank for International Settlement.
2. Mishkin, Frederic S (2007), "Headline versus Core Inflation in the Conduct of Monetary Policy" , Speech at the Business Cycles, International Transmission and Macroeconomic Policies Conference, HEC Montreal, October 20.

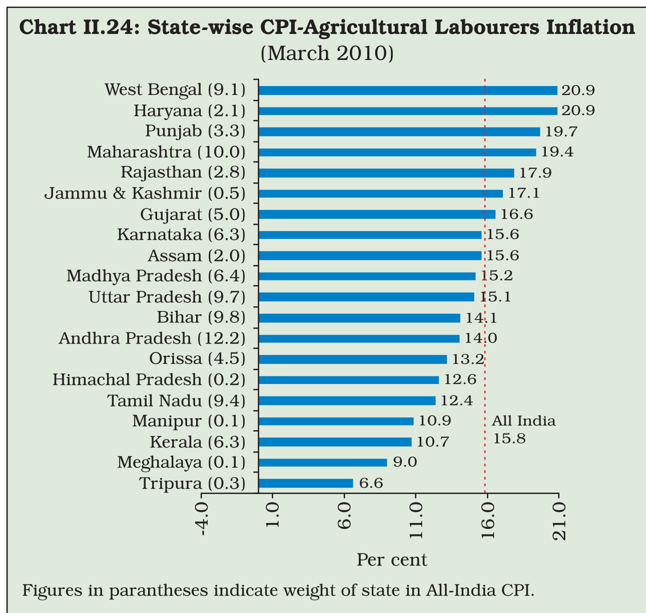
II.2.12 The emergence of demand pressure on prices in India during the last quarter of 2009-10 was visible from a number of indicators, such as strong revival in import growth, major turnaround in corporate sales, increases in capacity utilisation and revival in credit demand from the private sector. Apart from this, the pricing power of corporates also seemed to improve with recovering private demand, which is evident from the trends in net response reported in the Reserve Bank's Industrial Outlook Survey (Chart II.22). While the corporates expected in larger numbers to be able to raise output prices, they also expected input costs to increase, indicating the cost-push effects of supply shocks on general inflation.

II.2.13 Persisting divergence between inflation as measured by wholesale and consumer price indices was another major feature of inflation trends in India during 2009-10 (Chart II.23). The divergence was partly the result of high inflation in food, which has relatively higher weight in CPIs as compared to WPI. During the second half of 2009-10, some decline in the degree of divergence was witnessed as a result of increase in WPI inflation and moderation in CPI inflation.

Chart II.22: Expectations for Cost of Raw Material and Selling Price: Reserve Bank's Industrial Outlook Survey







II.2.14 Besides divergence in inflation across commodities and price indices, the differences in inflation across states has also been significant (Chart II.24).

II.2.15 High inflation, when persists, could not only dampen overall growth prospects of the economy but also hamper the progress on inclusive growth. The adverse impact on growth could potentially result from inflation induced distortion in resource allocation and possible decline in domestic savings. Uncertainty associated with inflation could complicate investment and consumption planning, affecting capital accumulation and savings. Inflation at times, could also shift the focus from production activities and productivity enhancing investment to speculation and hoarding.

II.2.16 The risk to inclusive growth may result from the asymmetric impact of inflation on different sections of the population. A large section of the population may not be able to increase their nominal income matching inflation and in that process may suffer a decline in real income. The impact of high food inflation could be even more asymmetric, because of the large proportion of income of the poor that is allocated to consumption of food items. In view of the possibility that those who experience maximum loss of real income because of high inflation also do not benefit much from high growth, containment of inflation becomes the overriding objective for monetary policy in the eventuality of inflation persistence (Box II.6). The evidence of inflation persistence in India in the

Box II.6
Inflation Persistence in India

Inflation is said to be persistent if, in the absence of any disturbance, it shows a tendency to stay closer to its past levels. Inflation persistence implies the time taken by inflation to return to the underlying trend after a shock. If inflation exhibits a sudden spike on account of supply shocks and does not moderate thereafter, the resultant inflation persistence could raise its long-run average value. Hence, higher the persistence of inflation, stronger monetary policy actions may be required to bring inflation down to the long-term trend, following a supply shock.

Though inflation persistence is often viewed as an important information, which should feed into the monetary policy making process, there is little agreement in the literature on how best to measure inflation persistence. The nature of inflation persistence could vary both across time and across different supply shocks. Two distinct approaches are seen in the literature to measure inflation persistence: one defines and evaluates inflation

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persistence in the context of a simple univariate time-series representation of inflation, while the other uses a structural econometric model that aims at explaining the inflation behaviour. Under the univariate approach (also called reduced-form approach), a simple autoregressive model for inflation is used and the shocks are measured in the white noise component of the autoregressive process. The multivariate approach implicitly or explicitly assumes a causal economic relationship between inflation and its determinants (usually through a structural VAR model) and sees inflation persistence as referring to the duration of the effects of various shocks on inflation. While in the univariate approach shocks to inflation are not identified, under the multivariate approach attempts are made to identify different shocks to facilitate shock-specific persistence analysis.

Empirical studies on inflation persistence in India give contrasting results. Khundrakpam (2009) found that irrespective of the alternative inflation measures, the level of inflation persistence in India is relatively on the lower side, although among the components of WPI, 'manufacturing' inflation is the most persistent.

Different approaches used to understand the nature of inflation persistence in India indicate almost similar results. These include: (a) conventional unit root tests: a series with a unit root has infinite memory in the sense that a shock in period t has influence on all periods t + k; k > 0. Thus, any shock to a series with a unit root persists forever; (b) the first order autocorrelation of the inflation series; (c) the autocorrelation function of the inflation series and (d) the sum of the autoregressive coefficients for inflation. Empirically, these measures are examined using WPI (base: 1993-94=100) data from April 1995 to April 2010. Since 2000, monetary policy operates under the LAF framework. Thus, in order to assess this shift on inflation persistence, the sample period is split into two sub-periods: April 1995 to March 2000 and April 2000 to April 2010. The conventional unit root tests suggests that for split-sample and the whole sample, WPI-based inflation does not contain a unit root, more so in the later half of the sample (Table A). That means inflation process has been less persistent during post-2000 period.

Table A: Unit Root Tests for Inflation

	P-Value (Null hypothesis: Series has unit root)		
	Apr-95 to Apr-10	Apr-95 to Mar-00	Apr-00 to Apr-10
ADF test	0.0154	0.0437	0.0000
Phillips-Perron	0.0019	0.0453	0.0332

Secondly, the first order autocorrelation coefficient, a simple measure of persistence, showed the time varying nature of persistence (Chart A). Inflation persistence

Chart A: Rolling-sample (with the window of 3-year) First-order Autocorrelation of Inflation

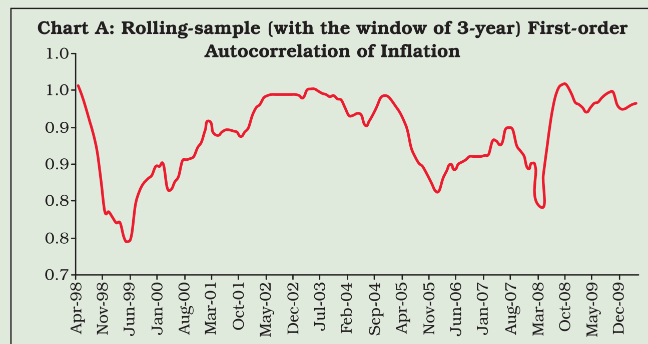
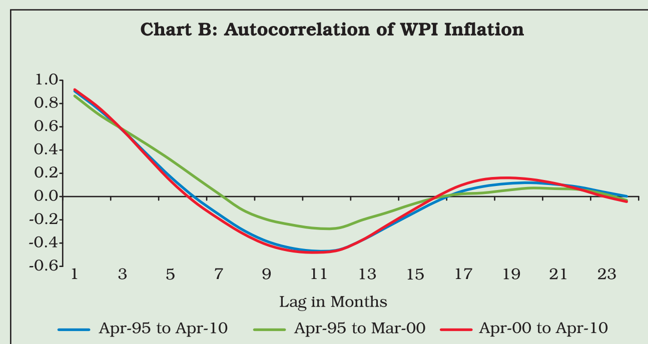


Chart B: Autocorrelation of WPI Inflation



seems more pronounced in the recent period. The autocorrelation structure does not rule out persistence, but only suggests low persistence (Chart B). Finally, a persistence test based on AR model suggests that WPI inflation exhibits persistence (Table B).

Table B: Persistence Test Based on AR(k) Process

	Apr-95 to Apr-10	Apr-95 to Mar-00	Apr-00 to Apr-10
Sum of the AR coefficients	0.8431(AR(3))	0.8416(AR(1))	0.8380(AR(3))
P-value	<.0001	<.0001	<.0001

Different estimates, thus, suggest that inflation persistence has been a reality. Highlighting empirical evidence on the high degree of inflation persistence in India in the recent period, especially in the case of food and edible oil groups, Mohanty (2010) emphasised that "… extent of inflation persistence is important in the determination of the pace of monetary policy adjustment to achieve the desired target".

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2. Mohanty, Deepak (2010), "Inflation Dynamics in India: Issues and Concerns" Speech delivered at the Bombay Chamber of Commerce and Industry, March 4, 2010.

recent period suggests that despite the risk of possible trade off between growth and inflation in the short-run, inflation containment may have to receive precedence over other policy objectives in India for the Reserve Bank.

Developments in 2010-11 so far:

II.2.17 In the first quarter of 2010-11, the headline inflation remained close to double digits (9.97 per cent, y-o-y, provisional in July 2010), despite some moderation in prices of food products. WPI inflation based on revised data for first three months of 2010-11 was higher by over one percentage point in each month as compared with the provisional figures. Manufactured non-food products inflation further accelerated, and remains elevated indicating the strengthening of demand side pressures on inflation. Changes in administered prices as well as upward revisions in price indices that reflected lagged reporting of past price increases, contributed significantly to the increase in WPI in recent months. Notwithstanding some moderation, consumer price inflation, measured by various indices, remains high in the range of 13.0-14.1 per cent during May/June 2010.

II.2.18 High and persistent inflation at the current juncture poses a number of challenges. The increasing generalisation of inflation indicates emergence of inflationary pressures from the demand side, which will require active demand management policies in the near-term. The focus of medium-term inflation management, however, must be to ease supply constraints in key sectors where demand will continue to grow. This is particularly important for agricultural products. It also needs to be recognised that high and generalised inflation, if persists, in itself is a risk to growth through its unfavourable effects on resource allocation as well as unfavourable redistributive effects on the poor. Large dispersion in inflation, across commodities, across regions and across different indices also necessitate the use of multiple indicators of inflation for the assessment of overall inflationary conditions.

III. MONEY AND CREDIT

II.3.1 Monetary and credit conditions remained supportive of recovery during 2009-10, largely reflecting the accommodative monetary policy stance of the Reserve Bank. Easy access to liquidity at low cost was a critical component of the overall policy response in the management of recovery. The Reserve Bank, like most other central banks, adopted a number of conventional and unconventional measures in the second half of 2008-09 to augment domestic and foreign exchange liquidity. In a span of seven months between October 2008 and April 2009, there was unprecedented policy activism, as the repo rate was reduced by 425 basis points to 4.75 per cent, the reverse repo rate was reduced by 275 basis points to 3.25 per cent and the CRR was reduced by 400 basis points to 5.0 per cent. The actual/potential provision of primary liquidity was of the order of ₹5,60,000 crore (9.0 per cent of GDP).

II.3.2 Accommodative monetary policy stance continued through the first half of 2009-10. As the recovery process gained momentum and in response to the emerging inflationary pressures, calibrated monetary unwinding started in the second half of the year. Notwithstanding the easy monetary policy, on account of the significant deceleration in private consumption and investment demand, particularly in the first half of the year, growth in monetary and credit aggregates decelerated. In the second half of the year, pick-up in the momentum of recovery led by industrial growth was not reflected as much in the trends for money growth, though credit growth recovered from November 2009. In 2010-11 so far, credit growth continued to accelerate during the first quarter and showed some moderation in July 2010, while money growth has continued to decelerate.

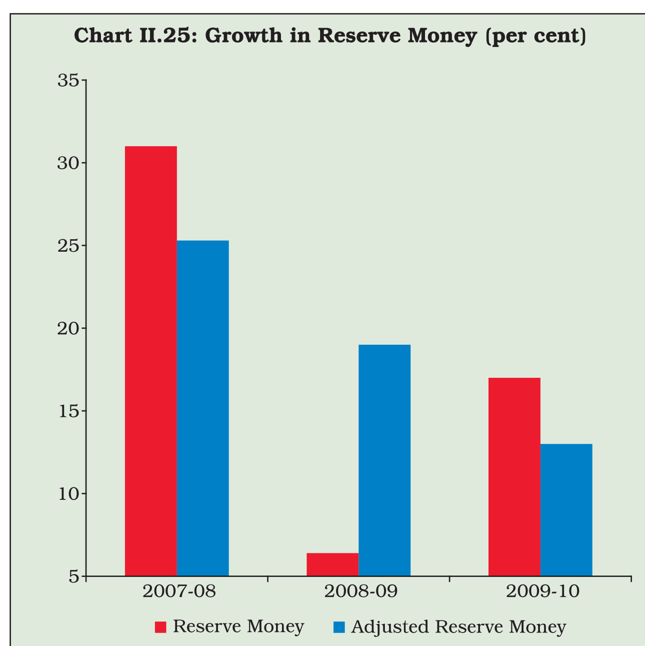
Reserve Money

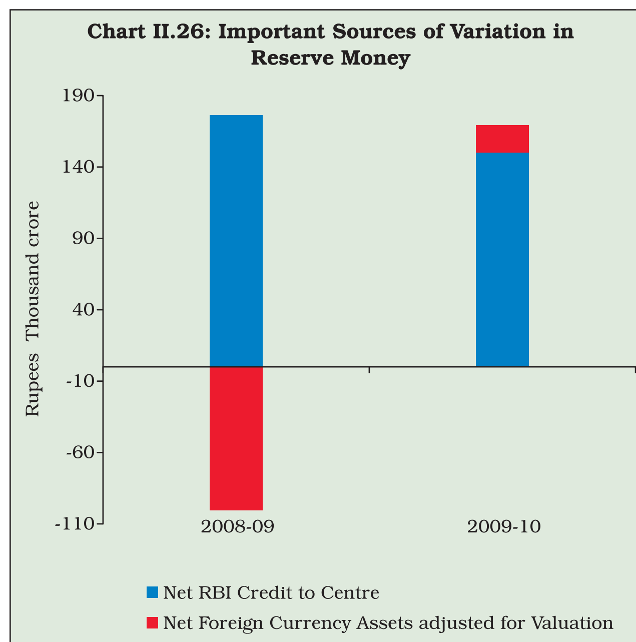
II.3.3 Trends in reserve money reflected largely the impact of the monetary policy changes and

liquidity management operations, both on the components and sources side. Reflecting the policy-induced changes in the cash reserve ratio (CRR), reserve money growth decelerated in 2008-09, but increased in 2009-10. Keeping in view the sharp changes in CRR, analytically, it is important to look at reserve money adjusted for CRR changes. Adjusted reserve money growth decelerated in 2009-10 as compared with the previous year (Chart II.25).

II.3.4 Bankers' deposits with the Reserve Bank increased during 2009-10, with the bulk of the increase occurring during the fourth quarter as a result of the hike in CRR effected in February 2010. In 2008-09, bankers' deposits had declined because of a net reduction in CRR by 250 basis points during the year. Currency in circulation constitutes the major component of reserve money, which is largely determined by demand conditions. Currency growth exhibited moderate deceleration during 2009-10, consistent with the weakness in economic activities in the first half of the year.

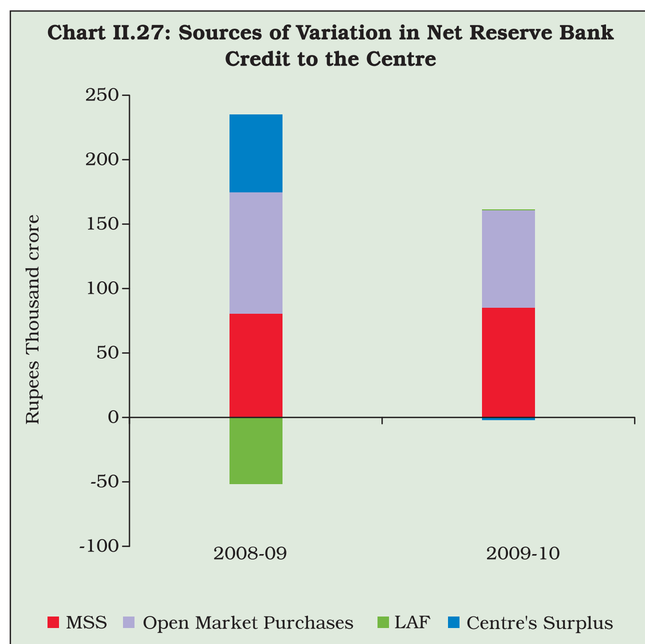
II.3.5 On the sources side of reserve money, continuing the trend of the previous year, net





Reserve Bank credit to the Centre was the predominant source of increase in reserve money in 2009-10 (Chart II.26). Net foreign currency assets (adjusted for valuation) increased modestly during the year. Changes in foreign currency assets occur on account of three reasons – purchases/ sales from authorised dealers, aid receipts by the government and earnings on foreign currency assets. The latter two factors do not have an impact on reserve money. Thus, even though there was an increase in net foreign currency assets (adjusted for valuation) in 2009-10, it did not contribute to the increase in reserve money during the year as foreign currency assets increased primarily on account of net interest/discount earned and aid receipts.

II.3.6 The expansion in net Reserve Bank credit to the Centre in 2009-10 reflects the combined effects of monetary operations conducted through open market operations (OMO), including liquidity adjustment facility (LAF) operations, and market stabilisation scheme (MSS), besides the changes in government's cash balances with the Reserve Bank. During 2009-10, about 57 per cent of the increase in net Reserve Bank credit to the Centre was on account of unwinding/de-sequestering of



balances held under the MSS (Chart II.27)[1]. The bulk of the decline in MSS balances occurred during the first quarter of the year. Since April 2004, MSS has been a key sterilisation instrument for dealing with the liquidity impact of surges in capital inflows, leading to accumulation of government deposits which remained sterilised with the Reserve Bank. In the liquidity augmenting response to the global crisis, these MSS balances were released through unwinding and de-sequestering.

II.3.7 The other major driver of net Reserve Bank credit to the Centre in 2009-10 was the open market operations of the Bank, which accounted for 50 per cent of the increase. The open market purchases were mainly confined to the first half of the year, which along with MSS unwinding, facilitated the smooth conduct of the front-loaded government borrowing programme for 2009-10. Even though MSS unwinding and open market purchases explain almost the entire annual variation in net Reserve Bank credit to the Centre, other liquidity impacting factors such as operations in the LAF market and changes in Centre's cash surplus with the Reserve Bank, were important drivers of quarterly variations in liquidity in the system during 2009-10. Since July 28, 2010, there are no MSS balances with the Reserve Bank; thus, the option of liquidating the MSS balances to expand liquidity and thereby to influence the growth in reserve money has been exhausted.

II.3.8 The overall monetary conditions reflected significant changes in the autonomous drivers of liquidity as well as discretionary liquidity operations of the Reserve Bank consistent with its monetary policy stance. Notwithstanding differences in country practices in interpreting autonomous drivers of liquidity, in India, an appropriate indicator could include the combined effects of: (i) Reserve Bank's net purchase of foreign exchange from authorised dealers, (ii) currency with the public, (iii) government's surplus cash balances with the Reserve Bank, besides WMA and overdrafts, and (iv) others. In turn, the management of liquidity by the Reserve Bank, which could be viewed as the discretionary component of the system level liquidity, include the liquidity impact of: (i) LAF operations, (ii) net OMO, (iii) MSS, and (iv) the first round impact of changes in CRR. The aggregate outcome of variations in autonomous and discretionary components of liquidity match with the change in banks' reserves (Chart II.28). Detailed discussions on liquidity management operations of the Reserve Bank are presented in Chapter III.

Developments in 2010-11 so far

II.3.9 Reserve money continues to grow at an accelerated pace in 2010-11 so far (August 13, 2010). The main component of increase in reserve money is currency in circulation. The high growth in currency (year-on-year growth of 20.1 per cent)

[1] Increase in repo/OMO purchases and decline in reverse repo/MSS balances/government's surplus balances with Reserve Bank lead to increase in net Reserve Bank credit to the Centre, and *vice versa*.

Chart II.28: Liquidity Management Operations

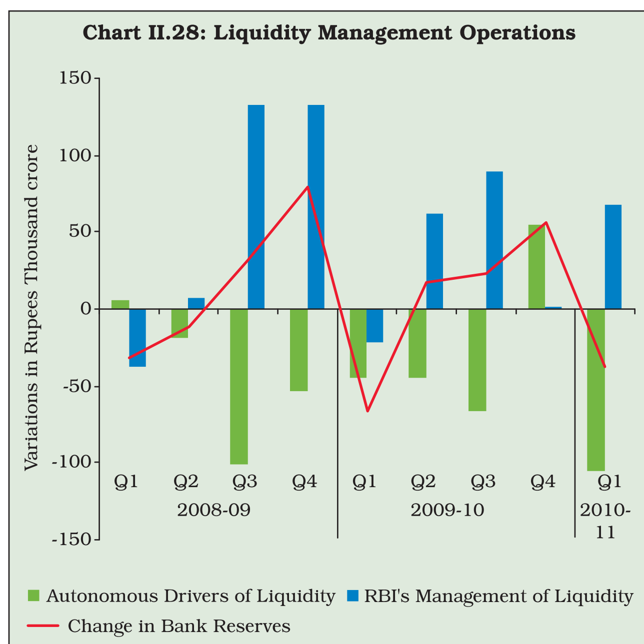
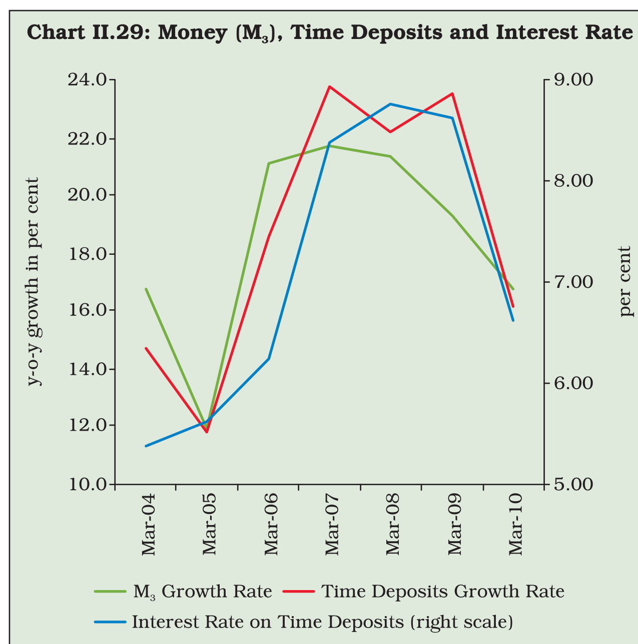


Chart II.29: Money (M_3), Time Deposits and Interest Rate



is mainly on account of the spurt in inflation, low deposit interest rates and also increase in vault cash with banks.

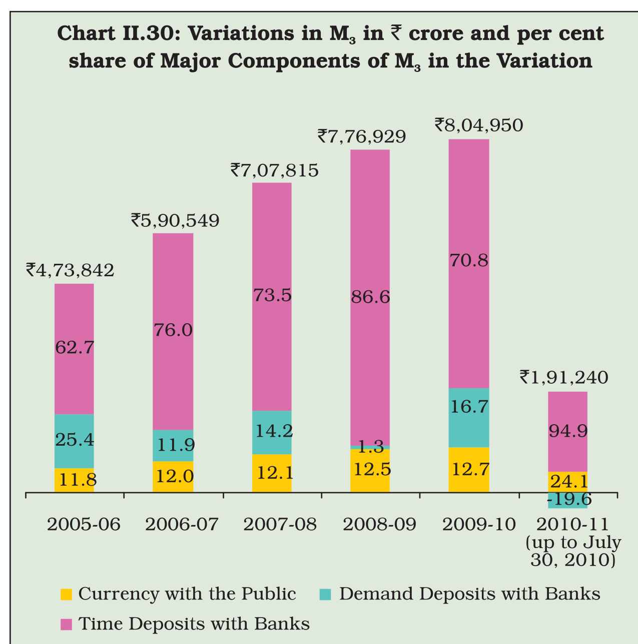
Money Supply

II.3.10 Broad money (M_3) growth decelerated for the second successive year in 2009-10, reflecting the moderation in demand associated with deceleration in economic growth in relation to the high growth achieved during 2003-08. On the components side, the deceleration was mainly led by slowdown in the growth of time deposits, partly in response to softening of interest rates observed during the year (Chart II.29). Accordingly, the share of time deposits in the annual increment in M_3 also declined (Chart II.30). In 2008-09, however, time deposits exhibited stronger growth due to depressed equity markets, increase in risk perceptions and risk-free high interest rates still available then on time deposits. The expectation of subsequent decline in time deposit rates had also motivated some shift from demand deposits.

II.3.11 On the sources side, the share of banking system's credit to the government in the annual increase in M_3 in 2008-09 and 2009-10 has been one of the highest in recent years (Chart II.31). Net foreign assets had a negative contribution to annual variation in M_3 in 2009-10 (Chart II.32).

II.3.12 During 2009-10, the share of bank credit to the commercial sector in the total net domestic assets declined, as in the previous year. This was mainly on account of the deceleration in the flow of

Chart II.30: Variations in M_3 in ₹ crore and per cent share of Major Components of M_3 in the Variation



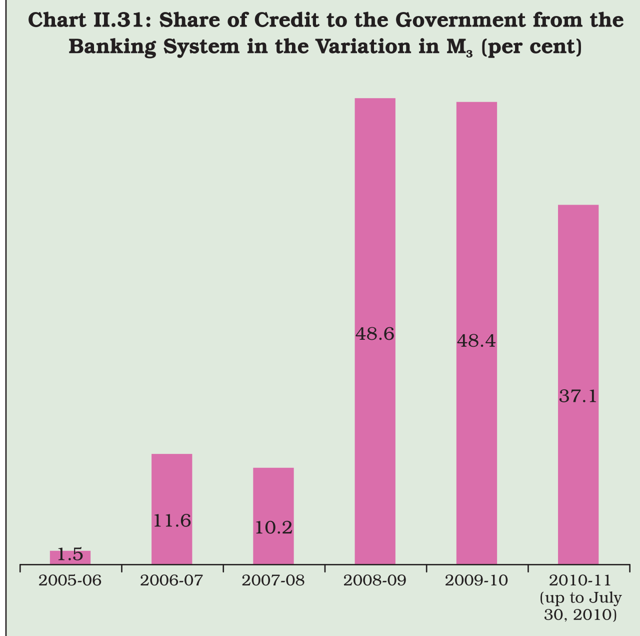


Chart II.31: Share of Credit to the Government from the Banking System in the Variation in M_3 (per cent)

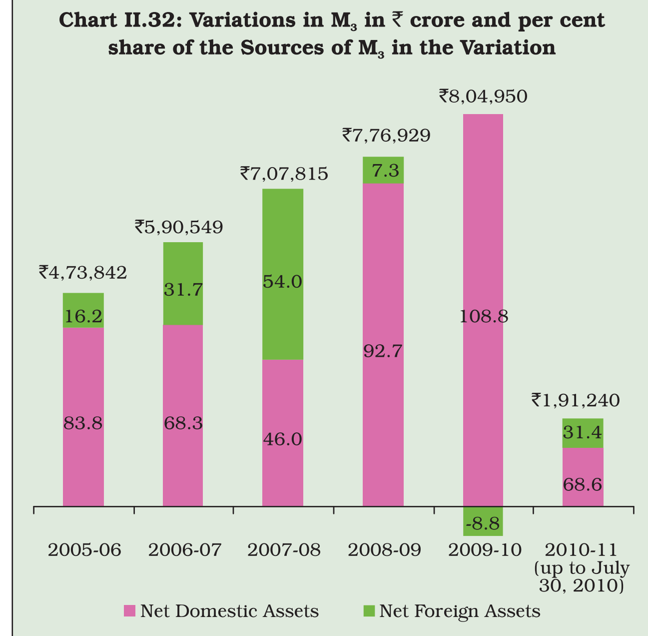


Chart II.32: Variations in M_3 in ₹ crore and per cent share of the Sources of M_3 in the Variation

non-food credit from November 2008 to October 2009 (Chart II.33). Non-food credit growth exhibited deceleration till November 2009 and has steadily increased thereafter, reflecting the improving demand associated with a stronger industrial recovery. The highest quarterly incremental flow of non-food credit in two years was observed during the fourth quarter of 2009-10, reflecting the robust increase in growth led by industrial production (Chart II.34). Along with enhanced access to alternative financing, monetary policy actions of the Reserve Bank contributed to the recovery through the normal transmission process in the credit market, though with a lag (Box II.7).

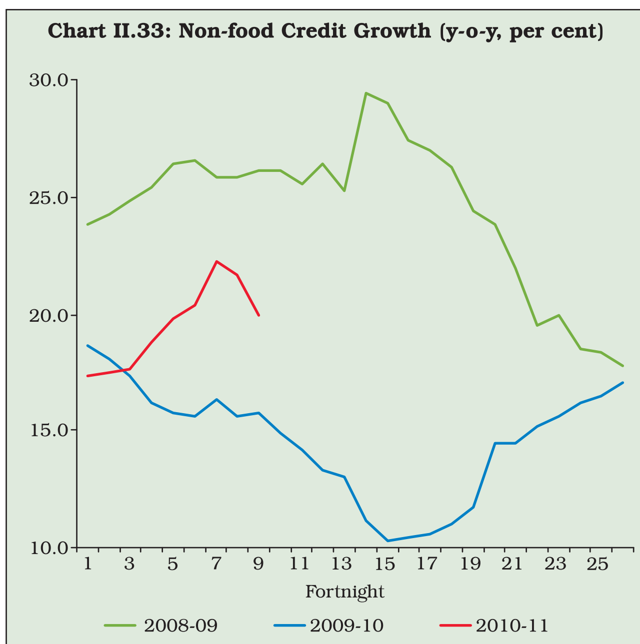


Chart II.33: Non-food Credit Growth (y-o-y, per cent)

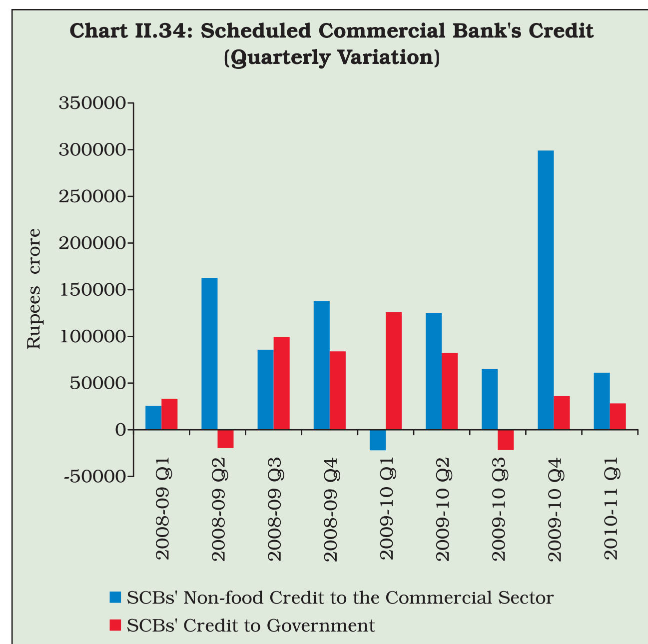


Chart II.34: Scheduled Commercial Bank's Credit (Quarterly Variation)

Box II.7
The Credit Channel of Monetary Policy during the Recovery

The credit channel of monetary policy transmission received significant attention in monetary policy debates during 2008-10, as many advanced economies had to conduct policies in the face of significant stress in credit markets. Monetary policy transmission may completely break down in an environment of "credit freeze", since the liquidity injected by a central bank at the lowest possible cost may not even reach the rest of the economy. Even during normal market conditions, assessment of the effectiveness of monetary policy could be a complex issue, as monetary policy transmission mechanism can be equated to a "black box" (Bernanke and Gertler, 1995). Central banks can generally anchor the overnight interest rate around the policy rates, but the transmission thereafter to real goal variables is often uncertain and hazy. As noted by Blinder (1998), "...Central banks generally control only the overnight interest rate, an interest rate that is relevant to virtually no economically interesting transaction. Monetary policy has important macroeconomic effects only to the extent that it moves financial market prices that really matter – like long-term interest rates, stock market values and exchange rates". Aggregate demand, thus, could be influenced by changes in cost of capital, exchange rate and asset prices, all of which could respond to changes in the policy rates. Thus, by leveraging policy rate instrument, demand associated with consumption of goods and services, housing, inventories and investment could be influenced, though interest rate sensitivity of demand may not be significant, particularly during a recession or slowdown in economic activities. In such an eventuality, assessment of the credit channel of transmission mechanism could provide complementary information about the effectiveness of monetary policy actions.

According to Bernanke and Gertler (1995), the two components of the credit channel are the balance sheet channel and the bank-lending channel. Borrowers often have the option to choose between internal financing and external financing, and between banks and non-banks with regard to external financing. Monetary policy actions could alter the "external finance premium", *i.e.*, the difference between the cost of external funds and the opportunity cost of internal funds. The external finance premium exhibits an inverse relationship with the financial condition of borrowers. The external finance premium gets influenced by monetary policy actions through both balance sheet and bank lending channels. Changes to cash flows and balance sheets could have significant real effects. This became evident in developed economies during the global crisis when not only the balance sheets of banks contracted, but households and corporates also experienced significant erosion in net worth and faced uncertainty about cash flows. These developments altered the financial conditions of borrowers, *i.e.,* their creditworthiness, which, in turn, would have affected their external finance premium. The bank lending channel of monetary policy, which operates through the supply of credit by deposit institutions (*i.e.*, banks) to bank-dependent borrowers, was also disrupted significantly in these economies by the erosion in the capacity of banks to lend due to pressure on their capital, besides reflecting significant increase in risk aversion on the part of banks.

In India, unlike in advanced economies, the credit market functioned normally and remained supportive of the recovery in growth during 2009-10, notwithstanding the deceleration in the growth of non-food credit. The assessment of the bank credit channel often encounters the challenge of disentangling the demand side effects from the supply side effects. In India, neither the banks' capacity to lend was affected because of any pressure on their capital, nor was there any intense deleveraging pressure on the corporates and households that could have lowered the demand for credit in a major way. The economic slowdown and the associated deceleration in private consumption and investment demand, however, led to moderation in demand for non-food credit. Because of the monetary policy actions of the Reserve Bank, primarily in the form of lower policy rates and ample liquidity conditions, however, the constraint from the supply side in the credit market was largely avoided. The bank lending channel from the supply side may not be visible in broad trends in the growth of non-food credit because of the simultaneous and dominating influence of private consumption and investment demand in depressing the demand for credit. Pandit *et al.* (2006) found evidence of existence of bank lending channel for India, even though several factors, including monetary policy shocks, seemed to influence the lending behaviour of banks.

A standard four variable VAR (growth in GDP, growth in non-food credit, average lending rate and call rate), with necessary diagnostic checks, validate the presence of conventional monetary policy transmission in India for recent data, though with larger error bands around the estimates. Increase in call rates (induced by policy rate changes) lead to higher average lending rates, with about two quarters lag, which in turn lower the growth in non-food credit in the fifth quarter and the GDP growth in the seventh quarter. This implies the sensitivity of demand for credit to changes in lending rates. The moderation in credit growth leads to lower growth in output. The estimated impact, though, seems to be modest and tapers off gradually. More importantly, the causality running from GDP growth to credit growth turns out to be statistically significant, suggesting credit following, rather than leading the pick-up in growth momentum. This pattern needs to be seen in relation to increasing availability of non-banking sources of funds, and their trends during the recovery in 2009-10. Indian corporates have much greater flexibility now in choosing between internal financing and financing from banks and non-banks, which is evident from significant year on year variations in the composition of their liabilities. Aggregate level data also suggest that total financing from non-banking sources were of a higher order than the flow of credit from banks. Thus, trends in credit alone need not explain the role of financial and liquidity conditions ensured by the Reserve Bank in contributing to the recovery.

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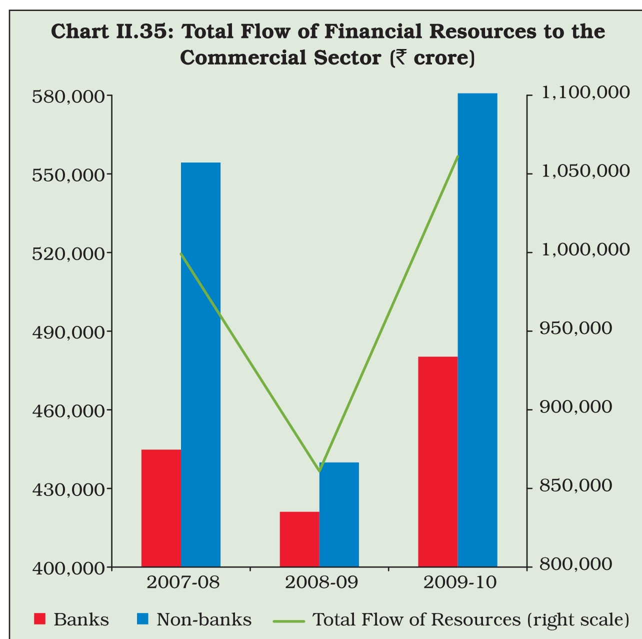
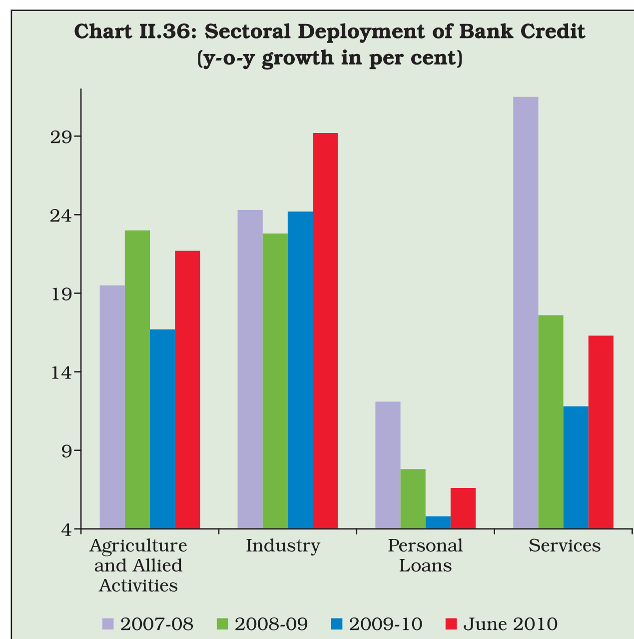




II.3.13 During the twelve month period beginning November 2008 when bank credit, as conventionally measured, was decelerating, the other investments of banks (*i.e.*, investment in shares/bonds/ debentures of corporates, commercial paper and mutual funds) showed acceleration in the rate of growth. As a result, indirect financing from banks increased. The non-banking sources, both domestic as well as foreign, meet a higher proportion of funding needs of the commercial sector (Chart II.35). The main sources of non-bank finance during the period of deceleration in non-food credit were initial public offers, private placements, issuance of commercial papers, foreign direct investment and American/Global depository receipts. While the total flow of resources from banks and non-banks increased during 2009-10, the flow of bank credit to industry remained strong (Chart II.36).

Developments in 2010-11 so far

II.3.14 Money growth continued to decelerate during 2010-11 so far owing to slowdown in the growth rate of deposits. Banks have begun to mobilise deposits by announcing hike in rates for term deposits since end-July 2010. This has become essential in order to meet the increased demand for credit from the commercial sector. Though increased credit flow is yet to get broad-based, there has been an improvement in credit growth to personal loans and services in the recent months. The flow of financial resources from the non-banking sector also recorded a significant increase during the first four months of 2010-11.

IV. FINANCIAL MARKETS

II.4.1 Financial markets functioned in an orderly manner through 2009-10. As the overall liquidity conditions remained in surplus, money market interest rates generally stayed close to the lower bound of the LAF rate corridor. The large market borrowing by the Government put upward pressure on the yields on government securities during 2009-10. However, this was contained by active liquidity management by the Reserve Bank. Lower credit demand by the private sector also helped in containing the upward pressure on yield. Equity markets generally remained firm during the year with intermittent corrections in line with the global pattern. Resource mobilisation through public issues increased. Housing prices rebounded during 2009-10. According to the Reserve Bank's survey, they surpassed their pre-crisis peak levels in Mumbai. The exchange rate exhibited greater flexibility.

II.4.2 Financial markets represent the medium through which the impact of adverse global shocks manifests first. The impact of the global crisis on India was also visible first in the financial markets. Thus, restoring normal conditions in the markets became the key policy challenge to contain the adverse impact on the real economy. The Reserve Bank operated simultaneously in money, forex and government securities markets, resorting to both conventional and non-conventional measures, which helped in restoring normalcy to market. This in turn was critical for other macroeconomic policies to be effective in managing the recovery in 2009-10. Since India avoided a financial crisis at home, the risk of stress in the financial system constraining the recovery was also largely avoided. As the financial institutions in India remained well capitalised, it helped money and credit markets to return to the pre-crisis trajectory at a faster pace. However, in view of the significant uncertainties prevailing in the global markets and the flow of both positive and negative news at different points of time during the course of the year, ensuring normal functioning of market to support recovery was critical.

II.4.3 Financial market developments tend to pose two way complex and persistent challenges to policy making: first, the uncertainty about how adverse shocks transmit through the financial markets to the real economy; second, how monetary policy measures transmit through the financial markets to attain the ultimate objectives relating to the real economy. While Indian markets, in particular the equity and forex markets, exhibited volatility in response to adverse external news relating to the developments in Dubai World and Greece, the market trends were conditioned by the domestic macroeconomic developments as well as the policy stance of the Government and the Reserve Bank.

International Financial Markets

II.4.4 Global financial market conditions improved during 2009 despite the drag from the global financial crisis; although there were phases of intermittent excess volatility. The sovereign risk concerns, however, dominated the financial markets towards the end of 2009 and beginning of 2010, with the Dubai World debt standstill and the sovereign debt problem of Greece posing bouts of additional uncertainty to the financial system. Beginning April 2010, another shock to the global financial markets emanated from the concerns of sovereign debt problem spreading from Greece to other Euro zone countries, that not only led to significant depreciation of the euro and decline in stock prices in the Euro zone but also transmitted volatility to other financial markets across the world (Chart II.37a to d). Reflecting flight to safety, yields on government papers of the advanced countries moderated. Credit Default Swap (CDS) spreads of European countries with fiscal imbalances rose, indicating the market assessment regarding risks in these countries.

II.4.5 Reduction in risk perception towards EMEs along with continuance of low policy rates in the advanced economies for extended periods, led to revival in capital flows, which in turn contributed to increase in asset prices and also kept appreciation pressures on the exchange rates of EMEs. In India, both equity and foreign exchange markets exhibited volatility in response to developments in the global markets. Overall, the transmission of global shocks to the real economy remained contained. Stronger recovery in growth also contributed to the improved confidence and perceptions in the markets.

Domestic Financial Markets

II.4.6 The immediate response of the Reserve Bank to the shocks from the financial crisis in the advanced economies was in the form of provision of ample domestic rupee liquidity and comfortable forex liquidity. These were aimed at reducing uncertainties stemming from perceptions of liquidity scarcity and thereby restoring confidence in the domestic money and forex markets. The direct

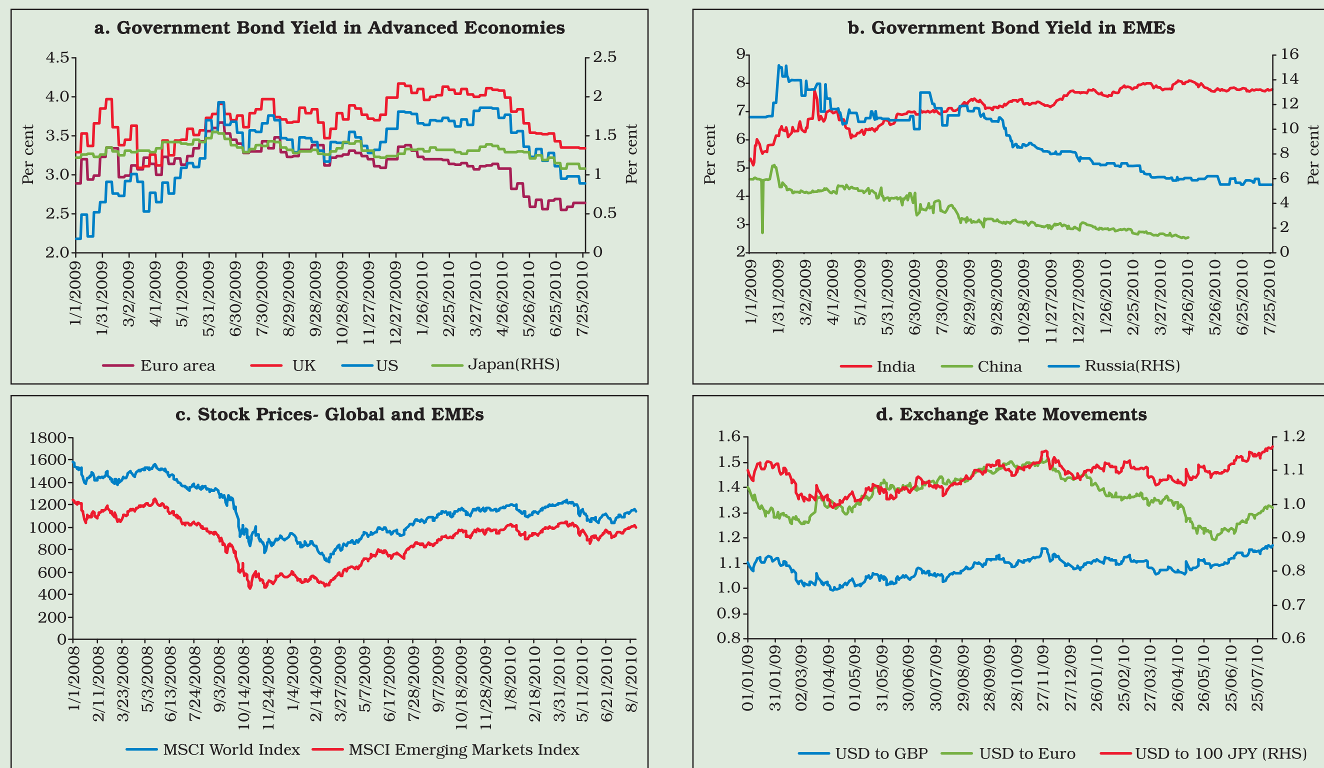


Chart II.37: Indicators of Global Financial Market Developments

Source: The IMF, the Federal Reserve of St. Louis, Bloomberg and Datastream.

transmission of shocks to India was through capital outflows and excessive volatility in the exchange rate, which warranted intervention by the Reserve Bank to restore orderly conditions in the foreign exchange market. Besides the actual intervention sales in the foreign exchange market, the Reserve Bank introduced the forex swap facility for the banks and also took measures to improve specific inflows. In order to address the apprehension of scarcity of rupee liquidity in the banking system, the Reserve Bank reduced CRR, unwound the MSS balance and also deployed several other conventional and unconventional measures. Within a short span between October 2008 and April 2009, the repo rate was lowered by 425 basis points which reduced the cost of liquidity. As a result of these measures, financial market conditions in India had recovered quickly, after the initial impact of global shocks in the second half of 2008-09.

II.4.7 Swift and timely policy measures undertaken by the Reserve Bank largely ensured faster normalisation of financial market conditions, even though in the advanced economies prolonged stress of financial systems affected the real economy significantly in terms of lost output and employment. Reserve Bank's policy measures were critical for two reasons. First, monetary policy had to ensure that the various segments of financial markets affected by the external shocks returned to normalcy at the earliest so that the process of financial intermediation could take place in a non-disruptive manner to support the real sector. The provision of ample liquidity along with a sound banking system helped in faster normalisation in various segments of domestic financial market. Second, monetary policy had to take recourse to various measures in order to mitigate the adverse effects of the global shocks on the real sector. Normalisation of financial market conditions were also essential for monetary policy transmission to yield the intended results in terms of averting a major slowdown in economic activities and contributing to a faster recovery thereafter. Despite considerable stability, the

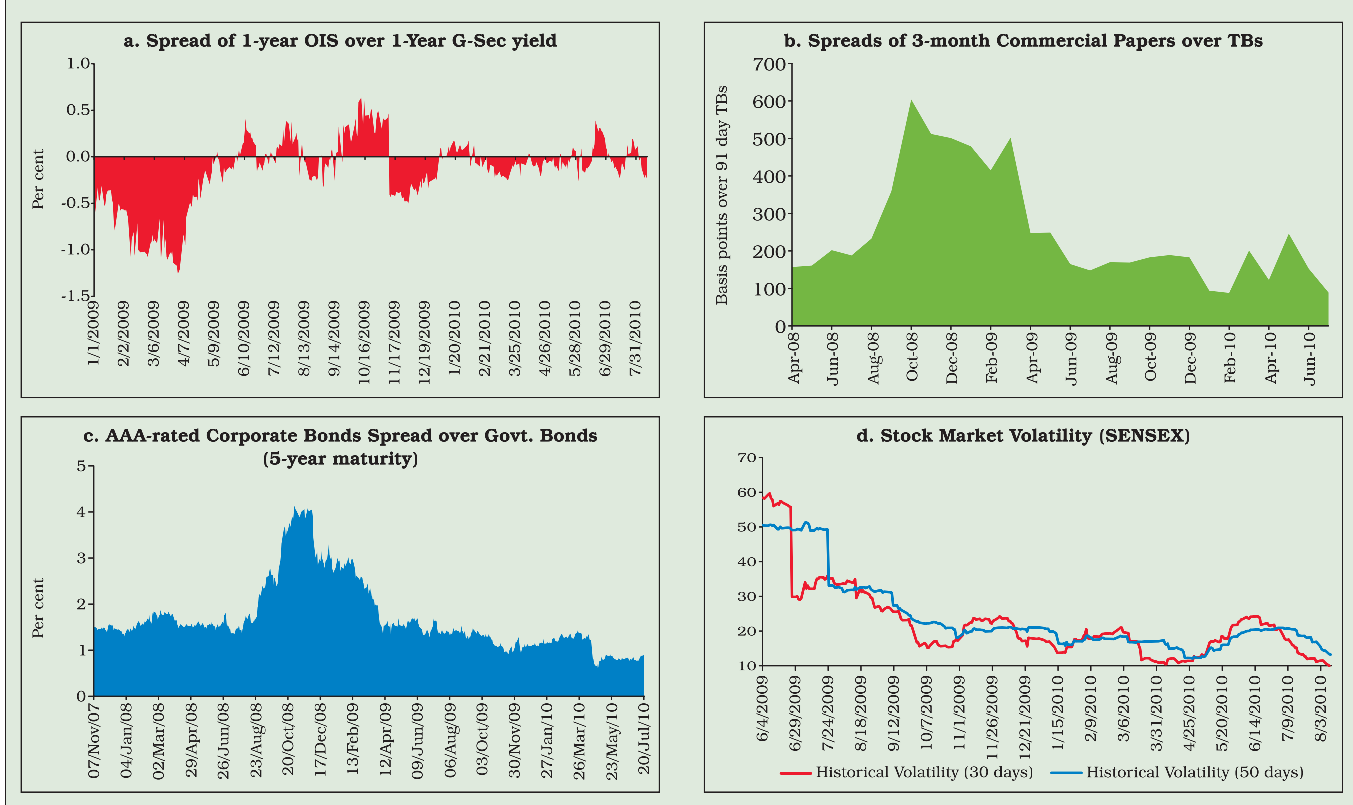
domestic financial markets faced the concerns emerging from large fiscal deficit and the inflationary expectations stemming from high headline inflation in the second half of 2009-10.

Market Activities

II.4.8 The signs of improvement in financial markets were reflected in reduction of risk perception to pre-September 2008 level and return of normal level of market activity in various segments of the market. Ensuring adequate market liquidity all through 2009-10 was considered imperative to avoid pressure on short-term interest rates and thereby facilitate recovery in growth. Towards long end of the markets as well, risks receded significantly as indicated by narrowing spreads for 5-year AAA-rated corporate bonds. In the equity market, the price volatility which had declined in the earlier part of the year, increased after the sovereign debt related concerns affected the global markets (Chart II.38).

II.4.9 With the risk perception receding significantly and market sentiments improving, all segments of money markets bounced back to the normal level of activity and even exceeded the pre-crisis levels of turnover in some of the market segments, which helped the financial entities and corporates to raise resources for their working capital requirements. The money market conditions further improved during 2009-10. This was reflected in the daily volumes in the money market, which increased by 49 per cent. In the collateralised segment, which continues to be the predominant segment of the money market, over 75 per cent of the lending was from mutual funds (MFs).

II.4.10 In the backdrop of persistent surplus liquidity conditions, the average fortnightly issuances of certificates of deposit (CD) increased significantly and the liquidity in the market ensured stable interest rates, with some uptick in the last quarter of 2009-10. Issuance of commercial paper (CP) also increased significantly. Despite significant



pick up in issuances, interest rates on CPs moderated, which helped corporates to finance their working capital requirements during the recovery. Turnover in government securities market, which remained buoyant during 2009-10, declined in the last quarter. Equity markets witnessed a substantial rebound in activity due to strong domestic recovery and improved external conditions, with the turnover exceeding the pre-crisis level. This helped corporates to raise resources from capital markets through IPOs and private placements, which partly moderated the demand for credit from the banking sources. Activity in the foreign exchange markets, particularly the merchant segment, was modulated by the pace of recovery in capital flows and the subdued level of foreign trade (Chart II.39).

Financial Derivatives

II.4.11 Activity in financial derivatives, which was adversely affected by the financial crisis, saw

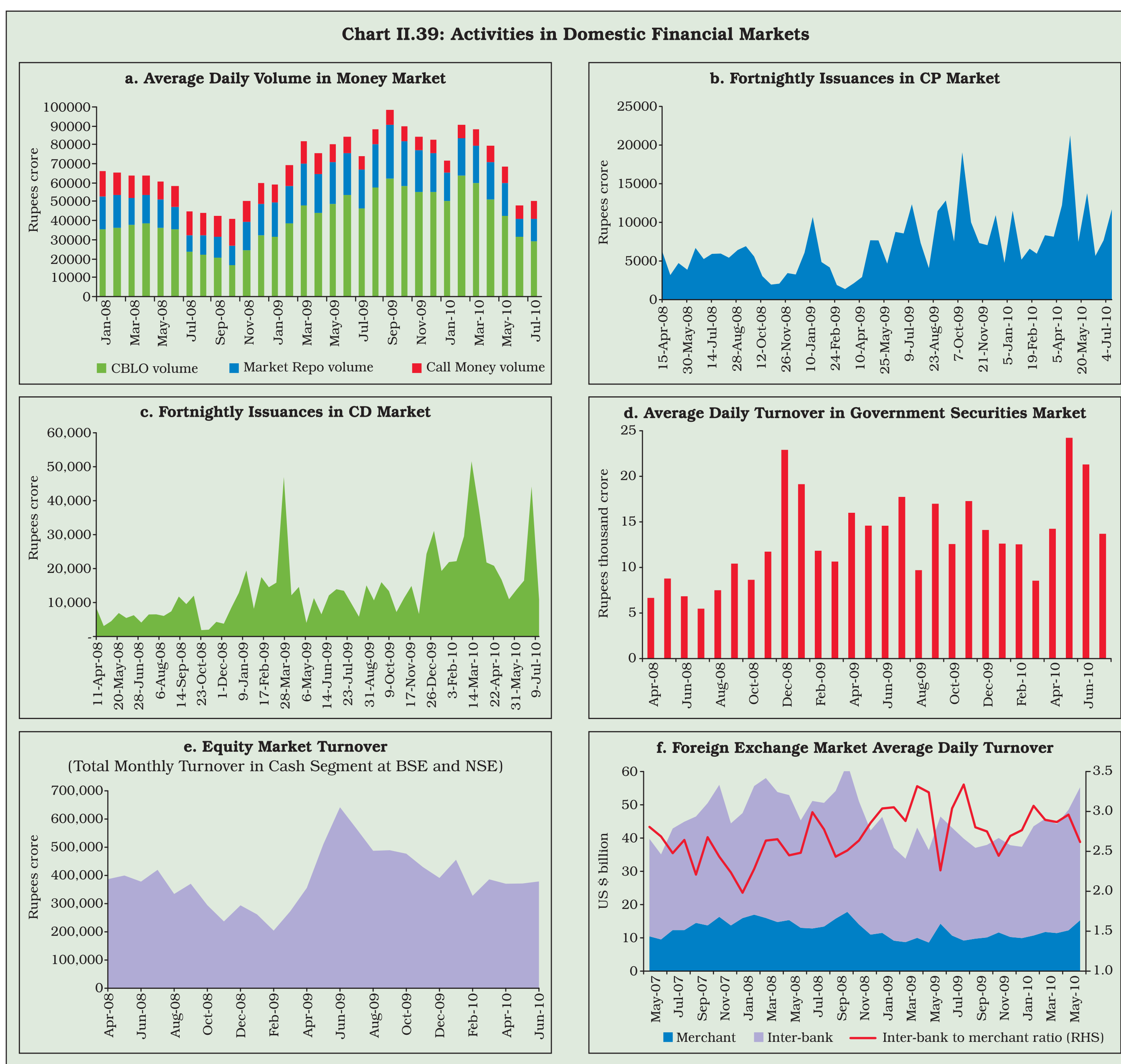
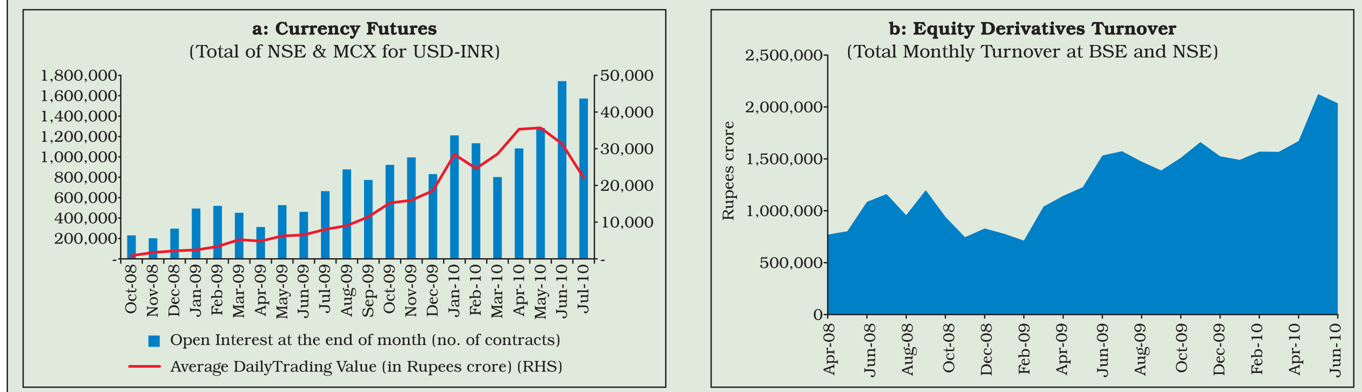


Chart II.39: Activities in Domestic Financial Markets

Chart II.40: Activity in Financial Derivative Markets



significant improvement in 2009-10, led by adequate liquidity in the system and return of stability in the domestic markets (Chart II.40). Interest rate futures contracts on 10-year notional coupon bearing government bond were introduced on the National Stock Exchange on August 31, 2009. The market has, however, been unable to sustain the liquidity and the open interest and trading volumes have remained low. In the Monetary Policy Statement for 2010-11, it has been proposed to introduce interest rate futures on 5-year and 2-year notional coupon bearing securities and 91-day treasury bills. The product design and operational modalities for introduction of these products are being worked out by the RBI-SEBI Standing Technical Committee.

II.4.12 Interest rate swaps (IRS) were introduced in July 1999 to allow banks, primary dealers and all India financial institutions as well as corporates to manage their interest rate risks in an environment of deregulated interest rates. In the Indian market, swaps are traded on four benchmarks *viz.*, MIBOR (Mumbai Inter-Bank Offer Rate), MIFOR (Mumbai Inter-Bank Forward Offer Rate), INBMK and MISOIS, though the first two benchmarks *i.e.*, MIBOR and MIFOR account for most of the trades. The market has grown significantly over the years; the gross notional principal outstanding reached ₹80,18,647 crore[2] in March 2008 and stood at ₹42,82,452 crore as at the end of April 2010.

II.4.13 The crisis seems to have somewhat changed the perception towards financial innovations. In India, comprehensive guidelines were issued on derivatives in April 2007, intended to safeguard the interests of the systems as well as players in the market (Box II.8). The activity in the derivative segment of equity market also increased substantially during 2009-10, led by the gains in stock prices and liquidity created by FII inflows.

Monetary Policy Transmission through Financial Markets

II.4.14 The transmission mechanism of monetary policy to financial markets, which became a matter of concern during the global financial crisis, improved during 2009-10. Changes in policy rates should normally translate into roughly similar movements in market interest rates, particularly at the short end. During the global financial crisis, the repo rate in India were lowered by 425 basis points between October 2008 and April 2009, along with provision of ample liquidity. The rapid transmission of lower policy rates to call rates was evident in the decline in call money rates by about 700 basis points between October 2008 and April

[2] Report of the Committee on Financial Sector Assessment (CFSA) 2009, Volume 2, Page 282.

Box II.8
Financial Innovations in India: Balancing the Goals of Growth and Stability

The global financial crisis of 2008 revealed that financial innovations, though meant to hedge risks and help in efficient price discovery, may be used for leverage and speculation, thereby creating distorted incentives and exposing the financial system to instability. While it may be difficult to judge whether all financial innovations are good or bad, it is now widely recognised that financial innovations should be pursued in the broader context of financial stability and necessarily correspond to the level of maturity of the financial system and the needs of the real economy.

Balancing the need for innovations to spur economic growth and avoiding innovations that could expose the financial systems to systemic risks is a challenge on which no text book solution is available as yet or even looks feasible. The available analysis on the international experience relating to the causal influence of financial innovations on economic growth remains inconclusive. According to Turner (2010), "…there does not appear to be any compelling proof that increased financial innovation over the last 30 years in the developed world has had a beneficial effect on output growth…beyond some point, increased financial intensity, may cease to deliver positive benefits or indeed have negative effects". There need not be anything wrong with financial innovations *per se*; the risks ascribed to innovations may actually be the result of inappropriate regulation, weak information disclosure, or neglect of risk management. For the EMEs, it is often suggested that they could introduce products that are relatively simple, standardised, that offer clear value addition and are easily understood by regulators, buyers and sellers. In this context, Lipsky (2010) had viewed that "…despite the current difficulties and challenges, financial innovation will continue to play an important role in raising growth globally, but especially in emerging markets and developing countries. The current crisis can provide important lessons as we move forward."

The regulatory framework in India has always been alive to the need for ensuring financial stability on an ongoing basis while fostering growth supporting financial market developments. One of the key factors that helped India to counter the impact of the crisis was the counter-cyclical regulatory environment and micro and macro prudential measures. The banking regulation took due cognizance of both the benefits and the complexity of the financial innovations. The extent of the adequacy of skill sets in the financial system, both in the markets and institutions, was also taken into consideration while evaluating the implications of introducing new financial instruments. The regulatory framework was extended to all the systemically important financial institutions and a policy of identifying and regulating conglomerates was adopted during recent years.

In India, in the last decade, apart from process innovations that increased both the outreach and efficiency of the financial sector, a series of financial innovations were introduced in a phased manner. In the recent period, Reserve Bank has introduced repo in corporate bonds and exchange settled interest rate futures and currency futures/options in various currencies. The Reserve Bank guidelines, however, prohibit trading in structured synthetic derivative products that may have another derivative as an underlying. Introduction of credit derivatives in India was actively examined in the past to provide the participants tools to manage credit risk. An Internal Group was set up by the Reserve Bank to finalise the operational framework for introduction of CDS in India. The Group has noted that the CDS market should be developed in a calibrated and orderly fashion with focus on real sector linkages and emphasis on creation of robust risk management architecture to deal with various risks as have been evident in the recent financial crisis. The Group has, *inter alia*, recommended that CDS shall be permitted only on corporate bonds as reference obligations, the reference entities shall be single legal resident entities, users cannot purchase CDS without having the underlying exposure and the protection can be bought only to the extent of such underlying risk.

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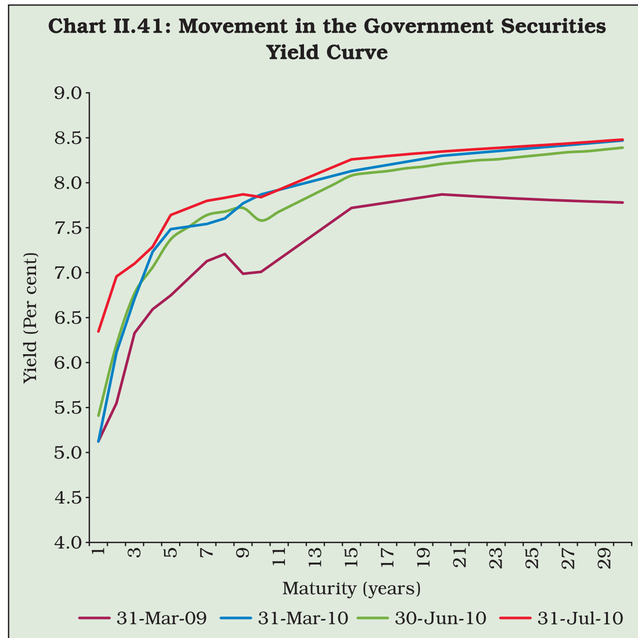
2009, which also partly reflected shift in the LAF mode to reverse repo, given the 150 basis points width of the LAF corridor. During the same period, the yield on 91-day TBs and CPs of same maturity also declined more than the decline in key policy rates. Transmission of lower policy rates to even long-term government bonds was significant, with 10-year bond yield declining by about 200 basis points during the same period; however, subsequently yields increased due to the concerns

Chart II.41: Movement in the Government Securities Yield Curve

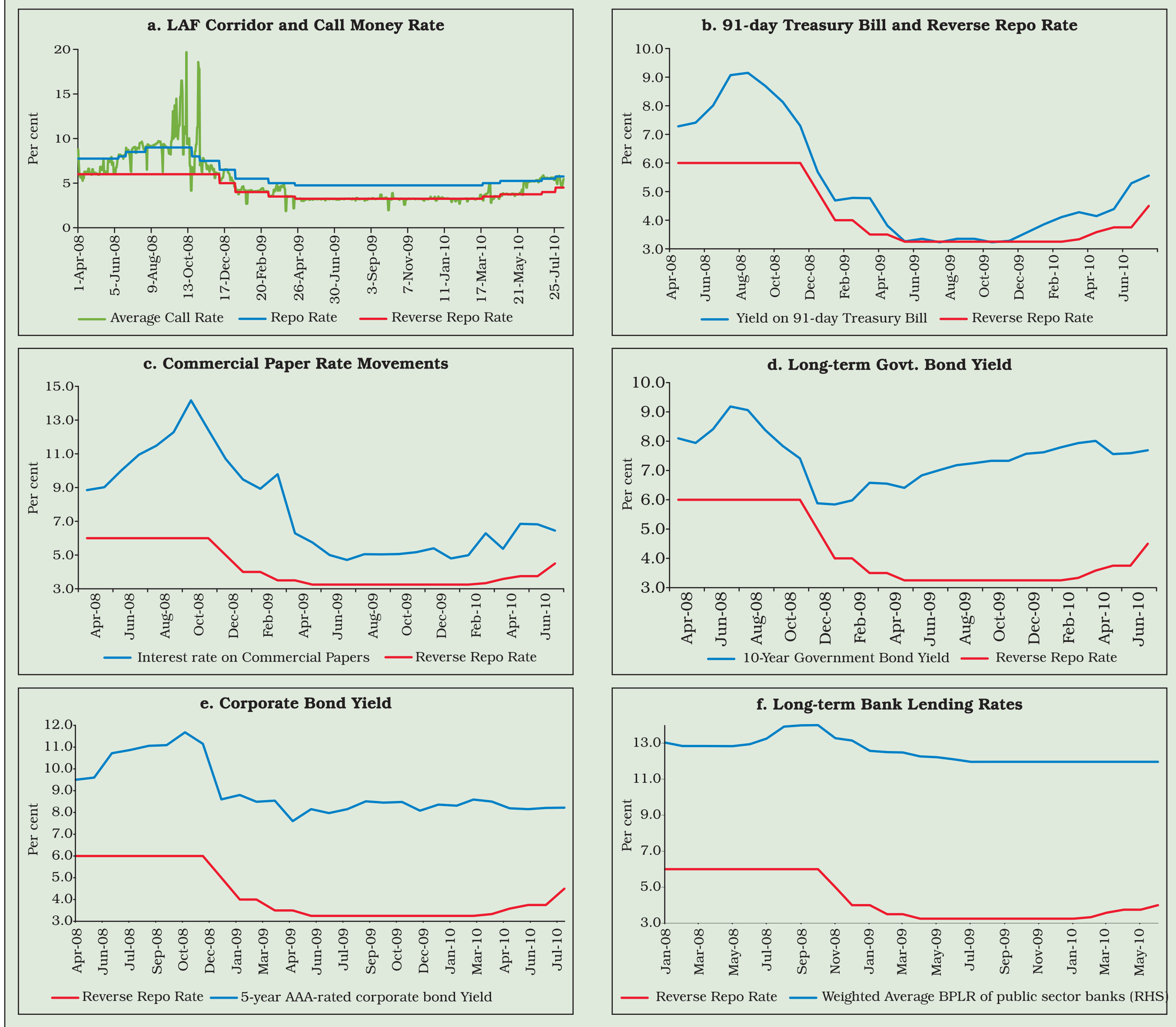


emanating from high government deficits and rising inflation expectations.

II.4.15 From the viewpoint of stability in interest rates, fiscal consolidation became a major concern for financial markets during 2009-10. While the medium to long-term bond yields continuously moved up during 2009-10, reflecting inflation and fiscal deficit concerns, the short-term yield, reflecting the surplus liquidity conditions, softened till Q3 of 2009-10, followed by a hardening trend in Q4 as the surplus liquidity moderated and there was a reversal in the policy interest rate cycle (Chart II.41). Lower fiscal deficit targets for 2010-11 in the Union Budget, however, paved the way for stability to the medium to long-term yield and to some extent also alleviated the concerns of spillover of fiscal deficits to general interest rate environment. During Q1 of 2010-11, the 10-year yield again hardened on higher inflation data but declined subsequently reflecting the higher-than-budgeted inflows from the 3G/BWA spectrum auctions. Market expectations of inflation moderating from the peak, expectations of an increase in FII investment ceiling on government debt, announcement of issue of short-term cash management bills also contributed to the moderation in yield.

II.4.16 The most important concerns that dominated the credit markets were weak transmission of policy rates to lending rates and deceleration in the pace of credit growth. While the credit growth continued to remain sluggish during the first half of 2009-10, the stronger recovery in GDP growth in the second half led to pick up in demand for credit, indicating mainly the weakness in demand rather than the supply constraint from the banking system. Transmission of policy rates to long-term lending rates of banks, however, was relatively slow as compared with that in other segments of the financial markets (Chart II.42).

II.4.17 A slower transmission to the credit market is mainly suggestive of structural rigidities rather than any crisis related impediments in the financial markets. First, while headline inflation in terms of wholesale price index (WPI) was lower, various measures of consumer price inflation remained elevated, which did not let inflation expectations to moderate. Second, banks are typically cautious about reducing deposit rates in response to the central bank's policy rate signals due to apprehension of losing their deposit base to small savings. The rates on small savings have not been adjusted on a regular basis, particularly in response to changes in the Reserve Bank's policy rates. Third, depositors enjoy an asymmetric contractual relationship with banks. When interest rates are rising, depositors have the option of withdrawing their deposits prematurely and redepositing at the going higher rate. On the contrary, when deposit rates are falling, depositors would have incentive to continue with the old deposits at a higher rate. This structural rigidity clogs monetary transmission. Banks are typically unable to adjust their lending rates swiftly in response to policy signals until they are able to adjust on the cost side by repricing the deposits. Fourth, monetary transmission is also impeded because of large government borrowings. Thus, reflecting the structural character, bank lending rates exhibited only gradual softening, thereby slowing down the speed of transmission to credit markets. The introduction of the base rate system for fixation of lending rates by banks, which has come into effect



from July 1, 2010, is expected to improve the assessment of monetary policy transmission.

II.4.18 The base rate system gives complete freedom to banks in their loan pricing decisions while ensuring transparency. The base rates will mirror the relative efficiency and cost structure. While lending rates tend to be sticky, it is expected that the base rate system will bring about greater flexibility and strengthen both the interest rate and credit channels of monetary transmission. It is expected to enhance the allocative efficiency of the financial intermediation process by banks. Deregulation of lending rates for loans up to ₹2 lakh would enhance credit flow to agriculture and small businesses.

II.4.19 While microfinance institutions (MFIs) have been contributing to financial inclusion, the interest rates charged by them on loans remain high. The high interest rates essentially reflect their high costs of borrowing and operational costs. There are 12

systemically important non-deposit NBFCs (NBFCs-ND-SI) (with asset size over ₹100 crore) classified as loan companies and registered with the Reserve Bank, which are also engaged in lending to the micro finance sector. Interest rates levied by them on loans range from 23.6 per cent to 30 per cent. Many of the scheduled commercial banks, especially new private banks and foreign banks have entered into arrangements with NBFCs for outright buyouts and assignments of loans for meeting their priority sector targets. However, the ultimate beneficiary does not get the benefit of their low rates of interest as these NBFCs are assigned the responsibility of managing the loans by the banks. Consequently, the borrower continues to pay at the same rate. The main sources of funds for these NBFCs are borrowings from banks and financial institutions (including foreign financial institutions). Most of them have received large amounts as foreign direct investment and many of them are now largely foreign owned.

Equity and Housing Prices

II.4.20 Aided by strong domestic recovery along with resumption of FII inflows and ample market liquidity, there was sharp increase in asset prices in India, particularly equity prices. Stock prices displayed a continuous upward momentum throughout the year, except for some occasional corrections caused by global financial market shocks stemming from Dubai World default and the Greek sovereign debt crisis (Chart II.43a and b). During the phase of economic recovery, a sharp increase in equity prices helped in improving the investment climate and enabled corporates to raise funds through IPOs and private placements. Although housing prices witnessed correction during the global financial crisis, there was a sharp rebound in the subsequent period, broadly coinciding with the rise in stock prices (Chart II.43c and d). Greater pace of rise in asset prices continued to remain a concern from the standpoint

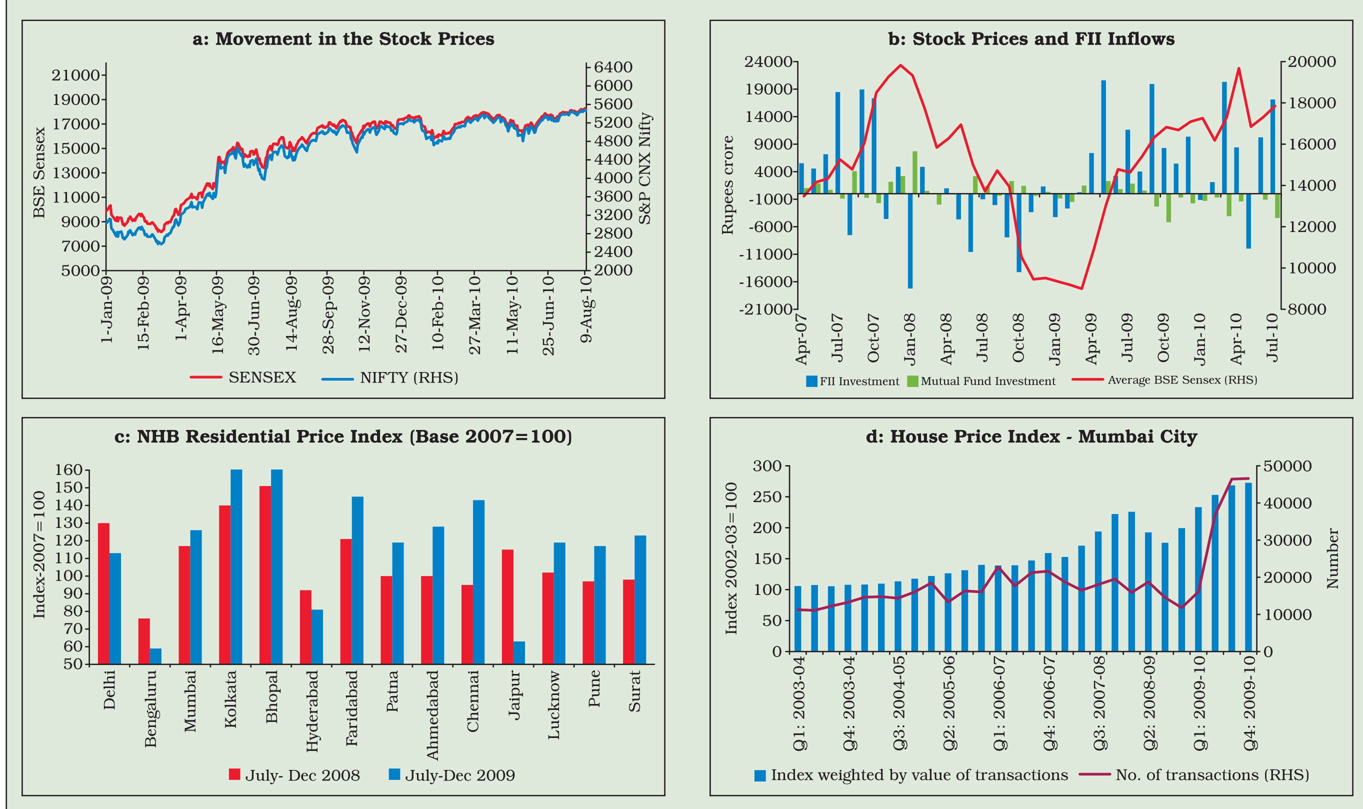


Chart II.43: Movement in Equity and Housing Prices

of macroeconomic management, notwithstanding some moderation in Q4 of 2009-10. The higher asset prices generally tend to fuel the demand pressure in the economy and thus, contribute to inflationary pressures. Their implications for the inflationary process have, however, remained contained.

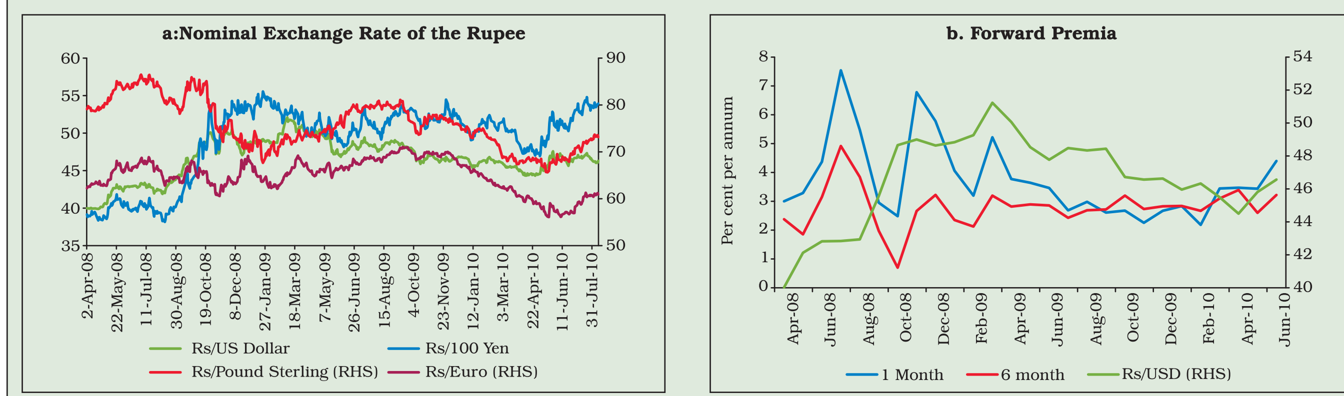
Exchange Rate

II.4.21 The importance of capital flows in determining exchange rate movements leaves the domestic foreign exchange markets susceptible to international capital flows. In India, capital flows have been a dominant source of volatility for not only the exchange rate but also other market segments. When FII investors exit from equity and securities market abruptly in a herd, stock and bond prices get affected, and when investors take the redemption proceeds out of the country, the exchange rate is affected. Reserve Bank's foreign exchange market operations to contain exchange rate volatility, in turn, could tighten domestic liquidity and thereby affect money market. Since capital flows are sensitive to both global developments as well as domestic fundamentals, at times the domestic financial markets may be solely driven by capital flows. Thus, the risk of adverse external shock transmitting through financial markets will have to be recognised and managed timely.

II.4.22 During 2009-10, on the back of short-term capital inflows and positive growth outlook, rupee generally appreciated against the US dollar, though marked by intermittent depreciation pressures. An easy supply situation in the market on the back of revival in capital flows also led to moderation in forward premia. Importantly, even though capital inflows were not excessive in relation to the financing gap in the current account, the exchange rate appreciated, reflecting the flexibility of the exchange rate. With the onset of the Greek debt crisis and the associated flight from euro to dollar assets, the rupee depreciated against the US dollar and the forex market witnessed increased volatility (Chart II.44).

II.4.23 Despite increasing global market uncertainties emanating from the Euro zone fiscal sustainability concerns, domestic markets functioned normally in 2010-11 so far, though with higher volatility in some segments. Domestic equity prices witnessed correction, albeit with some gains in July 2010. The exchange rate depreciated due to rising pressure on the euro and volatility in FII flows. Domestic money markets faced liquidity pressures, leading to hardening of short-term money market rates. Responding to these developments, the Reserve Bank initiated temporary liquidity facilities that helped contain inter-bank call rate around the ceiling of the LAF corridor. Medium to long-term interest rates, however, moderated on expectations of lower fiscal deficit of the Government and general safe haven appeal of government bonds. The primary segment of the domestic capital market exhibited larger mobilisation of resources in Q1 of 2010-11.

Chart II.44: Exchange Rates and Forward Premia



V. GOVERNMENT FINANCES

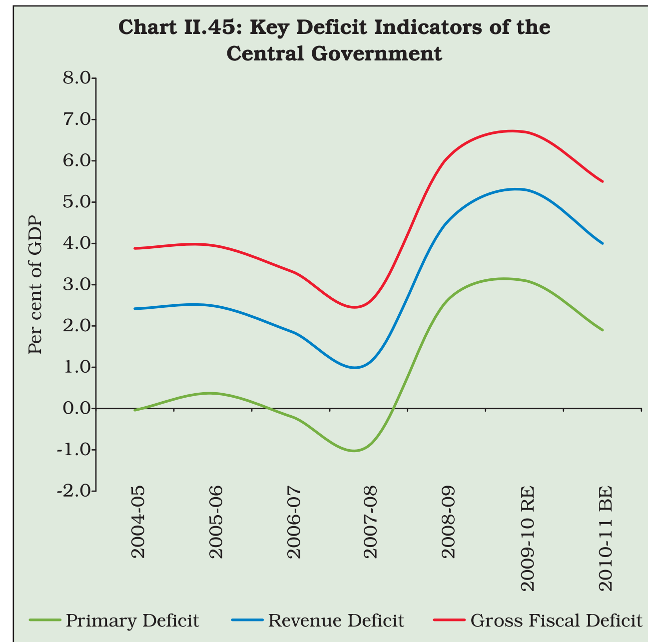
II.5.1 The extraordinary fiscal stance adopted during 2008-09 by the government in response to the global crisis had to be sustained during 2009-10 in order to support the recovery in growth. As a result, the revenue deficit (RD) and gross fiscal deficit (GFD) as percentage of GDP were budgeted to increase further from the already high levels in 2008-09. In the revised estimates for 2009-10, RD and GFD turned out to be even higher than the budget estimates due to shortfall in revenues and increase in non-plan expenditure in relation to budget estimates. Provisional data for 2009-10 available subsequently also corroborate the similar trend.

II.5.2 Sluggish growth in revenue receipts resulted from the discretionary stimulus measures by way of cuts in indirect tax rates as well as the negative impact of economic slowdown on revenue. Some of the fiscal measures aimed at containing inflation also contributed to expansion in the size of deficits. Even though growth in total expenditure decelerated markedly due to lower growth of revenue expenditure, capital expenditure was stepped up significantly. For the deficit levels to return to the pre-crisis zone of consolidation, and thereby contribute to the high and sustainable growth in the medium-term, credible action plans on fiscal exit had become critical by the end of the year. Accordingly, the Union Budget for 2010-11 outlined the steps towards the beginning of fiscal exit (Chart II.45).

Fiscal Stance During 2009-10

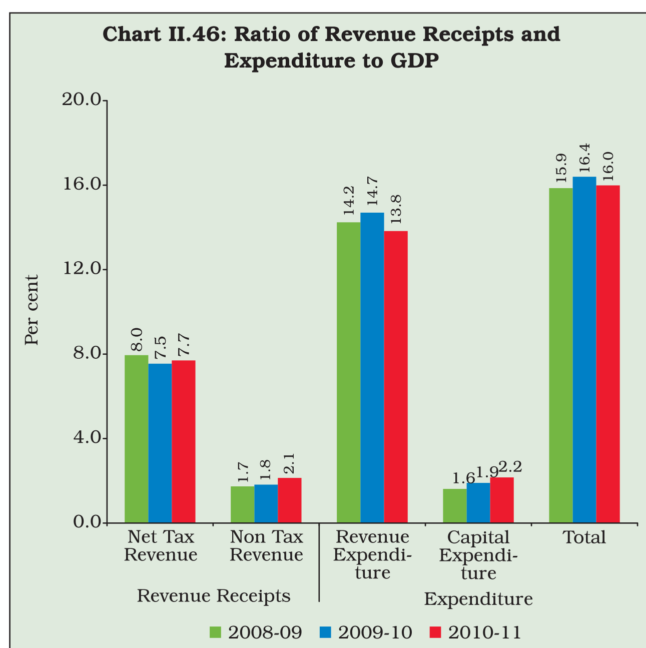
II.5.3 In sustaining the expansionary stance to stimulate the economy, while expenditure measures continued to dominate, stimulus through tax cuts increased during 2009-10. Expenditure on various social sector projects such as under the National Rural Employment Guarantee Act (NREGA) increased significantly and the permanent impact of the Sixth Pay Commission award on income also helped in containing the rate of deceleration in private consumption demand.

Chart II.45: Key Deficit Indicators of the Central Government



Accordingly, total expenditure as percentage of GDP increased by 0.5 percentage point during 2009-10 over the previous year. The government also extended the reduction in excise duty rates by 4 percentage point effective from December 7, 2008 to the fiscal 2009-10, besides further reducing the general rate of central excise duty from 10 per cent to 8 per cent and services tax rate from 12 per cent to 10 per cent. These steps were taken despite further widening of RD and GFD to alleviate the inflationary impact of global price rise as well as to boost aggregate demand. Reflecting these measures, as percentage of GDP, net tax revenue declined by 0.5 percentage point (Chart II.46).

II.5.4 During 2009-10, fiscal stimulus measures as per cent of GDP moderated to 1.8 per cent from 2.4 per cent in 2008-09. Moreover, qualitative improvement in the composition of fiscal stimulus was also evident during 2009-10. Expenditure was better targeted to spur aggregate demand and to add to the capacity creation through increased focus on social and physical infrastructure. Hence, capital expenditure increased by about 28 per cent *vis-a-vis* 14 per cent rise in revenue expenditure during 2009-10. In adopting an expansionary stance on the expenditure side, the allocation between revenue and capital expenditure has to



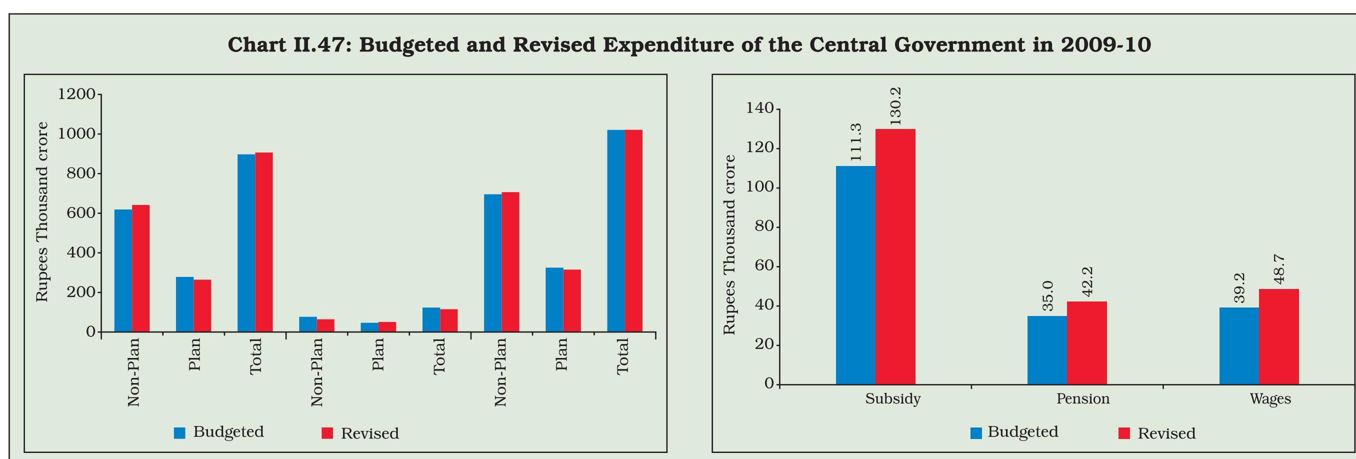
be seen in relation to the choice between what type of expenditure would spur growth with limited lag and what type of expenditure may involve a larger lag but exert less pressure on medium-term fiscal sustainability. Capital expenditure, unlike revenue expenditure, is expected to create cash flows in future, which in turn, would service the debt that would have financed the capital expenditure.

II.5.5 Capital expenditure in the revised estimates of 2009-10 fell short of the envisaged level by 6.8 per cent, due to the non-plan component, which fell short by 16.2 per cent. There was a corresponding revenue expenditure overrun by 1.0 per cent, as revenue expenditure was higher by 3.7 per cent than the budget estimates, owing to overruns in salary, pension and subsidies (Chart II.47).

II.5.6 The increase in salary expenditure was over and above the payment of arrears from Sixth Pay Commission awards, which were part of the budget estimates. Though these additional expenditures were not strictly a part of deliberate steps taken to spur recovery in growth, given the timing and quantum, they effectively worked as stimulus to the economy during 2009-10. On the non-plan expenditure side, higher interest payments were primarily a reflection of the higher borrowings in the previous year, and not necessarily part of stimulus measures. Such expenditure may have to be seen as the cost of past stimulus rather than stimulus in itself.

Fiscal Correction and Consolidation

II.5.7 The extraordinary fiscal stance adopted during 2008-09 and 2009-10, to a large extent, achieved the short-term objective of containing the economic slowdown and stimulating the economy thereafter. As the prospects of sustained economic recovery became increasingly evident during the course of 2009-10, the central government announced a gradual fiscal exit plan in the Union Budget for 2010-11. It aimed to bring down RD and GFD during 2010-11 through a combination of substantial increase in revenue receipts by 18.1 per



cent and non-debt capital receipts by 54.0 per cent, while containing the growth in revenue expenditure to 5.8 per cent (Chart II.48). The robust growth in revenue receipts is premised on partial rollback of indirect taxes, anticipated revenue buoyancy from stronger growth and 3G/BWA spectrum auction proceeds. Revenue expenditure is expected to moderate on account of freezing the non-plan component almost to the level of the previous year, while capital expenditure has been budgeted to grow at 30.2 per cent during 2010-11. These measures planned for 2010-11 indicate both beginning of fiscal exit as well as emphasis on the quality of fiscal adjustment. Along with these, the Medium Term Fiscal Policy Statement (MTFPS) also offers a medium term fiscal consolidation path, in terms of rolling targets for key parameters of fiscal consolidation. RD and GFD have been planned to be brought down to 2.7 per cent and 4.1 per cent of GDP, respectively, by 2012-13.

II.5.8 The quality of fiscal adjustment and the possibility of attaining the extent of consolidation as per the envisaged plan in the short to medium-term will be critically important to contain the fiscal risks to the medium-term macroeconomic outlook. The fiscal correction envisaged during 2010-11 seems to rely significantly on one-off items of expenditures and receipts. Excluding one-off items such as arrears payments and farm debt waiver from the expenditure side, and disinvestment and 3G/BWA spectrum auction proceeds from the receipts side, RD and GFD will show a correction of 0.5 and 0.3 percentage points of GDP over the previous year, respectively, as against 1.3 and 1.2 percentage points reduction envisaged in the Budget (Chart II.49). A substantial portion of the higher collections under 3G/BWA auctions would be preempted by the net cash outgo of around ₹54,589 crore on account of the first batch of Supplementary Demands for grants for 2010-11 that were recently tabled in Parliament. Durable fiscal consolidation, however, would require correction on the recurring components of expenditure and receipts, and less reliance on one-off items, as these options may not be available every year.

II.5.9 The adjustment in RD as indicated in MTFPS also falls far short of the Thirteenth Finance Commission's (ThFC) recommendation to remove revenue deficit by 2013-14, which the government has accepted in principle. Going forward, it is amply evident that all the required adjustments in revenue/ fiscal deficit over the next three to four years cannot be achieved through tax reforms envisaged under

Chart II.48: Rolling Targets under the Medium Term Fiscal Policy Statement

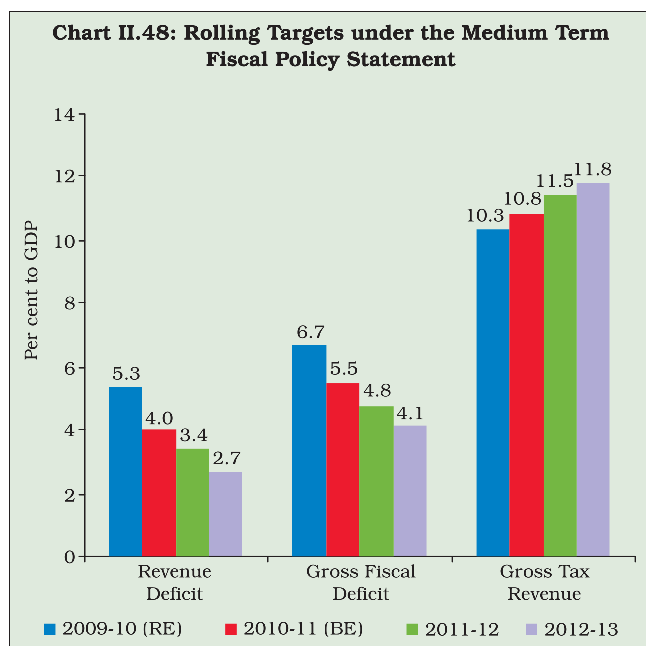
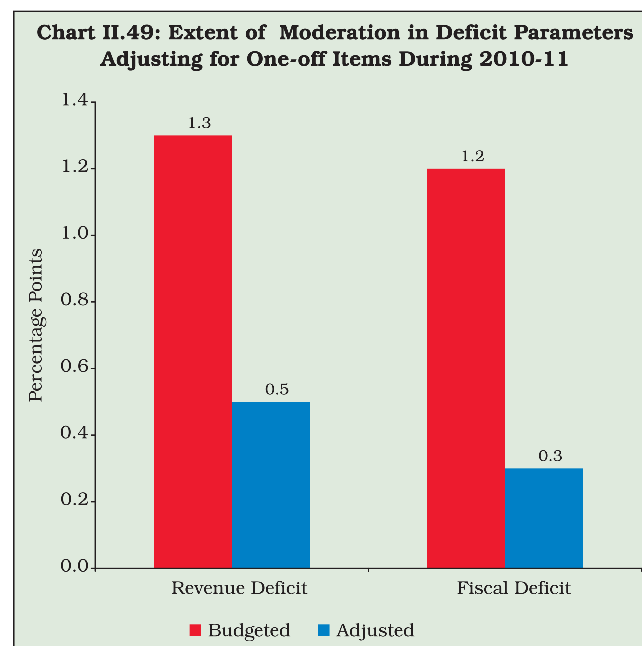


Chart II.49: Extent of Moderation in Deficit Parameters Adjusting for One-off Items During 2010-11



the Direct Tax Code (DTC) and the Goods and Services Tax (GST). In the MTFPS, the incremental gross tax revenue to GDP ratio resulting from these tax reform measures is estimated to be 0.7 percentage points of GDP during 2011-12 and 0.3 percentage points during 2012-13. This is much lower than the minimum corrections required to bring down the revenue deficit to zero. Therefore, besides tax reforms, expenditure reforms in terms of prioritisation and rationalisation would be crucial.

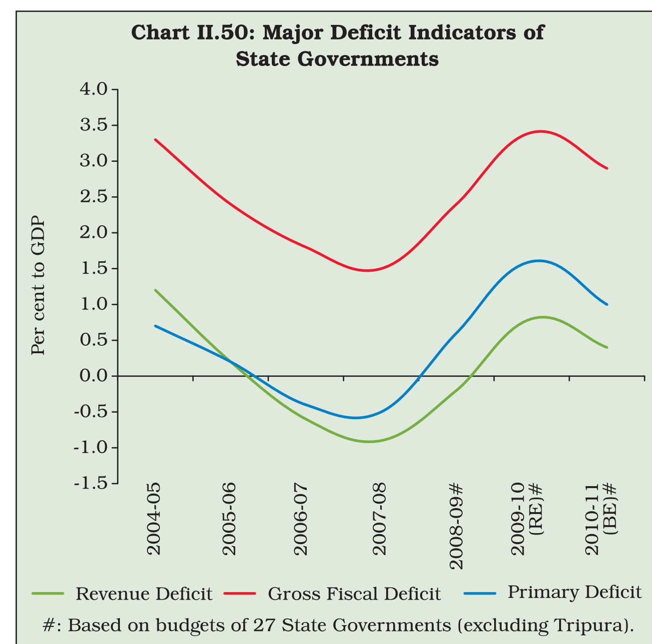
II.5.10 On expenditure reforms, the Budget for 2010-11 attempted to curtail the growth of non-plan expenditure, primarily through cuts in explicit subsidies, particularly petroleum and fertiliser subsidy, while no liabilities (through the issue of bonds) will be created *in lieu* of these subsidies. However, the quantum of these two subsidies will depend upon the movement in international prices of these two commodities. Reflecting partial acceptance of the recommendations of the “Expert Group on a Viable and Sustainable System of Pricing of Petroleum Products” (Chairman: Prof. Kirit Parikh), price of petrol was deregulated and other products were revised upwards in June 2010, which will contain the fiscal pressure arising from the under recoveries by the public sector oil companies. While in the near term the inflationary pressures could increase, improved fiscal position will generally help in the management of inflation. The revisions effected in June 2010, however, would only reduce the size of the expected under-recoveries during 2010-11 by one third.

II.5.11 On the revenue side, given the projected gross tax revenue growth of 17.9 per cent and nominal GDP growth of 12.5 per cent during 2010-11 in the Budget, the implied tax buoyancy is estimated to be 1.43. This is lower than the average buoyancy of 1.60 observed during the high growth phase of 2003-2008. Direct tax collections, which generally exhibit a pro-cyclical pattern, should improve once the growth momentum picks up. Furthermore, the implementation of new Direct Tax Code is expected to boost the direct tax collections. As for indirect taxes, the likely implementation of goods and services taxes is expected to revert the effect of tax rate cuts. It will also bring into the tax net the untapped segments of the service sector, which is growing rapidly. As a consequence, the MTFPS 2010-11 projects the tax-GDP ratio to increase to 11.5 per cent and 11.8 per cent in 2011-12 and 2012-13, respectively.

State Finances

II.5.12 During the period before the crisis, there was considerable improvement in consolidated fiscal position of the state governments as reflected in major deficit indicators, *viz.,* revenue deficit (RD), gross fiscal deficit (GFD) and primary deficit (PD) as percentage of GDP (Chart II.50). Improved revenue receipts during the high growth phase and the responses of states to the incentives given by the Twelfth Finance Commission (TwFC) to implement their own fiscal responsibility legislations (FRLs) in the form of conditional debt restructuring and interest rate relief largely contributed to this progress. Since 2008-09, progress on fiscal consolidation has been interrupted because of the impact of the slowdown in growth on revenues and the implementation of the Sixth Central/State Pay Commissions on expenditures. All major deficit indicators exhibited some increase during 2008-09 and 2009-10, reflecting the combined effects of

Chart II.50: Major Deficit Indicators of State Governments



#: Based on budgets of 27 State Governments (excluding Tripura).

lower revenue realisation and higher expenditure commitments.

II.5.13 The impact of the slowdown in growth on state finances was much more visible in 2009-10 (RE) over 2009-10 (BE) mainly on account of lower growth in revenue receipts. Both own tax revenue as well as states' share in central taxes were lower than budget estimates for 2009-10. Revenue expenditure, however, recorded a marginal increase over budget estimates in 2009-10. In addition to deterioration in the revenue account, decline in non-debt capital receipts also contributed to higher GFD-GDP ratio in 2009-10 (RE) over 2009-10 (BE), even though capital outlay by state governments declined.

II.5.14 The overall fiscal position of states is budgeted to improve during 2010-11. Consolidated revenue deficit to GDP ratio of 27 states has been budgeted to decline from 0.8 per cent in 2009-10 (RE) to 0.4 per cent in 2010-11, while GFD-GDP ratio is budgeted lower at 2.9 per cent in 2010-11 as compared with 3.4 per cent in 2009-10 (RE). Besides improvement in revenue account, lower GFD-GDP ratio is expected to be mainly on account of lower growth in capital outlay in 2010-11 (BE). It is also expected that the larger devolution to the states due to the recommendations of the Thirteenth Finance Commission would aid the states to consolidate their finances further and move to the fiscal reform path as envisaged by the Commission (Box II.9).

Box II.9
Major Recommendations of the Thirteenth Finance Commission

A major factor which would shape finances of the states in the medium-term is the implementation of the recommendations of the Thirteenth Finance Commission (ThFC). Major recommendations of the ThFC are:

Devolution

- The share of states in net proceeds of shareable Central taxes is recommended at 32 per cent for 2010-11 to 2014-15 compared to the existing level of 30.5 per cent.
- The share of grants in the total transfer has come down from 18.9 per cent as recommended by Twelth Finance Commission (TwFC) to 15.1 per cent (excluding state specific grants) in the case of ThFC.
- The indicative ceiling on overall transfers to states on the revenue account is set at 39.5 per cent of gross revenue receipts of the centre as compared to 38 per cent by the TwFC.
- On the implementation of GST, the ThFC recommended that the centre and the states should conclude a 'Grand Bargain' of Rs.50,000 crore to implement the Model GST.
- The Commission has recommended total grant for the local bodies of Rs. 87,519 crore over the award period. The Commission has also recommended distribution of the grants between urban and rural areas and the *inter se* distribution between states.

Fiscal Roadmap

- Revenue deficit (RD) to be eliminated by 2011-12 for those states that attained revenue surplus in 2007-08. Other states should eliminate revenue deficit by 2014-15. States should accordingly modify/enact their respective Fiscal Responsibility Legislations.
- The general category states that attained a zero revenue deficit or a revenue surplus in 2007-08 should achieve a fiscal deficit of 3 per cent of GSDP by 2011-12 and maintain it thereafter. Other general category states need to achieve gross fiscal deficit of 3 per cent by 2013-14.
- All special category states with base fiscal deficit of less than 3 per cent of GSDP in 2007-08 could incur a fiscal deficit of 3 per cent in 2011-12 and maintain it thereafter. For Jammu & Kashmir and Mizoram, however, the terminal year would be 2014-15 and for other special category states, the terminal year is 2013-14.
- Combined debt of centre and states to decline to 68 per cent of GDP by 2014-15 (45 per cent for centre and less than 25 per cent for States) from 82 per cent in 2009-10.
- The Ministry of Finance (GoI) should work out the borrowing limits for prescribed fiscal reform path.
- The FRBM Act needs to specify the nature of shocks that would require a relaxation of FRBM targets.
- An independent review mechanism to be set up by the centre to evaluate its fiscal reform path which should evolve into a fiscal council with legislative backing over time.
- Apart from the above, ThFC also recommended a Debt Relief Scheme for the states including NSSF in its ambit.

Combined Finances

II.5.15 Reflecting the expansionary fiscal stance of the central and state governments, their combined RD and GFD as percentage of GDP increased further during 2009-10 (Chart II.51). The growth in total expenditure decelerated sharply due to containment of revenue expenditure. The total combined expenditure to GDP ratio, however, increased from the previous year, while the revenue receipts to GDP ratio remained more or less unchanged, resulting in further enlargement of all the key deficit indicators.

II.5.16 With the envisaged fiscal consolidation by the central and the state governments during 2010-11, there could be substantial improvement in the combined finances. The combined RD and GFD as percentage of GDP are budgeted to decline during 2010-11 (Chart II.52). The envisaged fiscal consolidation has been planned to be driven by significant increase in revenue receipts while curtailing the growth of expenditure.

Fiscal Dominance and Macroeconomic Conditions

II.5.17 Persistent large fiscal deficit has several adverse macroeconomic risks ranging from higher inflation, to lower savings, crowding-out pressures on private investment, decline in potential output, and worsening of external imbalances. While these concerns may be absent in the short-term in a phase of economic slowdown that requires the use of fiscal stimulus, in the medium-term these risks may materialise if the fiscal deficit is not brought down significantly under a credible fiscal consolidation strategy.

Chart II.51: Combined Deficit Indicators as Ratio of GDP

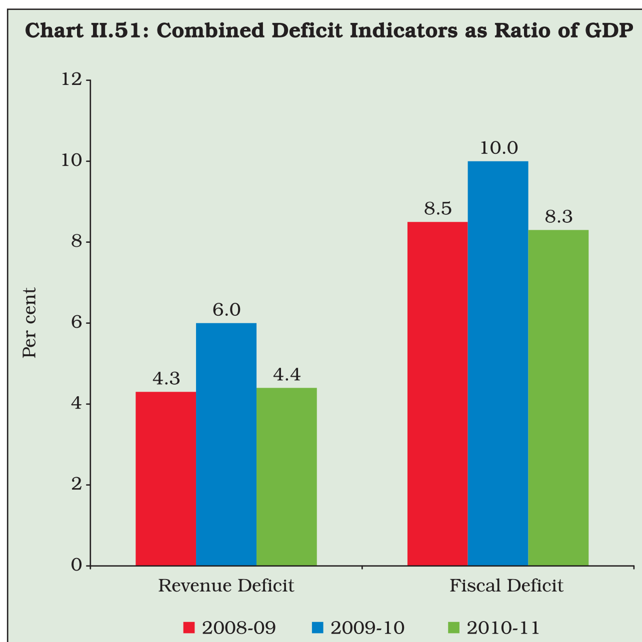
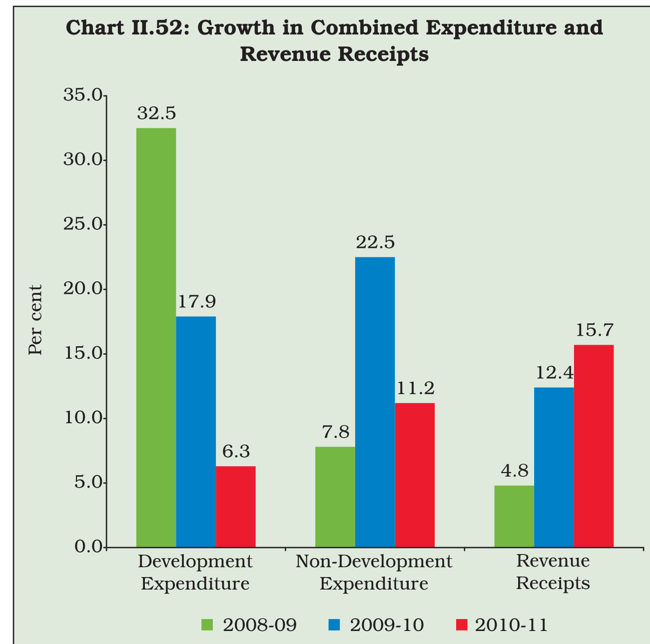


Chart II.52: Growth in Combined Expenditure and Revenue Receipts



II.5.18 Risks to inflation from the higher levels of fiscal deficit in India resulting from fiscal stimulus measures during 2008-09 and 2009-10 remained contained till the first half of 2009-10, due to the following reasons: (i) the fiscal stimulus, rather than creating any excess demand, partially offset the deceleration in private consumption and investment demand, (ii) the fiscal stance and resultant financing of large borrowing programme did not cause any overshooting of money growth since private sector demand for credit remained subdued, and (iii) certain indirect tax rate cut measures led to lowering the prices of goods and services to some extent even though these measures yielded higher deficits. Rising and generalised inflation with increasing demand side pressures in the second half of 2009-10 suggested the need for timely fiscal exit to contain any fiscal risks to inflation.

II.5.19 Notwithstanding the absence of near-term risks to inflation from the fiscal conditions, however, there could be medium-term inflationary implications in the absence of a well designed fiscal exit in terms of timing and pace. Empirical evidence shows that even after the complete phasing out of automatic monetisation of government deficit in 1997, fiscal deficit still entails risks to the inflation path in India, in the medium to long-run. These risks to inflation from large fiscal deficit arise either through direct impact on aggregate demand or monetary expansion or a combination of both (Box II.10).

II.5.20 A fiscal deficit that emerges on account of revenue imbalance directly lowers the savings rate in the economy, as revenue imbalance amounts to

Box II.10
Fiscal Dominance and Risks to Inflation in India

In the developing countries context, inflation, at times, may become effectively a fiscal phenomenon, since the fiscal stance could significantly influence the overall monetary conditions due to fiscal dominance. Sargent and Wallace (1981) viewed that fiscally dominant governments running persistent deficits would sooner or later finance those deficits through creation of money, which will have inflationary consequences. Fischer and Easterly (1990) argued that rapid monetary growth may often be driven by underlying fiscal imbalances, implying that rapid inflation is almost always a fiscal phenomenon.

In the Indian context also, several studies have shown that due to fiscal dominance there exists a nexus between government deficits, money supply and inflation, which may lead to a self perpetuating process of deficit-induced inflation and inflation-induced deficit (Sarma, 1982, Jadhav, 1994 and Rangarajan and Mohanty, 1998). Even after the complete phasing out of automatic monetisation of deficit in 1997, government deficit continued to be a key factor causing incremental growth in reserve money on the sources side, and overall expansion in money supply and inflation (Khundrakpam and Goyal, 2009).

The long-term inflationary potential of fiscal deficit could be analysed by hypothesising that either: (i) there can be a direct impact on inflation through increase in aggregate demand; or (ii) indirectly through money creation or seigniorage; or (iii) a combination of both. The cointegrating long-run relationships estimated through ARDL approach during 1952 to 2009 reveals the following: (i) government resorts to seigniorage to finance its deficit in the long-run; (ii) resorting to seigniorage by the government influences the price level; (iii) government deficit also has direct causal impact on the price level. In other words, *ceteris paribus*, price level in the economy in India, in the long-run, is influenced either directly by deficit itself or through the creation of money via deficit financing, or a combination of both.

One per cent change in fiscal deficit is estimated to cause half a per cent change in seigniorage ‘S’, defined as change in real reserve money:

Log S = -3.19 + 0.51 Log GFD - Dummy1975-76
-(10.7) (16.6) (-2.8)

One per cent change in seigniorage is estimated to cause about one-third of a per cent change in the price level:

Log WPI = 4.53 + 0.32 Log S + 0.05 Trend
(17.6) (1.7) (4.0)

One per cent change in fiscal deficit is estimated to cause about one-quarter of a per cent change in the price level:

Log WPI = 3.0 + 0.25 Log GFD + 0.044 Trend + Dummy 1974-75
(5.1) (2.1) (2.9) (2.6)

In the short-run, the inflationary impact of seigniorage is found to be negligible, though one per cent increase in fiscal deficit still shows positive impact of about 0.04 percentage point on the price level. The risks to inflation path should be an important driving motivation behind early fiscal exit.

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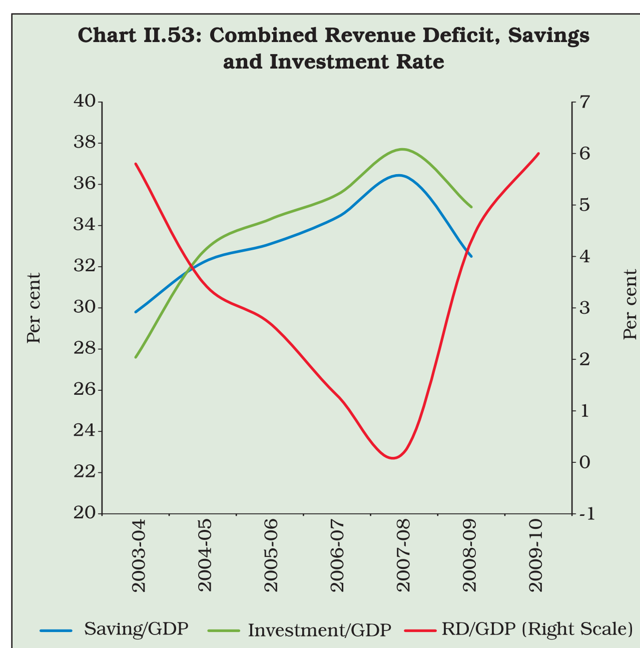
dis-savings of the government. There is no automatic mechanism that can raise the savings of households and corporates when dis-savings of the government rise. As a result, the overall saving rate of the economy may decline, which was evident in 2008-09 in the savings data. With the decline in combined revenue and fiscal deficit during 2003-04 to 2007-08 under the FRBM/FRLs, public sector saving had improved, which was an important contributing factor behind the increase in overall saving and investment rate that propelled the high GDP growth, during that period. The higher GDP, in turn, facilitated reduction in revenue deficit of the government, by improving revenue buoyancy, thereby creating a virtuous cycle. But, with the significant jump in the revenue deficit of the government during 2008-09 and 2009-10, the overall savings and consequently investment rates have also dipped correspondingly (Chart II.53).

Chart II.53: Combined Revenue Deficit, Savings and Investment Rate



II.5.21 A lower savings rate can affect the potential output path not only by depressing the investment rate but also through altered resource allocation because of the competition for resources between public sector and the private sector. The crowding-out possibilities could arise because of direct pre-emption of loanable funds in the economy by the government for financing deficit or, indirectly, through rise in real interest rates, or a combination of both. Empirical evidence on crowding-out in India, however, is ambiguous (Box II.11). Notwithstanding the contradictory evidence, the crowding-out impact generally remains moderate when fiscal policy behaves contra-cyclically. During 1991 to 2009, there is some evidence of fiscal policy stance being contra-cyclical in the sense that fiscal

Box II.11
Crowding-Out Concerns: What the Empirical Evidence Suggests?

With stronger signs of recovery by the end of the year, and gradual pick-up in demand for credit from the private sector, the usual crowding out concerns associated with sustained large fiscal deficits had to be recognised in the calibrated approach to unwinding of the monetary policy. While the inflationary conditions warranted monetary tightening, appropriate liquidity conditions had to be ensured to meet the demands of a large borrowing programme as well as recovering demand for credit from the private sector.

A review of some of the available literature in India reveals that the empirical evidence on crowding-out of the private sector by the public sector is not unambiguous. Chakraborty (2007) found no evidence of public investment crowding out private capital formation in India for the period 1971 to 2003. In fact, public infrastructure investment complemented private corporate investment. Further, there was also no evidence of fiscal deficit crowding out private capital formation through increase in real interest rate during the same period. Three possible reasons for no crowding could be: (i) pattern of household savings shifting towards financial assets and thereby raising the available loanable funds in the economy, (ii) private corporates increasingly raising resources through capital markets, besides availing bank credit, which indicates that private sector did not face a constraint from credit being affected by crowding out pressures, and (iii) overall liquidity in the system might have increased, which has and prevented pushing up interest rates.

Mitra (2006) analysing the relationship between government investment, private investment, and gross domestic product during the period of 1969 to 2005 found that government investment crowds-out private investment. The resources consumed by the government would have been more effective in the hands of the private

(Contd...)

(...Concld.)

sector. Thus, too much government investment obstructed the path of India's economic growth.

Crowding out impact could largely depend upon the nature of the public sector expenditure (RBI, 2002). Public sector consumption to boost aggregate demand in the economy crowds-out private consumption. Even for public sector investment, only infrastructure investment crowds-in private investment. Enlarged fiscal deficit crowds-out private investment, and therefore, the crowding in impact of public infrastructure investment will be lesser if financed by larger fiscal deficit. Thus, the government needs to restructure the composition of its expenditure towards infrastructure while containing fiscal deficit to have the maximum impact on growth.

An analysis using the trends in output gap, computed as actual minus trend growth using Hodrick-Prescott filter, and fiscal deficit (as percentage of GDP) during 1990s and 2000s reveal the following. When the output-gap was negative (*i.e.*, there was excess capacity) during 1997-2002, fiscal deficit enlarged, while it declined during 1993-97 and 2004-08 when output gap was positive (*i.e.,* there was over-utilisation of capacity). This inverse pattern observed in the past between output gap and fiscal deficit could indicate either countercyclical fiscal policy response or the result of impact of automatic stabilisers or a combination of both. VAR Granger Causality tests between output gap and fiscal deficit during 1990-91 to 2008-09 also reveal bidirectional causality between the two (Table A).

Table A: Output Gap and Gross Fiscal Deficit: VAR Granger Causality

Null Hypothesis	Chi-sq	Probability
Output-gap does not Granger Cause Δ GFD	3.43	0.06
Δ GFD does not Granger Cause output-gap	5.99	0.01

Thus, the crowding out concerns have to be seen in relation to different phases of the business cycle. During a recession or slowdown in growth, countercyclical fiscal policy and the resultant increase in fiscal deficit may contribute to recovery. In turn, during high growth, fiscal deficit may moderate through revenue buoyancy. However, if fiscal deficit remains high during a high growth phase, that could create crowding-out risks.

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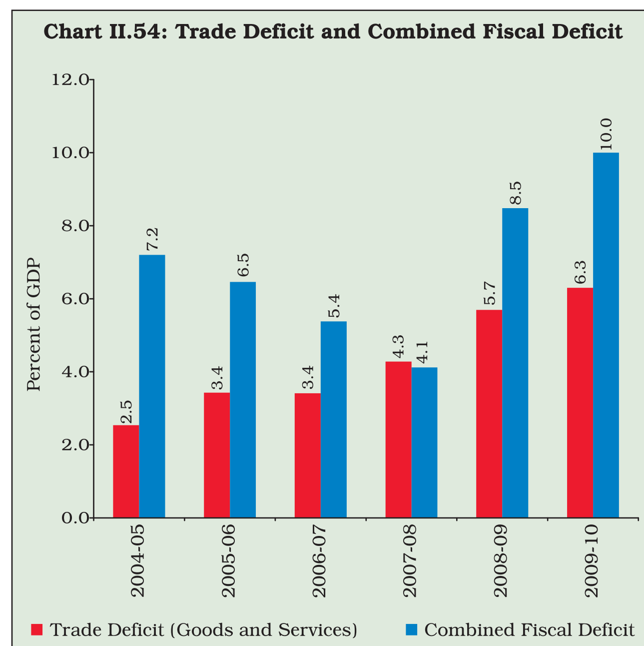
deficit as a ratio to GDP declined during the period when output was above trend and *vice versa*. In other words, there was a negative correlation between output-gap and fiscal deficit. However, the bidirectional causality results suggest that fiscal policy not only tended to follow a countercyclical behaviour, but was also influenced by the business cycle in a fashion that could be viewed similar to activation of automatic stabilisers.

II.5.22 Besides the concerns relation to crowding-out pressures and inflation, fiscal imbalances also entails the risk of widening the current account deficit. Due to the dominant role of remittances in moderating the magnitude of current account imbalances, the twin deficit concerns often ascribed to fiscal deficit do not materialise in India. The imbalance between exports and imports (of goods and services) as percentage of GDP, however, seem to validate the pressure that fiscal situation can exert on the country's external balance situation (Chart II.54).

Chart II.54: Trade Deficit and Combined Fiscal Deficit



VI. EXTERNAL SECTOR

II.6.1 In a globalised world, a congenial global economic environment and a sustainable balance of payments position are critical for achieving the policy goal of stable growth. The global recession in 2009 operated as a dampener on the prospects of a faster recovery. Besides the conventional channels of trade and capital flows for transmission of external shocks to the domestic real economy, the uncertainty about global recovery continued to affect business confidence and market sentiments, which indirectly affected domestic private consumption and investment demand. India's high degree of resilience and capacity to manage a severe external shock was evident from the strength and pace of recovery in GDP growth during 2009-10.

II.6.2 In 2009, the global economy not only experienced a 'great contraction', but there was also significant uncertainty about the impact of the financial crisis in the advanced economies on the real economy. The successive and large revisions to the IMF's growth outlook for 2009 indicate the extent of uncertainty that resulted from the sub-prime financial crisis (Chart II.55a). In the first quarter of 2010, stronger evidence of recovery in the global economy started to emerge, though the speed of the recovery turned increasingly divergent as the EMEs remained ahead of the advanced economies in terms of both pace and strength of the recovery. The global recovery faced a soft patch subsequently, following the concerns relating to sovereign debt in the Euro zone. (Chart II.55b).

II.6.3 Persistence of high growth in India and China largely moderated the depth of the global recession in 2009, even though these countries also experienced slowdown in growth in relation to their high growth before the onset of global crisis (Chart II.55c). World trade contracted much sharper than the contraction in GDP in 2009, and is projected to stage a stronger recovery in 2010 (Chart II.55d). Reflecting the impact of weak global demand conditions as also the protectionist measures adopted by many countries, the decline in world merchandise trade volume was as high as 11.8 per cent in 2009. According to WTO, world exports of commercial services also declined for the first time after 1983 by 13.0 per cent during 2009. The impact of recession in the advanced economies was particularly strong on the employment situation (Chart II.55e).

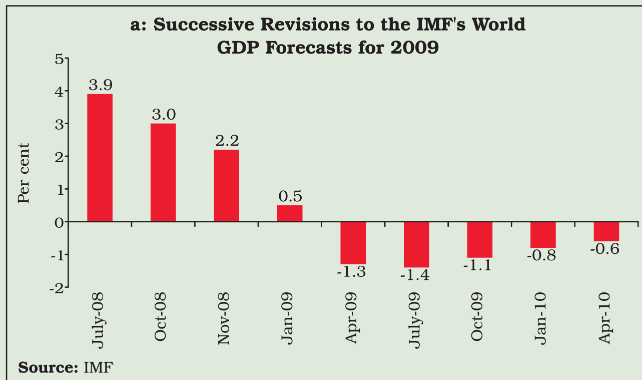
II.6.4 Reflecting the flight to safety response of global investors to the crisis, net capital flows to the EMEs declined, with phases of sudden stops and revival, before exhibiting a rebound (Chart II.55f). Unprecedented use of policy stimulus by countries around the world helped in averting another 'Great Depression', but the fiscal conditions of the advanced economies weakened significantly in that process (Chart II.55g and h). In managing the financial crisis, the costs of financial excesses in the private sector shifted to the public sector, creating, in turn, the risk of potential sovereign debt crises.

II.6.5 Reflecting increased openness, the global recession and the contraction in world trade in 2009 affected India's exports of both goods and services. With global recovery, however, India's exports have turned around since October 2009. Reflecting the revival in capital inflows to EMEs, and driven by India's recovery ahead of the global economy, India also experienced resumption of capital flows in 2009-10. Stronger and durable recovery in the global economy could be necessary to improve the overall business confidence as well as export prospects.

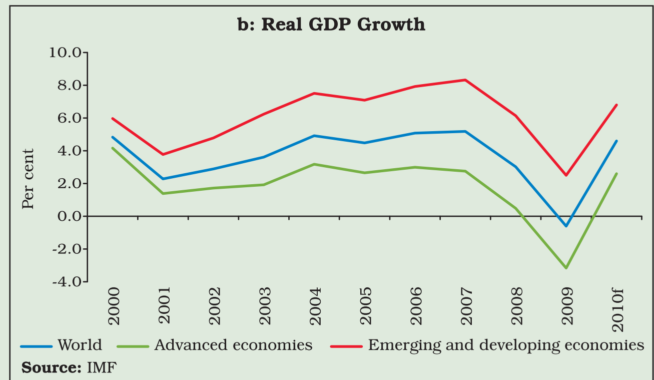
Balance of Payments

II.6.6 India's balance of payments position improved during 2009-10, with turnaround in exports in the latter part of the year and resumption in capital flows, notwithstanding the higher current account deficit that reflected stronger absorption of foreign capital. Key external sector soundness parameters in the form of current account deficit, external debt and foreign exchange reserves remained comfortable and supported the overall policy environment to spur a faster recovery in growth. The balance of payments developments during 2009-10 had contrasting ramifications for recovery in economic growth. The decline in exports

Chart II.55: Key Global Indicators



Source: IMF



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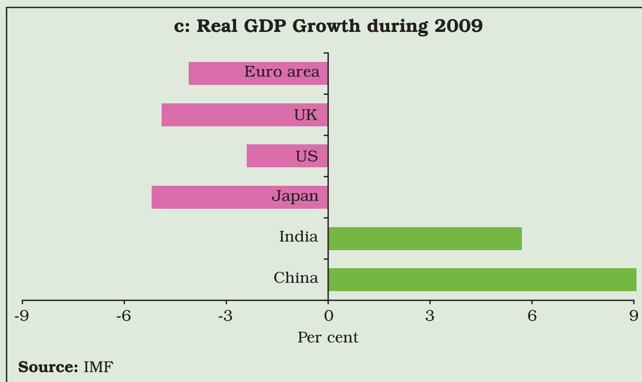

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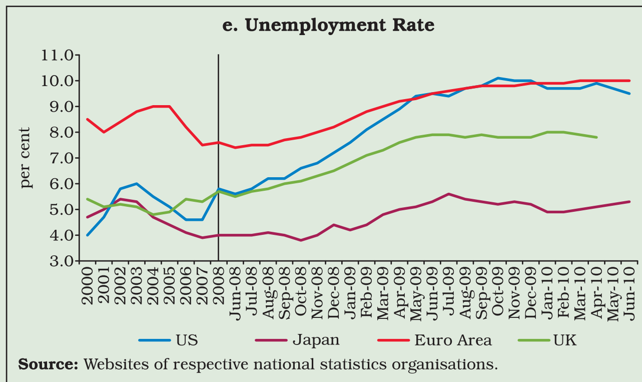
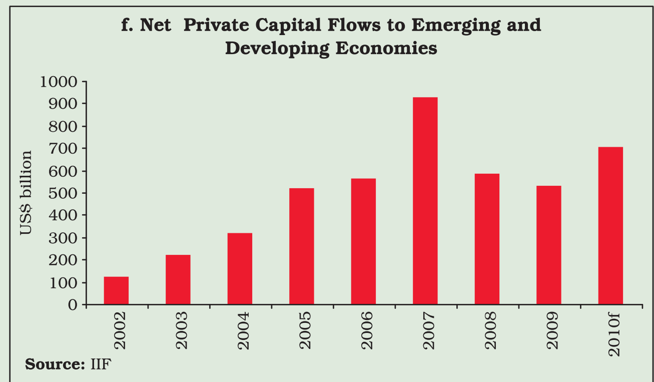
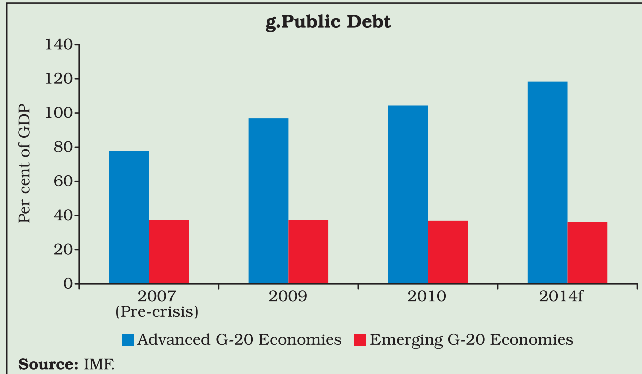


Source: Websites of respective national statistics organisations.



Source: IIF



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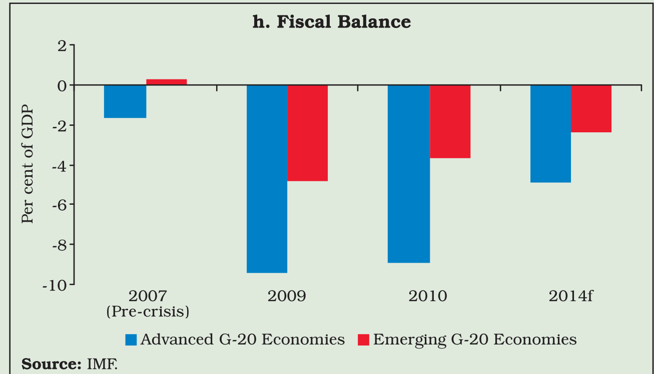

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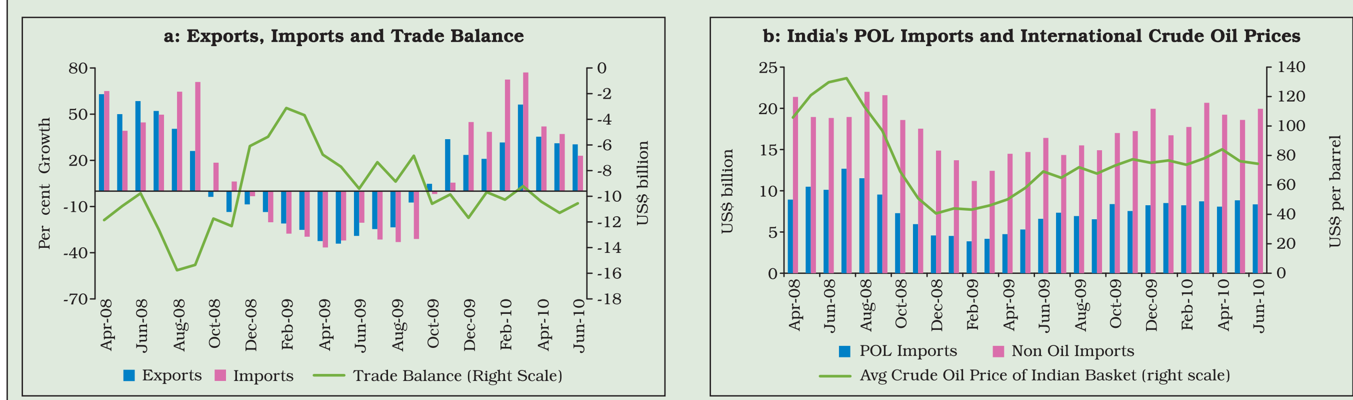


Chart II.56: India's Merchandise Trade

of goods and services in response to weak global demand had a dampening impact on overall GDP. However, a higher current account deficit led to stronger absorption of foreign capital. This, in turn, implied higher investment activities financed by foreign capital, which partly contributed to the stronger recovery in growth. Major determinants of balance of payment transactions, such as external demand, international oil and commodity prices, pattern of capital flows and the exchange rate changed significantly during the course of the year. With the turnaround in exports and revival in capital flows, external sector concerns receded gradually.

Merchandise Trade

II.6.7 Contraction in global trade volume was much sharper than the contraction in global GDP in 2009, and the impact on India's merchandise exports was visible in terms of negative growth over 12 successive months during October 2008 to September 2009. India's merchandise exports witnessed a turnaround in October 2009. A durable recovery in world demand will be critical to sustain the strong positive export growth experienced during November 2009 to June 2010, when the monthly average growth of exports was 32.9 per cent. Merchandise imports also contracted over eleven successive months; the recovery in domestic economic activity and resurgence in oil prices led to a rebound in India's imports, since November 2009. As a result, imports witnessed a robust growth at a monthly average of 47.9 per cent during December 2009 to June 2010 (Chart II.56a and b). The impact of the global crisis on export performance of various countries in 2009 was divergent. Countries like Indonesia, India, China, Switzerland, Korea and the US recorded a relatively lower decline in exports than the world average (Chart II.57).

II.6.8 Recognising the pressure on export performance from adverse global developments, the Government of India had announced a number of incentive measures in the Union Budget 2009-10 and Foreign Trade Policy (2009-14) to promote export growth. The Union Budget for 2009-10 announced measures such as extension of period of the

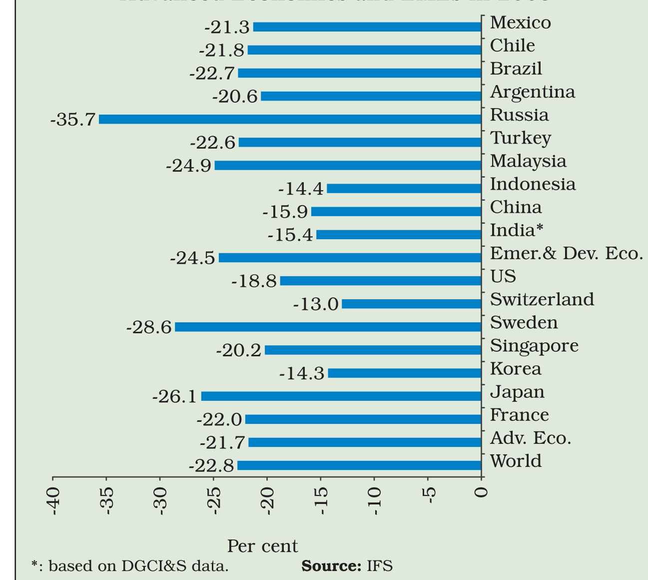


Chart II.57: Export Growth of India *vis-a-vis* Advanced Economies and EMEs in 2009

"Adjustment Assistance Scheme" for badly hit export sectors, extension of period for interest subvention of 2 per cent on pre-shipment export credit, and extension of the period for income tax benefits to export sector, *etc.* In the Foreign Trade Policy (2009-14), new products and new markets were added to the Focus Market Scheme (FMS) and Focus Product Scheme (FPS). Market Linked Focus Product Scheme (MLFPS) was expanded by inclusion of various products. To facilitate technological upgradation of the export sector and thereby enhance competitiveness of exports, Export Promotion Capital Goods (EPCG) scheme at zero duty was introduced for various export sectors. India's comparative advantage in specific export items was affected in the wake of the global crisis (Box II.12).

Box II.12
India's Export Basket: An Assessment of Comparative Advantage

In India, sustained growth in merchandise exports witnessed in the pre-global crisis was accompanied by structural shifts in both commodity composition as well as product and market diversification. The export growth moderated from an average of about of 25 per cent during the period 2002-03 to 2007-08 to (-)3.6 per cent in 2009-10. In the phase of economic recovery in the midst of an adverse external environment, for ensuring return to the pre-global crisis performance in the export sector, it is important to examine the comparative advantage of India in different commodities across markets.

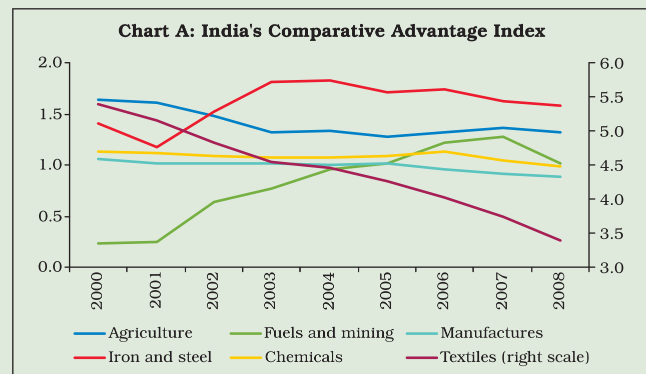
Available empirical evidence suggests that the level of development of a country and the diversification in its export basket could be correlated. Cadot *et al.* (2007) found a hump shaped pattern of export diversification, *i.e.*, low and middle income countries diversify mostly along the extensive margin (addition of new product lines) whereas high income countries diversify along the intensive margin (diversification of export values among active product lines) and ultimately re-concentrate their exports towards fewer products.

An analysis of India's export basket in terms of revealed comparative advantage (RCA) provides some insights in to the competitiveness of India's exports. The concept of RCA (Balassa, 1965 and 1977) pertains to the relative trade performance of individual countries in particular commodities. An economy's comparative advantage gets influenced by various factors such as integration of the economy with the world, liberalisation policies adopted by the country for its external sector, rates of change in factor accumulation, growth and development levels of the economy and the productivity. Balassa measures the index of RCA as follows:

$$RCA_{ij} = (X_{ij}/X_{wj})/(X_i/X_w)$$

where X_{ij} = ith country's export of commodity j, X_{wj} = world exports of commodity j, X_i = total exports of country i and X_w = total world exports. If this index takes a value greater than unity, then the country has a revealed comparative advantage in that particular commodity.

The analysis of commodity composition of India's export basket unveils that India has an RCA in chemicals agricultural products, fuels and mining products, iron and steel, textiles and clothing (Chart A). India's RCA in most of its major exports is also borne out by the fact that India's average shares in world exports in most of these product groups have witnessed a significant increase during the 2000s. Furthermore, the terms-of-trade effect emanating from relatively high export prices realised *vis-à-vis* import prices also helped in achieving the high export growth in recent years in value terms. Over the years, India's exports have witnessed geographical diversification as well. There is a need to diversify India's trade basket in favor of higher value added products and more of technology intensive products so that the economy could maximise the gains from trade and sustain the growth of exports driven by improved competitive advantage.



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II.6.9 Despite the demand induced moderation in export growth resulting from the global recession, India's exports performed relatively better as its rank among leading exporters improved from 27th in 2008 to 22nd in 2009, with the share in world exports at 1.2 per cent. India ranked 15th among leading importers in 2009, with a share of 1.9 per cent, which also represents an improvement over 16th position in 2008. Since India's GDP growth remained ahead of most countries, its import growth accordingly would have been relatively higher, leading to the higher rank among importers.

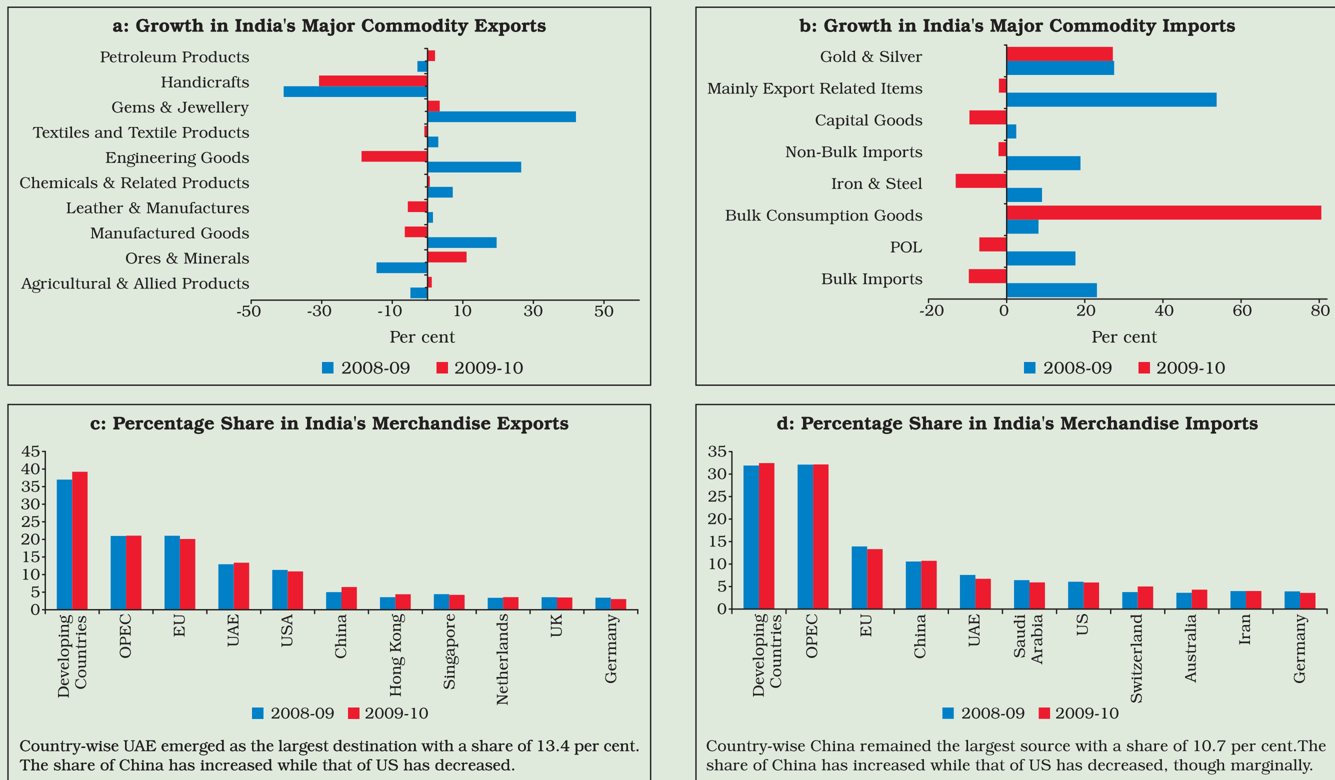
II.6.10 The disaggregated commodity and direction of trade data reveal that India's trade in all major commodity groups and with major trading partners registered a decline/deceleration during 2009-10 (Charts II.58 a to d). However, exports of primary products and petroleum products registered a positive growth in 2009-10. Also, exports of gems and jewellery have turned around since Q3 of 2009-10. Similarly, imports of crude oil started rising with the increase in its price.

II.6.11 Overall, India's exports and imports contracted by 3.6 per cent and 5.6 per cent, respectively, during 2009-10 as against a growth of 13.7 per cent in exports and 20.8 per cent in imports last year. As the decline in imports was steeper than the decline in exports, the overall trade deficit was lower during the year. On balance of payments basis, the trade deficit as a percentage of GDP reduced from 9.8 per cent in 2008-09 to 8.9 per cent in 2009-10.

Invisibles

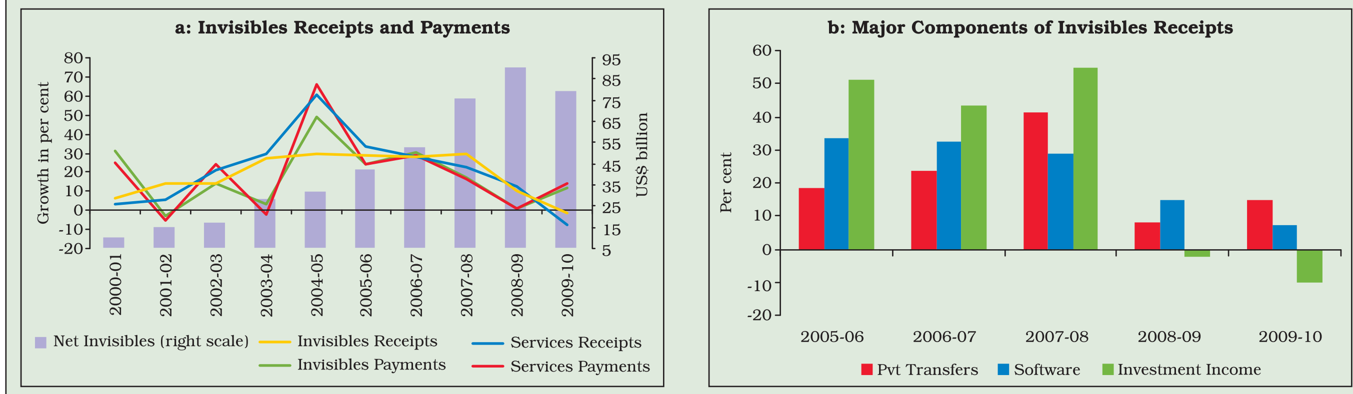
II.6.12 Invisibles receipts and payments had witnessed deceleration in growth in 2008-09 in relation to the robust growth performance in the pre-crisis period. During 2009-10, invisible receipts declined further by 1.4 per cent mainly on account of decline in business, financial and communication services and investment income receipts. In contrast, invisible payments increased significantly by 11.8 per cent due to increase in payments under

Chart II.58: Country-wise and Commodity-wise India's Trade Performance



Country-wise UAE emerged as the largest destination with a share of 13.4 per cent. The share of China has increased while that of US has decreased.

Country-wise China remained the largest source with a share of 10.7 per cent.The share of China has increased while that of US has decreased, though marginally.



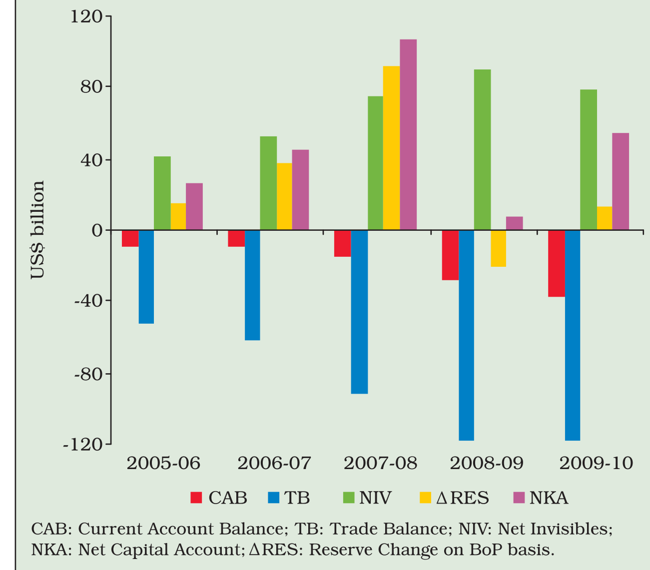
investment income, financial and business services. As a result, invisibles surplus declined by 12.2 per cent to US$ 78.9 billion during 2009-10 from US$ 89.9 billion in the previous year (Chart II.59a).

II.6.13 Net services exports of India declined by 31.1 per cent during 2009-10 as against an increase of 27.7 per cent during last year, mainly due to significant decline in services receipts coupled with an increase in services payments. Growth in services receipts turned negative for the first time after 1992-93, reflecting subdued global private demand and decline in merchandise trade. The decline in net services was spread over transportation and miscellaneous services such as business, financial and communication services. Software services exports, which had declined during the first half recovered during the second half, resulting in a growth of 7.4 per cent during 2009-10. Non-software miscellaneous services receipts, mainly on account of significant decline in communication, financial and business services, declined sharply to US$ 19.0 billion in 2009-10 from US$ 31.4 billion in 2008-09. Investment income receipts also declined to US$ 12.1 billion in 2009-10 from US$ 13.5 billion in 2008-09 on account of low interest rate environment in international markets.

II.6.14 Private transfer receipts, an important and resilient component of invisibles receipts, increased by 14.9 per cent to US$ 53.9 billion during 2009-10 from US$ 46.9 billion in the previous year (Chart II.59b). A Survey conducted by the Reserve Bank in November 2009 suggested an insignificant impact of the global crisis on remittance inflows to India. The responses from different cities though varied, ranging from significant impact (such as Kochi) to no decline (such as Ahmedabad).

Current Account Balance

II.6.15 On balance of payments basis, trade deficit decreased marginally to US$ 117.3 billion (8.9 per cent of GDP) during 2009-10 from US$ 118.7 billion (9.8 per cent of GDP) in 2008-09 (Chart II.60). Lower net invisibles during 2009-10 financed about 67.3 per cent of trade deficit as compared with



75.8 per cent in the previous year. Despite lower trade deficit, the decline in invisibles surplus led to a higher current account deficit of 2.9 per cent of GDP during 2009-10 as compared with 2.4 per cent of GDP a year ago.

Capital Account

II.6.16 Stronger recovery in India ahead of the global recovery coupled with positive sentiments of global investors about India's growth prospects induced the revival in capital inflows during 2009-10. The turnaround in the capital inflows was mainly driven by large inflows under Foreign Institutional Investors' (FIIs) investments and short-term trade credits. Net FII inflows of US$ 29.0 billion represented a major reversal from the outflow of US$15.0 billion experienced during the previous year. Net FDI inflows were higher at US$ 19.7 billion during 2009-10 as compared to US$ 17.5 billion during 2008-09, reflecting steady inflows coupled with lower gross outflows (Chart II.61).

II.6.17 Country-wise, investments routed through Mauritius remained the largest component of gross FDI inflows to India during 2009-10, followed by Singapore and the USA (Chart II.62). During 2009-10, FDI was mainly channeled into the manufacturing sector (22.9 per cent), followed by the construction sector (15.7 per cent), financial services and real estate sector (9.8 per cent each) (Chart II.63).

II.6.18 After recording net inflows under Non-resident deposits during the first three quarters, there were outflows during the last quarter of the 2009-10 reflecting the impact of decline in effective

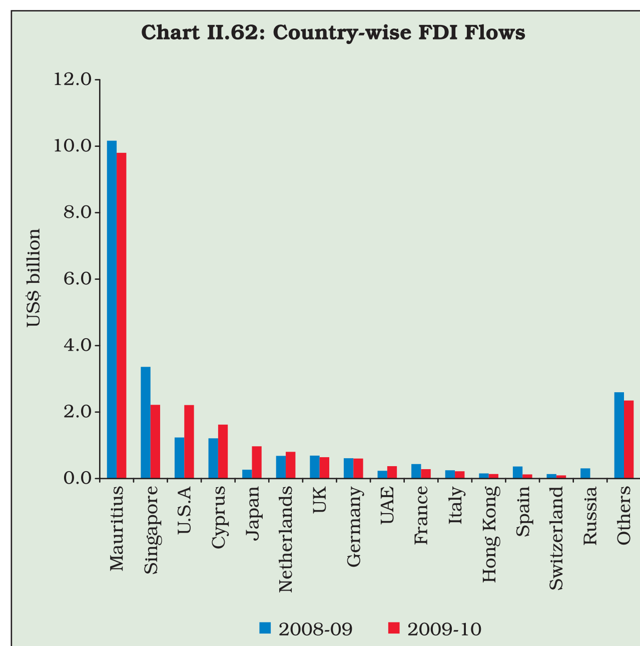


Chart II.62: Country-wise FDI Flows

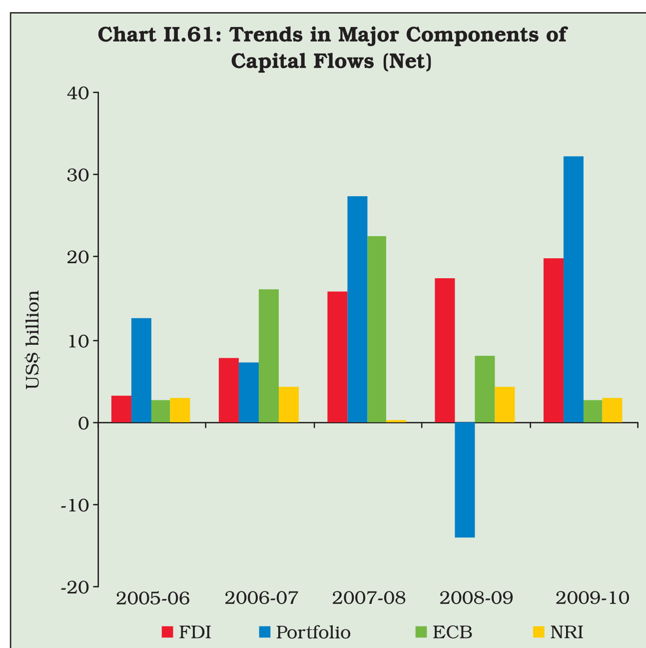


Chart II.61: Trends in Major Components of Capital Flows (Net)

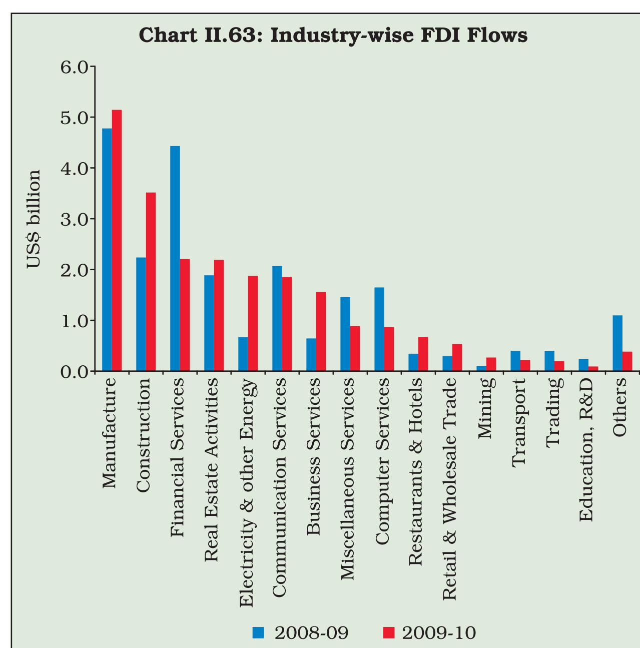


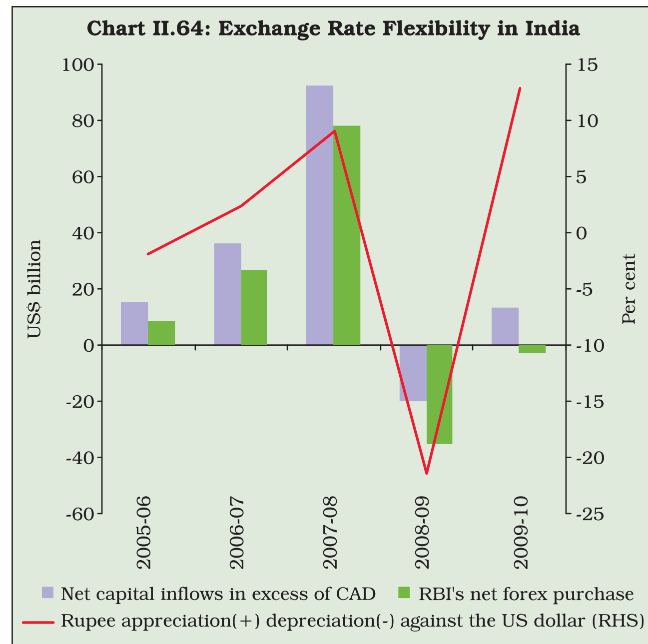
Chart II.63: Industry-wise FDI Flows

interest rate on such deposits as well as appreciation of the rupee against the US dollar. Net external assistance received by India during 2009-10 was lower at US$ 2.4 billion. Net external commercial borrowings were significantly lower during 2009-10 mainly due to lower disbursements, especially in the first quarter, coupled with higher repayments. Short term trade credit also exhibited a turnaround since the second quarter of 2009-10 and recorded net inflows of US$ 7.7 billion during the full year. Net capital inflows during 2009-10 stood significantly higher at US$ 53.6 billion as compared with US$ 7.2 billion in 2008-09, mainly driven by FDI, portfolio investment and short-term trade credits.

II.6.19 During 2010-11 so far, FDI inflows have remained stable, while FII inflows have also witnessed improvement. Similarly, ECB approvals have been large during 2010 (April-July) reflecting strong domestic investment demand.

II.6.20 India experienced high volatility in capital flows in recent years. Capital flows have also been the dominant factor in inducing volatility in the exchange rate of the rupee against the US dollar. The exchange rate appreciated when there were large capital inflows and depreciated when the capital inflows ebbed or turned into outflows. Given the stated policy of the Reserve Bank to contain volatility in the exchange rate, without reference to any specific target or band, its net intervention operations have helped in absorbing significantly the pressure of capital flows on exchange rate

Chart II.64: Exchange Rate Flexibility in India



volatility. In recent years, however, the exchange rate has become relatively more flexible, particularly in relation to the size of net intervention operations of the Reserve Bank. In 2009-10, for example, net interventions were negligible, whereas the exchange rate appreciated by 12.9 per cent (Chart II.64). Even though it partly reflected correction for the significant depreciation witnessed in 2008-09 in the wake of the global crisis, the nominal appreciation entailed dual effects on the economy (Box II.13). During 2010-11 so far (up to August 16, 2010), the Indian rupee has generally depreciated against the US dollar by 3.5 per cent while it has appreciated against the euro.

Box II.13
Impact of Exchange Rate Movement on the Economy

In a flexible exchange rate regime, movements in exchange rate could have dual effect on the overall macroeconomic conditions. While an exchange rate appreciation could help in moderating domestic inflation through lower cost of imports expressed in domestic currency, it could also weaken the competitive advantage of exports and thereby adversely affect growth. If a nominal appreciation coincides with higher inflation differentials, then the resultant appreciation of the Real Effective Exchange Rate (REER) could further magnify the pressure on competitiveness. In 2009-10, the 6-curency trade based REER of the Indian rupee appreciated by 20.0 per cent (Chart A).

Available empirical findings for India on the pass-through of exchange rate changes to domestic prices provide a range of results. RBI (2004) estimated that a 10 per cent depreciation of exchange rate increased wholesale prices by 0.4 per cent during the period 1970 to 2004. About 60 per cent of pass-through was estimated to take place within one year. A study by Khundrakpam (2007) for the post-

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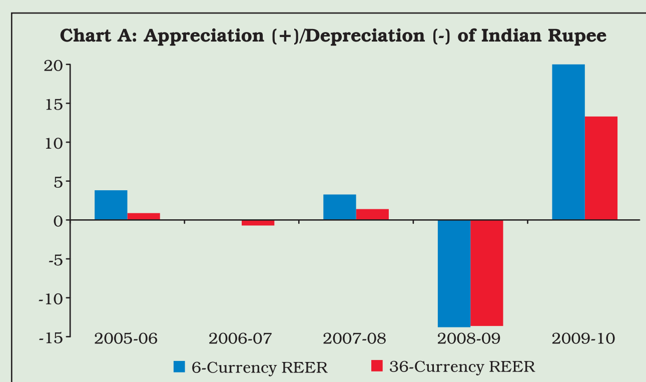

reform period (August 1991 to March 2005) estimated the pass-through coefficients and found that a 10 per cent change in exchange rate leads to change in final prices by about 0.6 per cent in the short-run and 0.9 per cent in the long-run. The same study suggested no decline in the degree of pass-through over time, unlike what has been found in other countries. These estimates in the range of 0.4 per cent to 0.9 per cent suggest that 12.9 per cent appreciation experienced in 2009-10, would have helped in moderating the inflation by 0.5 per cent to 1.2 per cent. This impact, though, would be over a period of time, and not entirely during the year itself.

The impact of exchange rate appreciation on trade balance could depend on the degree of pass-through of exchange rate changes to export and import prices, as well as import-intensity of exports. At times, the impact of other determinants of exports and imports, such as productivity driven comparative advantages as well as demand-supply conditions could dominate the exchange rate impact. Empirical evidence generally corroborates the perception that both exports and imports remain sensitive to exchange rates even when other determinants of trade flows change significantly (Smith, 2004; Sharma, 2000; Kandil, *et al.* 2007).

For India, the estimated impact of currency movements on trade balance for the period 1996Q2 to 2009Q4 appears to be statistically significant. A simple regression of trade balance (used in terms of the ratio of exports to imports, *i.e.* LXM) on exchange rate (6-currency trade weighted real effective exchange rate, *i.e.* LREER), seasonally adjusted domestic real GDP (LINGDP) and World GDP (proxied by the seasonally adjusted OECD GDP, *i.e.* LOECDGDP) show that growth in domestic GDP worsens trade balance (possibly through boosting import demand relative to exports from the supply side), while growth in world GDP improves India's trade balance (through the impact on exports on the demand side). The currency appreciation worsens the trade balance significantly; the estimated coefficient shows that a one per cent real appreciation would invoke almost 0.7 per cent deterioration in trade balance.

$$LXM_t = 4.28 - 0.73LREER_t - 0.99LINGDP_t + 2.56LOECDGDP_t$$

t-stat (3.53)* (-2.34)* (-5.88)* (5.15)*

$R^2 = 0.48$ DW = 1.83

*: Significant at 5 per cent level.

All variables are in log form.

Based on the favourable impact of exchange rate appreciation on inflation, it was viewed in some quarters during 2009-10 that the exchange rate channel of monetary policy was effective in containing inflation. In India, however, other than containing excessive volatility, the Reserve Bank does not condition the path of the exchange rate. Since the Reserve Bank had to balance the dual objectives of stronger recovery and lower inflation during 2009-10, even in the use of monetary policy measures, the actions had to be calibrated carefully. In a phase of managing the recovery, particularly given the adverse external demand conditions and protectionism concerns, any exchange rate appreciation could have been expected to undermine the growth objective more than during normal times. Besides dampening export growth, even cheaper imports that compete with domestic import substitutes could substantially thwart a faster recovery. Unlike managing the inflation-growth objectives through monetary policy measures, attempting the same through exchange rate could expose the economy to external sector risks that could be difficult to manage. There have been country experiences of devaluation – hyper inflation's vicious path on the one hand, as well as dutch disease effects associated with sustained large appreciation on the other. The Reserve Bank recognises the risks of using exchange rate as an instrument for managing internal balance versus external balance objectives, and that is why it operates with a market determined exchange rate regime, where the rate itself is determined by several determinants, including inflation, trade and capital flows, and economic growth.

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Foreign Exchange Reserves

II.6.21 During 2009-10, net capital account surplus, after financing a larger current account deficit, resulted in a net accretion to foreign exchange reserves of US$ 13.4 billion (excluding valuation effect). Including the valuation gains resulting from depreciation of the US dollar *vis-à-vis* other non-US dollar currencies in which part of the reserves are maintained and increase in price of gold, the foreign exchange reserves increased by US$ 27.1 billion during the year. There were two transactions relating to purchase of gold from the IMF and allocation of SDRs by the IMF, which affected the level as well as composition of the reserves. The IMF made additional allocations of SDRs to India in two tranches, *viz.*, general allocation of SDR 3,082 million (equivalent to US$ 4.82 billion) on August 28, 2009 and a special allocation of SDR 214.6 million (equivalent to US$ 0.34 billion) on September 9, 2009. As a result, while the external liabilities of the Government increased in the capital account of the balance of payments, equivalent increase in the foreign exchange reserves was recorded in the form of SDR holdings. Unlike the SDR allocation, the purchase of 200 metric tonnes of gold from the IMF involved only a shift in the composition of reserves, as the increase in reserves in the form of gold was offset by corresponding fall in foreign assets. Of the US$ 27.1 billion increase in reserves (including valuation), the component-wise increases were US$ 13.3 billion in foreign currency assets, US$ 8.4 billion in gold, US$ 5.0 billion in SDRs and US$ 0.4 billion in RTP. Despite larger capital inflows than the previous year, foreign exchange reserves increased moderately during 2009-10, reflecting increased absorption through higher current account deficit. India's foreign exchange reserves stood at US$ 287.4 billion as on August 6, 2010. During 2009-10, several initiatives at the global level were taken to supplement national safety nets for dealing with adverse global shocks in future (Box II.14)

Box II.14
Global Initiatives to Supplement National Policies in Dealing with External Shocks

The experience of the recent financial crisis has amply demonstrated that in a globalised world, despite having a sound domestic macro-financial policy environment, a country could still face a crisis because of external shocks. Many EMEs like India that did not contribute directly to the global crisis nor did they have any direct exposure to the troubled assets and financial instruments in the advanced economies, were still affected by the crisis. Hence, credible and effective global systems must be put in place to supplement national policies for dealing with external shocks which could potentially spread fast with devastating consequences for economies.

Keeping in view the global dimension of the recent financial crisis, it was felt at the outset itself that the efforts towards restoring balance needed to be exceptional transcending national boundaries. This was reflected in the provision of cross-border liquidity through swap arrangements by major central banks as well as several rounds of policy rate cuts. International institutions for policy coordination like the G-20, global financial institutions like the IMF and the World Bank as well as many regulatory institutions became active as also new institutions like Financial Stability Board (FSB) have been instituted. In the midst of the crisis, the G-20 exhibited exceptional coordination in responding to the contagion of the crisis with swift national policy measures. With regard to regulatory reforms, the G-20 is closely coordinating the efforts of international institutions like Basel Committee on Banking Supervision (BCBS), International Organisation of Securities Commissions (IOSCO) and International Association of Insurance Supervisors (IAIS) regarding international rules on capital, leverage and liquidity, compensation reforms, OTC derivatives, prudential regulation of Systematically Important Financial Institutions (SIFIs), accounting standards and credit rating agencies.

Besides national monetary and financial stimulus measures, there was reliance on expanded financial safety nets, ranging from swap facilities from the Fed to national central banks to augmenting the financial resources of the IMF. At its London Summit in April 2009, the G-20 members expressed their joint commitment to treble the resource base of the IMF to US$ 750 billion, apart from support for trade finance, additional lending by multilateral development banks (MDBs) and concessional finance to poorest countries from proceeds of IMF gold sales.

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Subsequently, the IMF has made efforts to improve the financial safety nets of member countries through SDR allocations. The IMF has also revamped its extant lending instruments and devised new instruments to deliver timely resources to the economies facing financial stress. In addition to the traditional credit lines, it has instituted a Flexible Credit Line (FCL) for countries with strong macro fundamentals and the High Access Precautionary Arrangements (HAPAs) for countries that may not qualify for FCL. Reflecting the change of approach at the global level, in response to the sovereign debt crisis in Greece, the IMF in coordination with the European Commission, pledged to provide a three year US$ 40 billion Stand-by Arrangement to Greece, amounting to 32 times of its Quota in the IMF.

India's Role in the Emerging Global Initiatives

As an active member of the G-20, India stands committed to emerging global initiatives, recognising fully that global problems need global solutions. The G-20 Working Group on 'Enhancing Sound Regulation and Strengthening Transparency' was Co-chaired by India. The Government of India had constituted a High Level Committee (HLC) to follow-up on the G-20 Washington Summit Declaration and constituted four Indian/Internal Working Groups, which mirrored the G-20 Working Groups. Separately, the RBI had set up two cells on the G-20 Working Groups *viz*., "Strengthening Transparency and Enhancing Sound Regulation" and "International Co-operation and Market Integrity", respectively.

In order to strengthen the IMF's lendable resources, the RBI has entered into a Note Purchase Agreement (NPA) with the IMF under which the RBI shall purchase from the IMF notes for an amount up to the equivalent of US$ 10 billion. India has bought the IMF gold. The sale proceeds of gold are expected to boost IMF's capacity to provide concessional loans to low income countries.

With respect to prudential regulations, ten large Indian banks are participating in the current round of quantitative impact assessment (QIS) being conducted by the BCBS. The Reserve Bank is working on the FSB principles for sound compensation and accordingly, comprehensive guidelines based on FSB principles on sound compensation practices was issued on July 1, 2010. Also, setting up a Working Group to work out the modalities for an efficient, single point reporting mechanism for all OTC interest rate and forex derivative transactions was proposed.

While the emerging regulatory responses of countries and the development of new international standards would need to be examined in the context of India specific needs and relevance before application, many of the new international initiatives may not require a revision of the country's current policies on capital flows, exchange rate and foreign exchange reserves, which have helped effectively in limiting the country's vulnerability to external shocks.

Management of Foreign Exchange Reserves

II.6.22 The guiding objectives of foreign exchange reserves management in India are safety, liquidity and returns in line with the general international practices in this regard. The variations in India's foreign exchange reserves are an offshoot of its exchange rate policy, which is to intervene in the market only to smooth exchange rate volatility and prevent disruptions in macroeconomic stability. Since no deliberate strategy of reserve accumulation is pursued through a policy of sustained current account surplus, India does not contribute to global imbalances. Moreover, the reserves are built up against borrowed resources, and hence they are used during periods of sudden stops and reversal in capital flows. Variation in reserves, thus, besides the valuation effects arising from changes in international currencies in which the reserves are held, largely reflect the result of trends in capital flows.

II.6.23 The Reserve Bank purchased 200 metric tonnes of gold from the IMF during October 19-30, 2009 under the IMF's limited gold sales programme. This was done as part of the Reserve Bank's foreign exchange reserve management operations. The foreign exchange reserves, however, remained unaffected by this transaction as it merely reflected substitution of foreign currency assets by gold. As a result, the share of gold in total reserves went up to 6.3 per cent at end-November 2009 from 3.8 per cent at end-October 2009 prior to the gold purchase.

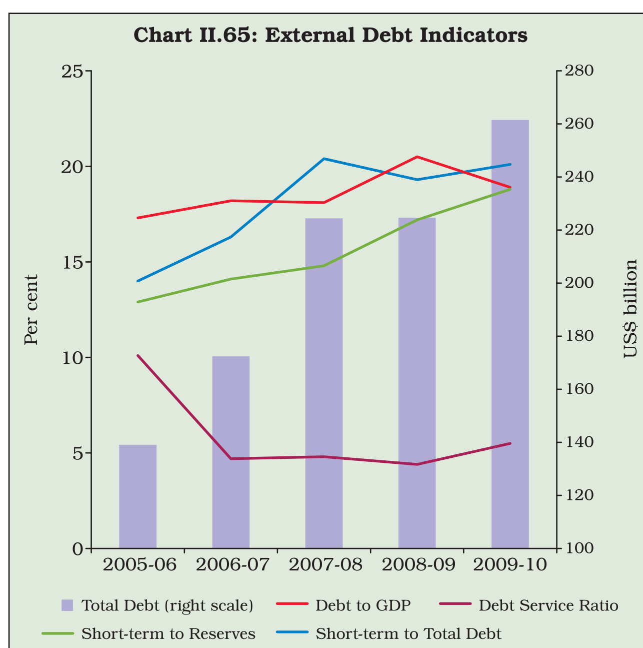
External Debt

II.6.24 India's external debt stock increased by 16.5 per cent to US$ 261.5 billion at the end of

March 2010 on account of significant increase in SDR related liabilities, commercial borrowings, trade credits and NRI deposits. While long term debt increased by US$ 27.8 billion to US$ 209.0 billion, short-term debt increased by US$ 9.1 billion to US$ 52.5 billion on the basis of original maturity. Based on residual maturity, short-term debt stock stood at US$ 107.6 billion accounting for 41.2 per cent of the total external debt at end-March 2010. In terms of currency composition, the US dollar denominated debt accounted for the major portion of total external debt at end-March 2010. Various debt sustainability indicators remained at comfortable level (Chart II.65).

II.6.25 The international assets increased from US$ 346.2 billion at end-March 2009 to US$ 378.8 billion at end-March 2010, mainly on account of increase in direct investment abroad and reserve assets. The increase in international liabilities from US$ 409.0 billion as at end-March 2009 to US$ 536.5 billion as at end-March 2010 was mainly on account of an increase in inward direct and portfolio investments and other investments. Net claim of non-residents on India reflecting the net International Investment Position (International Assets minus International Liabilities) increased from the level of US$ 62.8 billion as at end-March 2009 to US$157.6 billion as at end-March 2010. The build-up of foreign exchange reserves in recent years also helped in containing increase in net international liabilities. While net liabilities increased by US$ 94.8 billion, net capital inflows were at US$ 53.6 billion; the difference between the two largely reflects valuation effects.

Chart II.65: External Debt Indicators



II.6.26 The external sector outlook for 2010-11 suggests the persistence of large current account deficit *albeit* with some moderation. Since India's growth is expected to be stronger, resultant import growth could widen the trade deficit. Uncertainties in international oil prices could exert additional pressure. Despite diversification of the export basket and pick up in export growth in recent months, sustaining a robust export growth would be a challenge. The developments observed during 2009-10 for services exports may continue during 2010-11 if the global recovery weakens due to sovereign debt concern in the Euro zone. As projected by NASSCOM, however, software exports could recover in 2010-11 to grow by 13-15 per cent as against 5.5 per cent in 2009-10. If the crisis in the Euro zone deepens, that would impact both exports and private transfer receipts. The share of India's exports to Europe has been about 20 per cent in recent period; Europe is also one of the major regions contributing to India's private transfers.

II.6.27 The expected surge in capital flows, and the associated pressure on exchange rate and asset prices will have to be managed. A higher current account deficit, however, could absorb higher capital flows more productively. The financing needs of infrastructure as well as expected higher current account deficit suggest the importance of foreign capital for economic growth. Capital flows in the initial months of 2010-11 have moderated somewhat, reflecting the drop in risk appetite of global investors in response to the sovereign risk concerns in the Euro zone. Due to favourable market sentiments, however, capital flows to India have picked up since June 2010 as reflected in higher portfolio inflows coupled with

large ECB approvals. Given the stronger growth outlook of India and the probability of monetary exit being delayed by the advanced economies, capital inflows could be expected to accelerate, which will have to be managed, as in the past. The balance of payments outlook for 2010-11, thus, suggests that notwithstanding a higher current account deficit, higher capital flows, comfortable reserves and a flexible exchange rate will help in managing the external sector challenges.

VII. OVERALL ASSESSMENT

II.7.1 Overall, the macro-financial developments during 2009-10 indicated the resilience of the economy to shocks, both external and internal, as well as the capacity to recover fast from an economic slowdown. Domestic policy stimulus, both monetary and fiscal, contributed to spur the recovery impulses. However, timely exit from the stimulus had to be initiated in the second half of the year, recognising its importance for containing inflation in the near-term as well as supporting high sustainable growth in the medium-term. The assessment based on inter-sectoral linkages suggests that the impact of any weakness in agricultural production resulting from deficient rainfall on the growth prospects of industry and services has moderated over time. Agricultural growth, however, continues to be critical from the standpoint of its impact on inflation and rural demand conditions.

II.7.2 In managing the recovery, monetary policy measures encountered the usual transmission weaknesses, even though ample liquidity conditions created by the Reserve Bank helped in allaying any liquidity concerns in the financial system. Adequate availability of resources from both banks and non-banking sources also ensured financing of real activities during the recovery. With the usual lags in monetary policy transmission, lending rates started to moderate gradually and the demand for credit from the private sector also recovered in the second half of the year.

II.7.3 Continuation of the expansionary fiscal stance adopted in response to the contagion from the global crisis helped in partly offsetting the dampening impact of decelerating private consumption demand on the recovery. Fiscal imbalances, however, when persist, could pose risks to the inflation situation, the potential output path and the external balance conditions. In the Union Budget for 2010-11, the beginning of fiscal exit was announced along with a medium-term fiscal consolidation plan. 3G/BWA spectrum auction proceeds, which turned out to be almost three times the amount that was expected, is unlikely to contribute to a faster fiscal correction because of the additional expenditures as reflected in the first batch of Supplementary Demands for Grants for 2010-11. The deregulation of petrol prices and upward revisions to prices of other petroleum products effected in June 2010 would, however, ease the stress on the fiscal situation going forward, notwithstanding the near-term pressures on headline inflation.

II.7.4 The key macroeconomic concern in the second half of the year was the rising generalised inflation, which warranted rebalancing the weights of different objectives pursued through monetary policy, with increasing accent placed on containment of inflation. Decline in relative price variability as well as evidence of inflation persistence implied the need for use of monetary policy actions, even though the initial source of pressure on inflation started from an adverse supply shock in response to the deficient monsoon. Structural supply side constraints that impart sustained or frequent pressure on the inflation path need to be addressed so as to enhance the capacity to ensure a low inflation regime.

II.7.5 The financial markets, despite exhibiting intermittent volatility reflecting sporadic uncertain global developments, functioned normally with rising activities, which was necessary for ensuring faster recovery. Strengthening the financial stability architecture further and promoting development of deeper financial markets, however,

would have to receive sustained policy focus, going forward. The external balance situation, which had come under pressure from decline in exports and net capital outflows in the wake of the global crisis, improved during the year with the return of positive growth in exports and revival in capital flows. Higher current account deficit also contributed to the recovery through better absorption of foreign capital. Management of capital flows would continue to be a major challenge, given their dual ramifications in terms of a potential source of instability as well as a means to higher growth and productivity.

II.7.6 Thus, while at the beginning of the year the overriding macroeconomic concern was faster and stronger recovery, by the end of the year that concern had subsided significantly, but an equally discomforting concern had surfaced in the form of high and generalised inflation. In dealing with the challenge of inflation through monetary tightening, the associated consequences in terms of attracting excessive interest rate sensitive capital inflows and also harming the recovery by raising the cost of capital had to be recognised, which was reflected in the Reserve Bank's calibrated approach to unwinding of its monetary policy stimulus to the recovery.

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

III MONETARY POLICY OPERATIONS

The changing growth-inflation outlook during the course of the year broadly conditioned the conduct of monetary policy. In the first half of 2009-10 when headline WPI inflation remained subdued, the accommodative monetary policy stance, adopted in response to the global crisis and aimed at stimulating a faster recovery in growth, was sustained. In the second half, high and generalised inflation coincided with stronger signs of broad-based recovery which required raising the emphasis of policy focus on containing inflation, without endangering the recovery process. The monetary stance had to be calibrated carefully in view of the risk of disrupting the recovery, given the uncertainties in the global economy as also the gradual recovery in domestic private demand. The large borrowing programme of the government and the pick-up in demand for credit from the private sector necessitated active management of liquidity conditions, while moderating the magnitude of liquidity overhang, consistent with the anti-inflationary stance. The possibility of a turn in the interest rate cycle magnifying interest rate sensitive capital inflows to India required closer monitoring of global liquidity and interest rate conditions.

III.1 The conduct of monetary policy during 2009-10 and in the first quarter of 2010-11 was broadly guided by the evolution of policy stance from "managing the crisis" to "managing the recovery" and further to "containing inflation and anchoring inflation expectations". Throughout the period, the operations of monetary policy had to contend with uncertainty about the global recovery, even as the situation improved with every successive quarter in 2009-10. Further, the Reserve Bank had to strike a judicious balance amongst its various objectives such as a stronger recovery, well-anchored inflationary expectations, stable markets and smooth completion of the large borrowing programme of the government.

THE MONETARY POLICY PROCESS

III.2 The formulation of monetary policy in the Reserve Bank reflects an extensive consultative process where the views and suggestions of various stakeholders are elicited and analysed. While the pre-policy consultations with industry associations, bankers and economists contribute to the information set used for policy making, the surveys conducted by the Reserve Bank targeted at the common man, corporates and professional forecasters also provide important lead information. After the policy, as part of the communication process, questions from the press and analysts are answered, which help in receiving post-policy feedback. The institutional framework for consultation on important technical aspects of policy making is a critical part of the monetary policy process in India.

III.3 The Technical Advisory Committee (TAC) on Monetary Policy reviews macroeconomic and monetary developments and advises the Reserve Bank on the stance of monetary policy and monetary measures. The TAC's role is advisory in

nature and the responsibility, accountability and time path of decision-making remains entirely with the Reserve Bank. Between the usual quarterly cycles formalised for policy announcements, monetary measures can be announced at any point of time depending upon the evolving macroeconomic conditions.

III.4 It has been the endeavour of the Reserve Bank to make the policy making process more consultative. With effect from October 2005, the Reserve Bank has introduced pre-policy consultation meetings with the IBA, market participants (FIMMDA, FEDAI and PDAI), representatives of trade and industry (CII, FICCI, ASSOCHAM and FIEO), credit rating agencies (CRISIL and ICRA), and other institutions (UCBs, MFIs, SMEs, NBFCs, rural co-operatives and RRBs). These meetings focus on macroeconomic developments, liquidity position, interest rate environment and monetary and credit developments along with forward-looking suggestions. This consultative process has contributed to enriching the policy formulation mechanism and enhanced the effectiveness of monetary policy measures. In addition, meetings are also held with economists, media persons, analysts and journalists on a half-yearly basis in April and October to know their views on the global/ domestic macroeconomic situation and solicit their advice on monetary policy measures.

III.5 The Resource Management Discussion meetings are held with chairpersons of select banks every year before the announcement of the Annual Monetary Policy and the Second Quarter Review. Such meetings are held with senior officers of select banks before the First and Third Quarter Reviews. They serve as a forum for obtaining feedback from the banking industry on the measures announced in the previous policy as also suggestions for the forthcoming policy and help in understanding banks' policies and strategies for resource mobilisation and deployment. These meetings provide a platform to discuss the likely credit flow to various sectors and industries, expectations on macroeconomic scenario and various policy issues impacting the banking industry. These provide inputs for formulation of monetary policy and help in communicating the Reserve Bank's stance on various issues and the rationale for its policies and changes therein.

III.6 Institutional arrangements have been put in place internally to guide the policy formulation process. The inter-departmental Financial Markets Committee (FMC) holds a daily meeting to review developments in the money, foreign exchange and government securities markets as well as assess liquidity conditions to guide appropriate market interventions. Meetings of the FMC are chaired by Deputy Governor/Executive Director.

III.7 The internal Monetary Policy Strategy Group meets regularly to review monetary and credit conditions and takes a medium-term view on the stance of monetary policy. The inter-departmental Technical Group has been constituted to prepare reviews/forecasts of inflation and GDP growth for policy purposes. In addition, the inter-departmental Corporate Sector Performance Group submits quarterly reports on the performance and outlook for the private corporate sector.

III.8 After the policy announcement, the Governor addresses the press through video conferences and a separate brief press statement is issued. The video recording of the press conference is maintained on the Reserve Bank's website for at least a month, while the Governor and the Deputy Governors interact with print and electronic media over the next few days.

III.9 The Reserve Bank also takes note of suggestions and feedback received through letters, e-mails or any other means of communication from stakeholders and individuals. Extensive use is made of the website in communicating with external audiences and getting their feedback on the policy measures. The site is used not only to disseminate information emanating from the Reserve Bank but also to seek

feedback on reports and recommendations as well as on draft regulatory guidelines which are a sequel to the policy measures announced by the Reserve Bank.

III.10 Communication policies and strategies of the Reserve Bank are tailored to meet the needs of specific function to be performed on the one hand, and have an overall consistent or common policy framework within which the central bank functions on the other. The Reserve Bank's overall approach to communicating its policy measures is driven by the principle of democratic accountability and enhancing the effectiveness of monetary policy. In this context, the Reserve Bank's communication policy recognises the complexities inherent in the Indian economy at the current stage of development.

III.11 The global crisis brought to the fore many new challenges for central banks, besides necessitating search for better solutions to the conventional challenges. Given the complex nature of many challenges, the Reserve Bank's usual consultative process had to be scaled up. The First International Research Conference was organised to elicit the best possible suggestions at the international level on some such challenges that the Reserve Bank would have to deal with in future (Box III.1).

Box III.1
Challenges to Central Banking in the Context of Financial Crisis: Major Findings of the First International Research Conference

The global crisis has spawned an animated debate on what went wrong in the sphere of policy making at the national as well as global level, and what central banks in particular need to learn from the crisis. Even though India clearly avoided a financial crisis at home, the global crisis revealed that the challenges for central banks in a globalised world could be too complex as well as too many. Recognising the need to learn by seeking suggestions from some of the most eminent economists and policy makers from around the world as well as central bank governors on major challenges that the central banks in general have to face and manage after the global crisis, the Reserve Bank organised its First International Research Conference (FIRC) on "Challenges to Central Banking in the Context of Financial Crisis" on February 12 and 13, 2010. It was the flagship event of the Bank's Platinum Jubilee celebrations.

Governor Dr. D. Subbarao highlighted in his opening remarks why central banking could be expected to change in important ways after the crisis and outlined five key challenges of significance to central banking profession in general: (a) managing national monetary policy decisions in a globalising environment, given the growing complexity in the interactions between external developments and domestic variables, (b) redefining the mandate of central banks, given the pre-crisis attraction of inflation targeting and the post-crisis debate on the role of central banks in relation to asset prices, (c) the responsibility of central banks towards financial stability, (d) managing the costs and benefits of regulation, in view of the difficulty in drawing a fine balance between regulation and financial innovations, and (e) the autonomy and accountability of central banks, particularly in the context of fiscal position of countries after the crisis and their approaches to fiscal exit.

It was expected that the deliberations during the conference would provide some guidance, if not clear solutions, on these and other challenges for central banks. Some questions, however, remain unanswered. There was no consensus on the role of monetary policy for directly doing anything about asset prices and no convergent view was expressed on whether financial stability could be an explicit mandate of monetary policy. The lender of last resort (LOLR) function and regulation were generally seen as two important potential instruments to safeguard financial stability, which together though may not always be sufficient to avoid a financial crisis. Captivating discussions on the impossible trinity, however, did not offer any clear direction on how best to resolve the impossible trinity, implying that countries may have to adopt their own approach in country-specific contexts. The need for macro-prudential regulation as a necessary, if not sufficient, next step was recognised. How financial innovations, with appropriate precautions, could contribute to high global growth, more particularly in emerging market and developing economies, was discussed. A key message from the conference was that LOLR cannot solve insolvency problems. It was also viewed that different dimensions of central bank independence may come under threat if high debt levels of the governments persist over protracted periods of time. Four areas where central banks have achieved gradual progress were generally recognised, *i.e.*, (a) managing inflation;

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(b) managing shocks – both external and internal; (c) managing volatility – with skill and judgment, and (d) achieving a level of autonomy while acquiring credibility. Further progress, particularly in the area of financial stability, however, would require credible steps to face the challenges from asset prices and regulatory gaps.

After the technical discussions, governors of eight central banks offered their enlightening views on ten important issues in two panel discussions, which reflected crafting of country-specific positions into their respective global perspectives. The theme for the first panel – domestic monetary policy – covered five important issues, namely (a) the implications of the crisis for inflation targeting; (b) the role of asset prices in monetary policy formulation; (c) the role of central banks in managing crises; (d) the role of central banks in regulation; and (v) exit from the crisis measures. The theme for the second panel discussion – international monetary system – covered five key issues, namely (a) exchange rate policies and reserve accumulation; (b) management of capital flows; (c) future of the global reserve system; (d) reform of the IMF; and (e) potential for developing regional monetary arrangements. These issues have been particularly important for the central banks of most EMEs. Governor Dr. Subbarao stressed in his remarks during the discussions that the international monetary system was inadequate to prevent a major structural problem, *i.e.*, the global imbalances, which had to manifest in the form of some crisis or the other at some stage. He noted that even though India did not contribute to global imbalances or the global crisis, it has to face the consequences.

The overall key message from this conference was that given the known challenges, both before and after the crisis, despite lack of consensus on many critical issues, every central bank has to move in the direction of taking right steps that it may deem appropriate, without waiting for the global system to move. It would be wrong, however, to presume that “best global policies are the sum of the best national policies”. In a globalised world, thus, national policies alone, despite being the most appropriate, cannot prevent a crisis unless some of the global challenges are addressed collectively at the global level.

MONETARY POLICY OPERATIONS: CONTEXT AND RATIONALE

Annual Policy Statement 2009-10

III.12 The Annual Policy Statement 2009-10 was presented in the backdrop of an uncertain global environment and significant slowdown in the domestic economic activity with deceleration in growth seen in all constituent sectors of the economy. The fiscal and monetary stimuli measures initiated in the second half of 2008-09, coupled with lower commodity prices, helped in cushioning the downturn in growth. For policy purpose, the Policy Statement placed the real GDP growth for 2009-10 at around 6.0 per cent. This reflected significant moderation, in relation to the 8.9 per cent average annual growth achieved during 2003-08, requiring continuation of an accommodative monetary policy stance.

III.13 As global commodity prices abated significantly under the pressure of global recession, domestic headline WPI inflation declined to close to zero. While prices of manufactured products decelerated sharply and of fuel group declined, prices of food articles remained high. Keeping in view the global trend in commodity prices and domestic demand-supply balance, the Annual Policy Statement placed the WPI inflation at around 4.0 per cent by end-March 2010. Money supply (M_3) growth for 2009-10 was placed at 17.0 per cent and the adjusted non-food credit growth at 20.0 per cent.

III.14 Based on the overall assessment of the macroeconomic situation, the Policy Statement emphasised the need to ensure a policy regime that would enable credit expansion at viable rates while preserving credit quality so as to support the return of the economy to a high growth path. The monetary stance emphasised the need to maintain a monetary and interest rate regime supportive of price stability and financial stability, taking into account the emerging lessons of the global financial crisis. Against the backdrop of global and domestic developments, the Reserve Bank reduced the LAF rates to their historically lowest levels. The repo rate and the reverse repo rate were reduced by 25 basis points each (Table III.1).

Table III.1: Movements in Key Policy Rates in India

(Per cent)

Effective since	Reverse Repo Rate	Repo Rate	Cash Reserve Ratio
1	2	3	4
April 26, 2008	6.00	7.75	7.75 (+0.25)
May 10, 2008	6.00	7.75	8.00 (+0.25)
May 24, 2008	6.00	7.75	8.25 (+0.25)
June 12, 2008	6.00	8.00 (+0.25)	8.25
June 25, 2008	6.00	8.50 (+0.50)	8.25
July 5, 2008	6.00	8.50	8.50 (+0.25)
July 19, 2008	6.00	8.50	8.75 (+0.25)
July 30, 2008	6.00	9.00 (+0.50)	8.75
August 30, 2008	6.00	9.00	9.00 (+0.25)
October 11, 2008	6.00	9.00	6.50 (–2.50)
October 20, 2008	6.00	8.00 (–1.00)	6.50
October 25, 2008	6.00	8.00	6.00 (–0.50)
November 3, 2008	6.00	7.50 (–0.50)	6.00
November 8, 2008	6.00	7.50	5.50 (–0.50)
December 8, 2008	5.00 (-1.00)	6.50 (–1.00)	5.50
January 5, 2009	4.00 (-1.00)	5.50 (–1.00)	5.50
January 17, 2009	4.00	5.50	5.00 (–0.50)
March 4, 2009	3.50 (-0.50)	5.00 (-0.50)	5.00
April 21, 2009	3.25 (-0.25)	4.75 (-0.25)	5.00
February 13, 2010	3.25	4.75	5.50 (+0.50)
February 27, 2010	3.25	4.75	5.75 (+0.25)
March 19, 2010	3.50 (+0.25)	5.00 (+0.25)	5.75
April 20, 2010	3.75 (+0.25)	5.25 (+0.25)	5.75
April 24, 2010	3.75	5.25	6.00 (+0.25)
July 2, 2010	4.00 (+0.25)	5.50 (+0.25)	6.00
July 27, 2010	4.50 (+0.50)	5.75 (+0.25)	6.00

Note: 1. Reverse repo indicates absorption of liquidity and repo indicates injection of liquidity.
2. Figures in parentheses indicate change in policy rates in per cent.

First Quarter Review 2009-10

III.15 By the time of the First Quarter Review in July 2009, some tentative lead signs of recovery in GDP growth were visible, which included positive growth in industrial production, optimism in business confidence surveys, rebound in stock prices, renewed activity in the primary capital market and improved external financing conditions. Simultaneously, several risks to the overall outlook had to be recognised for policy purposes, which included delayed and deficient monsoon, food price inflation, rebound in global commodity prices, continuing weak external demand and high fiscal deficit. Accordingly, the Review noted that an uptrend in the growth momentum was unlikely before the middle of 2009-10 and the growth projection for 2009-10 was placed at 6.0 per cent with an upward bias.

III.16 On the inflation front, pressures from global commodity prices, which had been abating markedly since August 2008, bottomed out in early 2009 and had rebounded ahead of global recovery. The Reserve Bank's inflation expectations survey showed that while inflation expectations remained well-anchored, a majority of the respondents expected inflation to rise over the next three months to one year. The Statement further pointed out that the base effect, which generated the negative WPI inflation prevailing then, would completely wear off by October 2009 and thereafter the WPI inflation would creep up even without any major supply shock. The WPI inflation for end-March 2010 was revised upward to around 5.0 per cent. Taking into consideration the high borrowing requirements of the government and to ensure that it was managed in a non-disruptive manner, the indicative trajectory of M_3 growth was increased to 18.0 per cent.

III.17 The First Quarter Review observed, in definitive terms, that the accommodative monetary stance prevailing then was not the steady state stance and going forward, the Reserve Bank would have to reverse the expansionary measures to anchor inflation expectations and subdue inflationary pressures while preserving the growth momentum. Consistent with the assessment of macroeconomic and monetary conditions, the repo rate, the reverse repo rate and the CRR were kept unchanged.

Second Quarter Review 2009-10

III.18 Tentative signs of recovery noticed in the first quarter became increasingly visible in the beginning of the second quarter of 2009-10. The Second Quarter Review noted in October 2009 that this, combined with the easing of international financing conditions, augured well for a pick-up in investment activity. The business confidence surveys also pointed to further improvement in the outlook. On the assumption of a modest decline in agricultural production due to the deficient monsoon, however, the baseline projection for GDP growth for 2009-10 was maintained at 6.0 per cent with an upside bias.

III.19 The WPI inflation after remaining negative during June-August 2009, turned positive beginning September 2009. The inflationary pressures emanated from domestic sources, reflecting increase in prices of food articles and food products on account of weak monsoon. As the upside risk to inflation in terms of the global trend in commodity prices and the domestic demand-supply balance had materialised, the baseline projection for WPI inflation at end-March 2010 was revised to 6.5 per cent with an upside bias.

III.20 On evidence of easing of access for corporates to non-bank sources of financing, both domestic and international, and taking into consideration the completion of around four-fifths of the government borrowing programme and the subdued credit offtake from banks in the first half of the year, the indicative trajectory of adjusted non-food credit and M_3 growth was revised downwards to 18.0 per cent and 17.0 per cent, respectively.

III.21 Around this time, an intense debate had started in many countries about the exit strategy from the expansionary monetary policy, especially the time and sequence of exit. In light of the build-up of domestic inflationary pressures, along with the definitive indications of the economy reverting to the growth track, the debate on the strategy for an appropriate exit from the accommodative monetary policy came to the forefront of policy deliberations in India also.

III.22 Arguments for beginning the reversal of monetary easing in India centered around two factors. First, the risk of fast-rising WPI inflation and persistently high CPI inflation worsening inflationary expectations and leading to generalised inflation. The lag with which monetary policy operates pointed to a case for tightening sooner rather than later. Second, the large overhang of liquidity could engender inflation expectations even if credit demand remained subdued. It could potentially result in an unsustainable asset price build-up. Capital inflows had resumed and there was already some evidence of excess liquidity feeding through asset prices, with potential financial stability concerns.

III.23 Arguments for deferring reversal of monetary easing were that premature tightening could hurt the growth impulses and that the inflationary pressures were driven by supply-side constraints, particularly food prices, for which monetary policy is typically not an efficient instrument of control. Moreover, tightening ahead of other economies and consequent widening of interest rate differential with the rest of the world entailed the risk of incentivising larger capital flows, with attendant costs to the economy in terms of exchange rate appreciation, larger systemic liquidity and fiscal costs of sterilisation.

III.24 The precise challenge for the Reserve Bank was to support the recovery process without compromising price stability. The Reserve Bank began the first phase of exit in October 2009. Most of the non-conventional monetary policy measures were terminated, which included some sector-specific liquidity facilities provided during the crisis. The statutory liquidity ratio (SLR) of banks was restored to its pre-crisis level of 25 per cent of net demand and time liabilities (NDTL). Further, on account of growing evidence of excess liquidity feeding through asset prices, with potential financial stability concerns, the provisioning requirement for advances to the commercial real estate sector classified as ‘standard assets’ was increased from 0.4 per cent to 1.0 per cent.

Third Quarter Review 2009-10

III.25 By January 2010, there were clear signs of the global economy stabilising while the domestic growth signals pointed towards a consolidation of the recovery process. The indicators of real sector activity suggested that the upside bias to growth highlighted in the First/Second Quarter Reviews had materialised. Hence, the baseline projection for GDP growth for 2009-10 was revised upwards to 7.5 per cent, assuming a near zero growth in agricultural production and continued recovery in industrial production and services sector activity.

III.26 On the prices front, there were incipient signs of the sustained increase in food prices beginning to spill over to other commodities and services as well. The Review noted that with growth accelerating, capacity constraints could potentially reinforce supply-side inflationary pressures. It also highlighted the limited scope imports provided to contain domestic food prices as global commodity prices were showing signs of firming up, with prices of some being higher than the prices prevailing in India. The baseline projection for WPI inflation for March 2010 was raised to 8.5 per cent.

III.27 With the government borrowing programme almost completed and with adequate liquidity in the system to meet the anticipated increase in credit demand from the commercial sector, the indicative M_3 growth and adjusted non-food credit projections were revised downwards to 16.5 per cent and 16.0 per cent, respectively.

III.28 With clear signs that the recovery was consolidating, the policy stance changed from 'managing the recovery' to 'containing inflation and inflationary expectations'. In particular, it was felt that main policy instruments were at levels more consistent with a crisis situation than with a fast-recovering economy and it was imperative to carry forward the process of exit from an accommodative policy stance. Accordingly, the CRR was increased by 75 basis points to absorb a part of the excess liquidity from the system (about ₹36,000 crore).

Mid-cycle Measures in March 2010

III.29 Headline WPI inflation on a year-on-year basis overshot the Reserve Bank's baseline projection for year-end inflation to reach 9.9 per cent (provisional) in February 2010. The rate of increase in the prices of non-food manufactured goods accelerated quite sharply. Furthermore, increasing capacity utilisation and rising commodity and energy prices were exerting pressure on the overall inflation. Taken together, these factors were seen to heighten the risks of supply-side pressures translating into a generalised inflationary process. The Reserve Bank increased the repo rate and reverse repo rate under the LAF by 25 basis points each with effect from March 19, 2010, with a view to anchoring inflationary expectations and containing inflation. As liquidity in the banking system was adequate, credit expansion for sustaining the recovery was not expected to be affected.

Monetary Policy Statement 2010-11

III.30 By April 2010, available data suggested that the recovery was firmly in place. There was a sustained increase in bank credit and in the flow of financial resources to the commercial sector from non-bank sources. On balance, under the assumption of a normal monsoon and sustenance of good performance of the industrial and services sectors, the baseline projection of real GDP growth for 2010-11 was placed at 8.0 per cent with an upside bias.

III.31 The Reserve Bank's industrial outlook survey showed that the corporates were increasingly regaining their pricing power in many sectors, raising the possibility of accentuation of demand pressures as the recovery gained further momentum. Further, the inflation expectations of households continued to remain at an elevated level. There were three major uncertainties in formulating the outlook for inflation in 2010-11 – prospects of the monsoon in 2010-11 were not clear, crude prices continued to be volatile and there was evidence of demand side pressures building up. The baseline projection for WPI inflation for March 2011 was placed at 5.5 per cent.

III.32 There was surplus liquidity throughout the year, but the magnitude of the surplus declined towards the end of 2009-10, consistent with the policy stance. Keeping in view the need to balance the resource demand to meet credit offtake by the private sector and government borrowings, M_3 growth and non-food credit growth for 2010-11 were placed at 17.0 per cent and 20.0 per cent, respectively.

III.33 The monetary policy stance for 2010-11 was guided by the following three considerations. First, the need to move in a calibrated manner in the direction of normalising the policy instruments in a scenario where the real policy rates were still negative. Second, the need to ensure that demand side inflation did not become entrenched. Third, the need to balance the monetary policy imperative of absorbing liquidity while ensuring that credit was available to both the government and the private sector. Accordingly, both repo and reverse repo rates as well as CRR were increased by 25 basis points each.

Mid-Cycle Policy Measures in July 2010

III.34 Significant developments took place subsequent to the announcement of the Monetary Policy in April 2010. Though recovery was consolidating, developments on the inflation front raised several concerns. Overall, WPI inflation increased to 10.2 per cent (provisional) in May 2010, up from 9.6 per cent (provisional) in April 2010. Year-on-year WPI non-food manufacturing products inflation, which was (-) 0.4 per cent in November 2009 and 5.4 per cent in March 2010, rose further to 6.6 per cent in May 2010. Year-on-year fuel price inflation also surged. The upward revision in administered fuel prices on June 25, 2010 was also expected to influence inflation in months ahead. Accordingly, the repo rate and the reverse repo rate under the LAF were increased by 25 basis points each on July 2, 2010.

First Quarter Review 2010-11

III.35 The dominant concern that shaped the monetary policy stance in the First Quarter Review was high inflation. Even as food price inflation and, more generally, consumer price inflation showed some moderation, they were still in double digits. Non-food inflation rose and demand-side pressures were clearly evident. In view of consolidating and more broad-based domestic recovery, the First Quarter Review revised upward the baseline projection of real GDP growth for the year to 8.5 per cent. The baseline projection for WPI inflation for March 2011 was raised to 6.0 per cent. Consistent with this assessment, the repo rate was hiked by 25 basis points and the reverse repo rate by 50 basis points. The monetary policy actions were intended to moderate inflation by reining in demand pressures and inflationary expectations, maintain financial conditions conducive to sustaining growth, generate liquidity conditions consistent with more effective transmission of policy actions and reduce the volatility of short-term rates in a narrower corridor.

III.36 Given the context of the changing liquidity dynamics, particularly between surplus and deficit modes, it was proposed to set up a Working Group to review the current operating procedure of monetary policy of the Reserve Bank, including the LAF. It was also announced that mid-quarter reviews of Monetary Policy would be done in June, September, December and March.

Overall Assessment

III.37 The process of exit from monetary expansion in India has been relatively smooth on account of the fact that there was no undue expansion of the Reserve Bank's balance sheet or deterioration in its quality. The Reserve Bank's calibrated approach to exit since October 2009 ensured that there was adequate liquidity available in the system, so that even while it addressed concerns regarding price stability, the recovery process was not hampered. On balancing the policy priorities during the exit phase, it had become important to raise the policy rates to the neutral levels in a calibrated manner, in view of the altered growth-inflation mix by the end of 2009-10 (Box III.2).

LIQUIDITY MANAGEMENT

III.38 In 2009-10, the Reserve Bank continued its policy of maintaining appropriate liquidity in the system so that all legitimate credit requirements for productive purposes were met, consistent with

Box III.2
Neutral Policy Rate

"Neutral interest rate", as a concept, generally refers to the level of interest rate at which monetary policy stance is neither expansionary nor contractionary. Policy stance can be deemed "neutral" when the real interest rate reaches a level that is consistent with full employment of resources over the medium-term, and hence full capacity output and price stability. The concept of natural rate of interest was first introduced into economics by the Swedish economist Knut Wicksell in 1898. This rate, theoretically, essentially relates to: (i) the rate of interest that equates saving with investment; (ii) the marginal productivity of capital, and (iii) the rate of interest that is consistent with aggregate price stability. Although natural and neutral rates of interest are used interchangeably, there are major conceptual differences between the two. Moreover, while the former emerges in the market and is not directly observable, the latter essentially is an empirical approximation used in practice for conduct of monetary policy. Thus, the neutral rate of interest is useful as an important benchmark for the actual conduct of monetary policy and also market analysis of monetary policy stance.

In recent years, the need for reliable estimates of the neutral rate has often been highlighted to guide the conduct of monetary policy. Since most central banks formulate monetary policy by setting a target for a short-term nominal interest rate (typically an overnight money market rate), the neutral rate provides a convenient benchmark against which policy rates can be measured. Moreover, the resurgence of interest in the neutral rate is also largely due to the significant progress that has been made in developing dynamic general equilibrium models, *i.e.*, new Keynesian models or the neo-Wicksellian framework with nominal rigidities based on the optimising behaviour of the private sector. In this class of models, the neutral rate plays a key role in output and inflation fluctuations. In the context of the global crisis, when policy rates were lowered significantly by the central banks and in the subsequent discussions on the time and speed of monetary exit, reference to the neutral rate has increased significantly.

It is important to recognise that the neutral rate of interest can change for several reasons. First, it could change in response to anything that affects long-term saving and investment patterns. Factors such as demography, fiscal situation, time preference of consumers between current and future consumption and technological changes could raise or lower the neutral interest rate. Second, the neutral rate could be influenced by globalisation in many ways; domestic output and inflation conditions do get conditioned by global developments. After the global crisis, uncertainties about the potential output path in the advanced economies have increased, and some have even suggested higher inflation targets for these economies. In the absence of clarity about potential output and inflation rate that have bearing on the policy target, estimating a neutral rate could be even more challenging.

The neutral rate of interest, thus, as a theoretical construct, is often viewed as unobservable and difficult to estimate. Overall, neutral rate estimates are characterised by a significant extent of uncertainty. These estimates are sensitive to the choice of statistical methods, which further obscures the ability to measure the neutral rate of interest accurately. A few analysts have estimated repo rate of 6.5 per cent as a neutral rate for India. A recent study (Singh, 2010) used a Taylor rule type specification which suggests that the neutral weighted average call rate for India could be 7.0 per cent. The study covered the period 1989-2009, and hence used call rate rather than repo or reverse repo rates, data on which are available only from 2000. Since the call rate effectively is the operating target within the LAF corridor, and because the transmission from policy rate changes to call rates has been effective, a neutral rate approximated in terms of the call rate over a medium-term horizon provides a broad reference point for assessing the stance of monetary policy.

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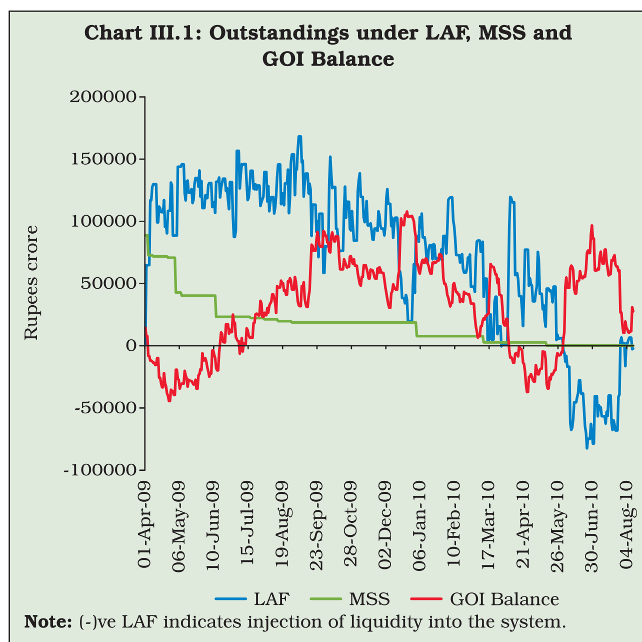
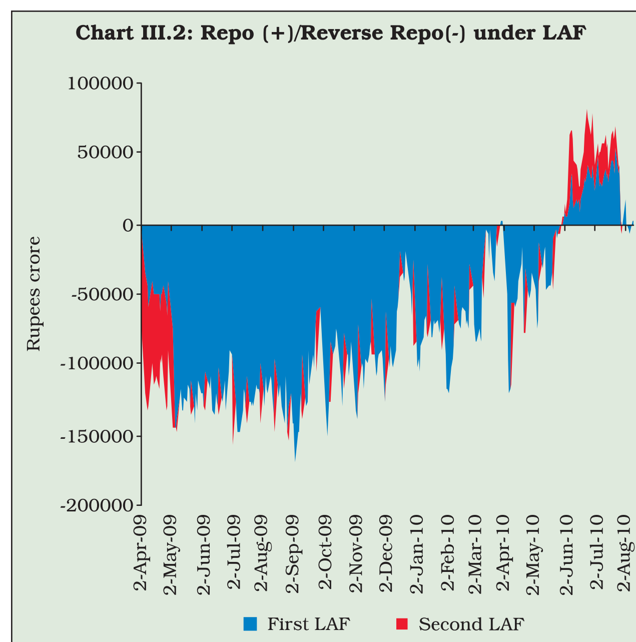
the objective of price and financial stability. The management of liquidity was achieved through appropriate use of OMO, MSS, LAF and a slew of special facilities. The intra-year dynamics of liquidity conditions reflected the calibrated policy response to the evolving macroeconomic and financial market environment, interspersed with the impact of quarterly advance tax outflows. The inter-bank liquidity conditions remained in the surplus mode, with average daily LAF absorption being around ₹1,00,000 crore during 2009-10 (Chart III.1).





III.39 Liquidity conditions eased significantly during the first half of 2009-10, mainly reflecting the MSS unwinding and OMO. In order to ensure smooth government market borrowing, the Reserve Bank expressed its intention to purchase government securities amounting to ₹80,000 crore under the OMO programme for the first half of 2009-10. The surplus liquidity in the system was reflected in the large absorption through the LAF window. On a review of the liquidity conditions, it was decided to conduct only one LAF on a daily basis with effect from May 6, 2009, and conduct the second LAF (SLAF) only on reporting Fridays.

III.40 The daily absorption under the LAF which reached an intra-year peak (₹1,68,215 crore) on September 4, 2009, moderated somewhat during the second half of September 2009, reflecting significant outflows on account of advance tax payments (Chart III.2). The Reserve Bank purchased government securities amounting to ₹57,487 crore through the auction route during the first half of 2009-10, whereas MSS unwinding (including de-sequestering of ₹28,000 crore on May 2, 2009) was placed at around ₹70,000 crore over this period.

III.41 For the second half of 2009-10, the Reserve Bank decided to conduct OMO as and when necessary. Keeping in view the pattern of actual utilisation of various special facilities and the liquidity conditions prevailing in the market, the special term repo facility and the forex swap facility for banks were discontinued. Reflecting these developments as well as the seasonal uptick in currency demand, the daily absorption under the LAF began moderating during the second half of 2009-10 even as liquidity conditions continued to remain comfortable. While MSS redemptions (₹11,036 crore) were relatively lower, no OMO auction was conducted during the second half of 2009-10. Following the CRR hike in February 2010, the surplus liquidity declined further. Moreover, quarterly advance tax outflows from the banking system more than offset the impact of de-sequestering of ₹5,000 crore of MSS balances on March 11, 2010. With a view to addressing the year-end liquidity requirements, the Reserve Bank conducted additional LAF operations on March 30 and 31, 2010.

III.42 The average daily liquidity absorption through the LAF increased to ₹57,150 crore in April 2010, mainly on account of decline in the cash balances of the Central Government. In 2010-11, liquidity conditions continued to remain in a surplus mode up to end-May 2010. Towards the end of

May, there were temporary liquidity pressures arising out of increase in government balances due to receipts from 3G spectrum auctions, and further increased in mid-June on account of quarterly advance tax payments and broadband wireless access auction receipts. On May 26, 2010, the Reserve Bank announced access to additional liquidity to SCBs under the LAF (to the extent of up to 0.5 per cent of their NDTL) and the SLAF on a daily basis. These *ad hoc* measures were made available up to July 16, 2010, and July 30, 2010, respectively.

III.43 In the second half of 2009-10 and thereafter, even though policy-driven moderation in the magnitude of surplus liquidity was undertaken for containing inflation, active liquidity management was necessary for avoiding disruptions in financial markets as also for meeting the growing demand for credit from the private sector in the face of a large government borrowing programme. The Reserve Bank's calibrated actions to absorb surplus liquidity from October 2009 onwards were reinforced by market conditions, which evolved in early June 2010. The prevailing market conditions indicated that while liquidity pressures witnessed in June and July 2010 would ease, the system was likely to remain in deficit mode with the repo rate as the operating policy rate.

III.44 In sum, the monetary and liquidity management operations of the Reserve Bank during the year reflected the changing growth and inflation conditions as well as the need for non-disruptive financing of the government borrowing programme. The monetary policy stance remained accommodative in the first half of the year, pursuing the dominant goal of faster recovery. In the second half, the inflation outlook warranted beginning of the monetary policy exit, and calibrating of the actual conduct of policies aimed at balancing the concerns relating to self-sustaining recovery and high generalised inflation. The overall liquidity conditions remained in surplus throughout 2009-10, even though there was policy-driven moderation in the magnitude of the surplus by the end of the year, which was felt necessary for containing adverse inflationary expectations.

IV CREDIT DELIVERY AND FINANCIAL INCLUSION

Ensuring adequate flow of credit to agriculture, micro, small and medium enterprises and the export sector has been a policy thrust for achieving the objective of sustainable and inclusive economic growth. Accordingly, strengthening credit delivery mechanisms for these sectors is a priority concern of the Reserve Bank. In the wake of the global crisis, a number of measures were taken to facilitate credit delivery and thereby contain the adverse impact on small and medium enterprises as well as exports. At the aggregate level, financial inclusion provides an avenue for bringing the savings of the poor into the safer formal financial intermediation system, besides offering credit and products that could enhance their income and also help in meeting non-economic needs. During 2009-10, which was the Platinum Jubilee year of the Reserve Bank, outreach programmes were organised to raise the level of penetration of the financial system in remote unbanked areas. By promoting growth with equity, financial inclusion initiatives have consistently striven to enhance the contribution of the financial system to meet the diverse needs of the large segment of the population at the lower strata of the society so as to bring them from the margin to the mainstream.

IV.1 The primary objective of credit delivery is enabling access to financial products and services from mainstream financial institutions for productive and needy sectors of the economy. This requires creating a conducive environment for banks to provide adequate and timely finance at reasonable rates. Such an environment could be created either through incentives for banks or through specific regulations that are designed by intention to attain the objective of economic development. India faces the daunting challenge of stepping up the growth potential by bringing the financially excluded within the ambit of the formal financial system, providing financial literacy and strengthening credit delivery mechanisms which, in turn, could improve the distribution of the benefits of high growth. Various initiatives taken in this area include encouraging diverse forms of provision of lending such as self-help groups (SHGs), micro finance institutions (MFIs) and enhancing the scope of the business correspondent (BC) model; improving credit delivery procedures in respect of micro and small enterprises (MSEs); and encouraging adoption of information and communication technology (ICT) solutions to bolster both credit delivery and financial inclusion.

IV.2 Since financial inclusion entails bringing new customers with no credit history into the fold of mainstream banking, banks would have to cultivate innovative risk management approaches. The proposed unique identity numbers (*Aadhaar* numbers) are expected to help in bringing the financially excluded within the formal banking sector fold by enhancing information about the customers.

PRIORITY SECTOR LENDING

IV.3 Although different categories of banks had achieved the overall target for priority sector lending as on the last reporting Friday of March 2010, three out of 27 public sector banks, two out of 22 private sector banks and four out of 28 foreign banks had not achieved the priority sector lending targets of 40 per cent and 32 per cent, respectively (Table IV.1).

IV.4 The domestic SCBs, which fail to achieve the priority sector/agriculture lending targets/sub-targets, are mandated to deposit into the RIDF such

Table IV.1: Priority Sector Advances

(Amount in Rupees crore)

As on the Last Reporting Friday	Public Sector Banks	Private Sector Banks	Foreign Banks
1	2	3	4
March 2009	7,20,083	1,90,207	55,483
	(42.5)	(46.8)	(34.2)
March 2010	8,64,564	2,15,552	60,290
	(41.7)	(46.0)	(35.1)

Note: 1. Figures in brackets are percentages to ANBC or credit equivalent of OBE, whichever are higher, in the respective groups.

2. The target for aggregate advances to the priority sector is 40 per cent of the ANBC or credit equivalent of OBE, whichever is higher, for domestic banks and 32 per cent for foreign banks.

amounts as may be assigned by the Reserve Bank. The Fund has so far completed fifteen years of operation. The Union Budget for 2010-11 had announced that RIDF XVI (corpus of ₹16,000 crore), MSME (Refinance) Fund (corpus of ₹4,000 crore) and Rural Housing Fund (corpus of ₹2,000 crore) would be set with NABARD, SIDBI and NHB, respectively, during the year.

Flow of Credit to Agriculture Sector

IV.5 The Government had set the agriculture credit flow target for 2009-10 at ₹3,25,000 crore. Banks, including co-operative banks and RRBs, met 112.9 per cent of the target by March 2010. The disbursement by public sector banks to agriculture under the Special Agricultural Credit Plan (SACP) was ₹90,023 crore between April-September 2009, against the target of ₹2,01,710 crore for the year, while disbursement by private sector banks was ₹30,092 crore, against the target of ₹62,352 crore. The recovery rate of direct agriculture advances improved marginally during the year ended June 2009 (Table IV.2).

IV.6 During 2009-10 public sector banks issued 53,13,085 Kisan Credit Cards (KCCs) for an amount of ₹39,940 crore. Since inception of the scheme, public sector banks had issued 42.4 million KCCs for an amount of ₹2,33,190 crore, by March 2010.

Table IV.2: Recovery of Direct Agriculture Advances

(Amount in Rupees crore)

Year ended June	Demand	Recovery	Overdues	Per cent of Recovery to Demand
1	2	3	4	5
2008	95,100	71,739	23,361	75.4
2009	1,19,084	90,660	28,424	76.1

IV.7 During 2009-10, the government provided: (i) Interest subvention of 2 per cent per annum to public sector banks in respect of short-term production related credit up to ₹3 lakh provided to farmers. This subvention was made available condition/precedent that short-term credit at ground level was extended at 7 per cent per annum; and (ii) Additional interest subvention of 1 per cent per annum to public sector banks in respect of those farmers who repaid their short-term production credit within one year of disbursement of such loans, so that the effective rate of interest for such farmers was 6 per cent per annum. In the Union Budget for 2010-11, the additional subvention for farmers who repaid loans promptly was enhanced to 2 per cent per annum, thereby, reducing the effective rate of interest payable to 5 per cent per annum. Apart from the interest subvention scheme of the Union Government, several state governments have also extended additional interest subvention on agricultural loans in their respective states.

IV.8 Since inception of the scheme, the government has released ₹40,000 crore to the Reserve Bank for reimbursement under the Agricultural Debt Waiver and Debt Relief Scheme, 2008. Of this, ₹28,000 crore was passed on to NABARD for reimbursement to RRBs and co-operative banks and the remaining amount was utilised for reimbursing SCBs, local area banks and urban co-operative banks (UCBs).

IV.9 The Raghuram Rajan Committee on Financial Sector Reforms had, *inter alia*, recommended introduction of "priority sector lending certificates (PSLCs)" to be purchased by the commercial banks which failed to achieve the priority sector lending target/sub-targets. A Working

Group was set up (Chairman: Shri V.K. Sharma) to examine the issues involved in the introduction of PSLCs and make suitable recommendations. The terms of reference of the Group include, among others, to make suitable recommendations on introduction of PSLCs and their trading in the open market and to examine pros and cons of inclusion of bank lending to MFIs under priority sector lending. The Working Group is expected to submit its Report shortly.

Flow of Credit to Micro, Small and Medium Enterprises (MSMEs)

IV.10 A High Level Task Force (Chairman: Shri T.K.A. Nair) was constituted to consider various issues raised by micro, small and medium enterprises (MSMEs). The Task Force recommended several measures having a bearing on the functioning of MSMEs, *viz.*, credit, marketing, labour, exit policy, infrastructure/ technology/skill development and taxation. All SCBs were advised: (i) to achieve a 20 per cent year-on-year growth in credit to MSEs to ensure enhanced credit flow; (ii) to achieve a 10 per cent annual growth in the number of micro enterprise accounts; (iii) the allocation of 60 per cent of the advances to the micro enterprises is to be achieved in stages, *viz.*, 50 per cent in 2010-11, 55 per cent in 2011-12 and 60 per cent in 2012-13; and (iv) to open more MSE-focussed branch offices at different MSE clusters which could also act as counselling centres for MSEs. Each lead bank of a district could adopt at least one MSE cluster.

IV.11 Considering the criticality of MSEs for employment generation necessary for inclusive and equitable growth and larger economic empowerment, the Working Group to review the credit guarantee scheme of the Credit Guarantee Fund Trust for Micro and Small Enterprises (Chairman: Shri V. K. Sharma) recommended the mandatory doubling of the limit for collateral-free loans to MSEs to ₹10 lakh. This was advised to banks, while also urging them to encourage their branch-level functionaries to avail of credit guarantee scheme cover, including making performance in this regard a criterion in the evaluation of their field staff.

IV.12 The Working Group on Rehabilitation of Sick SMEs (Chairman: Dr. K.C. Chakrabarty) made several recommendations pertaining to the rehabilitation of sick SMEs, credit flow to the SME sector and other developmental issues. While the recommendations relating to the Government of India, state governments and SIDBI have been forwarded to them for necessary action, guidelines have been issued to banks advising them to formulate a Board-approved dedicated loan policy on MSEs, and an appropriate rehabilitation/ restructuring and non-discretionary "one-time settlement scheme" (OTS) for the distressed units taking into account the recommendations of the Committee.

IV.13 All SCBs were advised to furnish an Action Taken Report regarding the implementation of the OTS policy, restructuring/ rehabilitation policy and loan policy as advised to them in May 2009. They were also advised to give wide publicity to the OTS scheme for recovery of loans in the MSE sector on their websites. Till June 2010, 39 SCBs (including public and private sector banks) had displayed the publicity material relating to OTS policy on their respective websites. Reflecting the revival in demand conditions, in 2009-10, the total credit to MSEs from the SCBs increased at more than double the rate of the previous year (Table IV.3).

Table IV.3: Credit to MSE Sector by SCBs

As on the last Friday of March	Outstanding Credit to the MSE Sector		MSE/ SSI Credit as per cent of ANBC
	Number of Accounts (in million)	Amount (₹crore)	
1	2	3	4
2009	4.85	2,56,128 (19.9)	11.3
2010*	8.73	3,64,001 (42.1)	13.4

* : Data are provisional.

Note: Figures in parentheses indicate per cent growth in credit over previous year.

IV.14 Advances to minority communities were ₹1,06,812 crore as on September 30, 2009, forming 11.4 per cent of the priority sector advances as against ₹96,802 crore (10.6 per cent of the priority sector advances) as on March 31, 2009.

FINANCIAL INCLUSION

IV.15 Financial inclusion is the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner from mainstream institutional players.

IV.16 The High Level Committee to review the Lead Bank Scheme (Chairperson: Smt. Usha Thorat) submitted its report in August 2009. The Committee, *inter-alia*, had envisaged a greater role for the state governments to support the initiatives of banks for greater financial inclusion and flow of credit to the priority sectors. In this regard, it recommended that, among others, the state governments support the financial literacy and credit counselling initiatives, adopt IT solutions for disbursal of payments under the NREGA and social security payments such as National Old Age Pension Scheme, bring in participation of private sector banks in various government sponsored schemes and strengthen various fora under the scheme at the state/district levels. Comprehensive guidelines on the implementation of the recommendations were issued to State Level Bankers Committee (SLBC) convenor banks and lead banks. The lead banks were advised to constitute a sub-committee of District Consultative Committees to draw a roadmap by March 2010 to provide banking services through a banking outlet in every village having a population of over 2,000. The banking services could be provided through any of the various forms of ICT-based models (such as BCs) and not necessarily through a brick and mortar branch.

IV.17 The Annual Policy Statement for 2010-11 noted the need for better understanding of the functioning of grassroot level rural co-operatives as they have potential to play an important role in financial inclusion. These include primary agricultural credit societies (PACS), large *adivasi* multi-purpose co-operative societies (LAMPS), farmers' service societies (FSS), as also thrift and credit co-operatives set up under the parallel Self-Reliant Co-operative Societies Acts in some states. For the purpose, it has been decided that a detailed study of the working of select (about 200) well-functioning rural co-operatives across the country would be carried out by the Reserve Bank in association with NABARD and state governments. It is intended to gain insights into the operations of these bodies with reference to their membership profile, management structure, range of services offered, savings mobilised from members/non-members, percentage of non-borrower members, credit extended to tenant farmers, oral lessees and agricultural labourers, women, in order to gauge their strength and potential as effective vehicles of financial inclusion. The work of identification of rural co-operatives for the study is in progress.

IV.18 The BC model was comprehensively reviewed by a Working Group and based on the recommendations of the Group, in November 2009 banks were permitted to engage the following additional entities as BCs (a) individual *kirana*/ medical/fair price shop owners, (b) individual Public Call Office operators, (c) agents of small saving schemes of Government of India/insurance companies, (d) individuals who owned petrol pumps, (e) retired teachers, (f) authorised functionaries of well-run SHGs linked to banks. Further, with a view to ensuring viability of the BC model, banks (not BCs) were permitted to collect reasonable service charges from the customer, in a transparent manner. In April 2010, the BC ambit was further widened by permitting banks to engage any individual as BC, subject to their comfort level and their carrying out due diligence, as also instituting additional safeguards considered appropriate to minimise agency risks.

IV.19 All domestic SCBs were advised in January 2010 to draw up specific Board-approved Financial Inclusion Plans (FIP) by March 2010

incorporating certain basic minimum qualitative features and quantitative indicators with a view to rolling them out over the next three years. Banks were advised that financial inclusion should be an integral part of their business plans and performance under financial inclusion should be incorporated in the performance evaluation parameters of field staff. The FIPs are expected to, *inter alia*, cover the status of implementation of core banking solutions (CBS) at the rural branches, position of CBS implementation in the RRBs sponsored by the commercial banks, technology solutions for reaching out to the hitherto unbanked and under-banked areas and strategy for employing BCs. The plan should furnish the position regarding the types of products and services offered, extent of coverage of villages through the brick and mortar branch model as well as through the BC model/ others. It should outline the strategies of the bank to cover the urban centres as also to adapt to the solutions being proposed by the Unique Identification Authority of India. The names of the villages covered by the banks are to be put on the respective bank's website. The FIP is to indicate the monitoring mechanism for reviewing the progress in implementation of the plans. The Reserve Bank has been holding meetings with the banks to review the FIPs prepared by them. Banks have been asked to submit revised FIPs based on the discussions held in these meetings. The progress in implementation of FIPs by the banks would be monitored on a quarterly basis by the Reserve Bank.

IV.20 Based on the recommendations of the "Committee on Financial Inclusion" set up by the Government of India (Chairman: Dr. C. Rangarajan), two funds, namely the "Financial Inclusion Fund" for meeting the cost of developmental and promotional interventions for ensuring financial inclusion, and the "Financial Inclusion Technology Fund", to meet the cost of technology adoption were set up with NABARD, with an overall corpus of ₹500 crore each. In the Union Budget for 2010-11, the corpus of these funds was enhanced by ₹100 crore each.

IV.21 Since inception in November 2005, 50.6 million 'no frills accounts' have been opened by banks by March 2010, with outstanding balance of ₹5,386 crore. In 2009-10, banks were advised to provide small overdrafts in such accounts. By March 2010, banks had provided 0.18 million overdrafts amounting to ₹28 crore. General-purpose credit cards (GCCs) offered by banks at their rural and semi-urban braches are in the nature of revolving credit, entitling the holder to withdraw up to the limit sanctioned (₹25,000). By March 2010, banks had provided credit aggregating ₹635 crore in 3.5 million GCC accounts.

IV.22 To improve banking penetration in the north-east, the Reserve Bank asked the state governments and banks to identify centres where there was a need for setting up either full-fledged branches or those offering foreign exchange facilities, handling government business or for meeting currency requirements. It also offered to fund the capital and running costs for five years, provided the state government concerned was willing to make available the premises and put in place appropriate security arrangements. In Meghalaya, eight centres have been allotted to three public sector banks, following a bidding process. The Reserve Bank is in the process of extending the special dispensation scheme to other states in the north-east region which have finalised the list of identified centres, *viz*., Tripura (5), Arunanchal Pradesh (12), Manipur (11) and Nagaland (6).

IV.23 The Reserve Bank had introduced a scheme in 2008 to quicken the pace of adoption of electronic benefit transfer (EBT) mechanism by banks and roll out the EBT system in the states that were ready to adopt the scheme. As per the scheme, the Reserve Bank partially reimbursed the banks the cost of opening accounts with bio-metric access (through which payment of social security benefits, payments under NREGA and other government benefit programmes would be routed) at the rate of ₹50 per account. The incentive package was dependent on the state governments

agreeing to pay to the transacting banks a mutually agreed transaction fee. The scheme closed on June 30, 2010.

IV.24 Each SLBC convenor bank has been asked to set up a credit counselling centre in one district as a pilot, and extend it to all other districts in due course. A model scheme on financial literacy and credit counselling centres (FLCCs) was formulated and communicated to all SCBs and RRBs with the advice to set up the centres as distinct entities, maintaining an arm's length from the bank, so that the FLCCs' services were available to even other banks' customers in the district. Up to March 2010, banks had reported setting up 135 credit counselling centres in various states of the country.

Outreach Activities

IV.25 The outreach activities were the flagship event of the Platinum Jubilee year celebrations of the Reserve Bank. The outreach events across the country were chosen to further financial inclusion, with particular focus on financial education and literacy. An important aspect of the outreach activities was making the Banking Ombudsman an integral part of the activities so that there could be spot redressal of some of the grievances. During the outreach visits, information was disseminated through lectures, demonstrations, interactions, skits, posters, short films, pamphlets, comic books, displays and computers. Quiz programmes and essay competitions, exchange of notes and coins were organised. The target groups included students, SHG members, villagers, farmers, NGOs, bankers, government employees, senior citizens, housewives, *panchayat* members, rag pickers, daily wage earners and defence personnel. The top management of the Reserve Bank participated in 40 outreach programmes organised in remote unbanked villages across the country during 2009-10 (also see Box X.1).

IV.26 Out of the 167 villages identified for transformation into 'model villages', 160 are unbanked. A total of 130 BCs/business facilitators (BFs) were appointed covering 111 villages, while ICT-based financial inclusion was initiated in 88 villages by issue of 26,850 smart cards covering 59.6 per cent households in the villages. Of the 88 villages, 33 have achieved 100 per cent BC-ICT based financial inclusion.

IV.27 The outreach programmes provided an opportunity to the Reserve Bank to understand how grassroot organisations such as SHGs, MFIs, NGOs, rural co-operatives and RRBs work to bring about development in the remote unbanked villages. This platform also gave an opportunity to disseminate information about the functions of the Reserve Bank to the rural masses across the country. The involvement of all cadres of staff of the Reserve Bank in organising these activities and interacting with common public in large numbers has increased the sense of responsibility of the staff to deliver better and efficient services to the general public, while banks used this platform to identify new business opportunities in rural areas and also for the development of customised products.

IV.28 It has been decided by the Top Management to continue the outreach activities. In particular, Regional Directors would undertake atleast three outreach visits in the year 2010-11 and the Top Management would participate in at least one of them. Selection of villages was left to the discretion of the Regional Directors, subject to the fulfillment of guidelines and parameters prescribed for outreach activities. Accordingly, the Regional Directors have selected villages for future outreach activities for achieving 100 per cent sustainable BC-ICT based financial inclusion.

EXPORT CREDIT

IV.29 In the wake of the global crisis and the problems being faced by exporters, the Reserve Bank had reduced the interest rate ceiling to 250 basis points below BPLR on pre-shipment rupee export credit up to 270 days and post-shipment rupee export credit up to 180 days. This was available up to June 30, 2010. On top of this, the Government of India extended interest rate subvention of 2 per cent (from December 1, 2008

to March 31, 2010) on pre- and post-shipment rupee export credit, for certain employment-oriented export sectors such as handicrafts, carpets, handlooms and small and medium enterprises. Hence, banks were not to charge interest rates exceeding BPLR minus 4.5 per cent on pre-shipment credit up to 270 days and post-shipment credit up to 180 days on the outstanding amount to the above-mentioned sectors. The total subvention was, however, subject to the condition that the interest rate, after subvention, was not below 7.0 per cent, *i.e.*, the rate applicable to the agriculture sector under priority sector lending. The Union Budget for 2010-11 extended the 2 per cent interest rate subvention to the select sectors up to March 31, 2011. In April 2010, the Reserve Bank deregulated the interest rate on rupee export credit with effect from July 1, 2010 and stipulated that the interest rate on rupee export credit could be priced at or above the base rate.

IV.30 The Reserve Bank has clarified that, in the case of interest rate subvention given by government to rupee export credit, banks will have to reduce the interest rate chargeable to exporters by the amount of subvention available. If, as a consequence, the interest rate charged to exporters goes below the base rate, such lending would not be construed as violative of the base rate guidelines. On August 9, 2010, the interest rate subvention scheme was further extended to leather and leather manufacturers, jute manufacturing including floor covering, engineering goods and textiles for the period from April 1, 2010 to March 31, 2011.

IV.31 With significant improvement in the international capital market in the recent period, the Reserve Bank reduced the interest rate ceiling on foreign currency export credit from LIBOR plus 350 basis points to LIBOR plus 200 basis points on February 19, 2010. Correspondingly, the interest rate on the overseas lines of credit borrowing by banks for the purpose of granting foreign currency credit to exporters was reduced from 6-month LIBOR plus 150 basis points to 6-month LIBOR plus 100 basis points.

IV.32 On balance, ensuring credit at affordable price and furthering financial inclusion are cherished objectives. The Reserve Bank recognises that financial regulation and financial inclusion cannot be at cross-purposes. For sustenance of the efforts directed at financial inclusion, the delivery models need to be viable. The introduction of the base rate and the concomitant removal of interest rate ceiling on small loans and freeing of rupee export credit interest rate is expected to enhance the allocative efficiency of the financial intermediation process by banks, while also promoting financial inclusion. The interest rate deregulation would enable greater flow of credit to agriculture and small businesses. As a regulator, the Reserve Bank emphasises transparency, customer education/awareness and effective grievance redressal systems.

V DEVELOPMENT AND REGULATION OF FINANCIAL MARKETS

The financial markets functioned smoothly during 2009-10 reflecting the stabilising operations of the Reserve Bank in various segments of the markets as also the sound regulatory framework put in place prior to the global crisis. During the year, with stronger recovery in growth and normal market conditions, market development regained policy emphasis. Regulatory measures initiated were aimed at deepening and strengthening the markets, offering new products, improving transparency and enhancing liquidity. In the money market, a reporting platform for CDs and CPs was introduced with a view to promoting transparency; repo transactions in corporate bonds were allowed to promote liquidity in the corporate bond market and guidelines for accounting of repo/ reverse repo transactions were revised to reflect their true economic sense and enhance transparency. In the government securities markets, measures were undertaken to improve the efficiency of the auction procedure. With a view to further deepening the government securities market, the ready forward facility was extended to unlisted companies which have been issued special securities by the government. The initiatives in the foreign exchange market included rolling back of certain measures taken in response to the global crisis and continuation of the gradual liberalisation of the capital account.

V.1 The global financial crisis widely demonstrated the fault lines in different regulatory structures of countries, whether in the form of multiple regulators with either overlapping jurisdictions or clear separation of roles, or in the form of inadequate coordination mechanism among regulators to ensure systemic stability. The Indian financial system was relatively unscathed by the crisis as its exposure to the stressed/ troubled assets was low and more importantly, India has been following a calibrated approach towards financial sector reforms. Financial stability has been explicitly recognised as a key objective of the Reserve Bank. All the deposit taking entities have been clearly covered under regulatory ambits, while the OTC derivative market is also well regulated, unlike in most other countries. During 2009-10, while the global economic conditions stabilised, India along with several other emerging market economies led the global economic recovery. Reflective of these conditions, Indian financial markets remained stable, which in turn helped in managing the recovery.

MONEY MARKET

V.2 The money market is an important segment of the financial market because it not only reflects the impact of liquidity mismatch in the system but also operates as the first leg in transmitting monetary policy changes to the other parts of the financial system. During 2008-09, against the backdrop of global financial crisis, the policy efforts were primarily aimed at ensuring smooth functioning of this market in an environment of global liquidity squeeze. The sustained availability of ample liquidity helped in containing stress levels in this market segments. With recovery in growth and stabilisation of markets in 2009-10, certain regulatory measures were taken aimed at deepening markets, improving transparency and promoting liquidity.

Reporting Platform for Certificates of Deposit (CDs) and Commercial Papers (CPs)

V.3 In order to promote transparency in the secondary market for CDs and CPs, the Reserve Bank has introduced a reporting platform, similar

to corporate bonds platform being operated by FIMMDA, for all secondary market transactions in CDs and CPs. The reporting platform, operationalised by FIMMDA with effect from July 01, 2010, captures and disseminates secondary market transactions in CDs and CPs. The Reserve Bank has mandated all its regulated entities to report their OTC trades in CDs and CPs on the FIMMDA reporting platform. Other regulators *viz.*, SEBI and IRDA have since advised their regulated entities to report all trades in CDs/CPs on this platform.

Repo in Corporate Bonds

V.4 As a measure aimed at development of the corporate bond market, the Reserve Bank permitted repo in corporate bonds from March 1, 2010. All repo trades in corporate bonds have to be reported to the FIMMDA reporting platform for real-time dissemination of price/yield information to the market participants. The repo trades in corporate bonds shall settle through the mechanism available in the case of OTC trades in corporate bonds, *i.e.*, D*v*P-I based settlement through the NSCCL and ICCL. Only listed corporate debt securities which are rated 'AA' or above are eligible securities for repo transactions. SCBs, PDs, NBFCs, AIFIs and other regulated entities are eligible to undertake repo transactions in corporate debt securities. The repo transactions in corporate debt securities would be accounted as borrowing/lending transactions. The participants entering into repo in corporate bonds are required to sign the Global Master Repo Agreement (GMRA) as finalised by the FIMMDA.

Revised Guidelines for Accounting of Repo / Reverse Repo Transactions

V.5 The accounting guidelines on repo/reverse repo transactions issued on March 24, 2003 captured the character of repo/reverse repo transaction as outright sale and outright purchase as per the market convention prevailing then. The Reserve Bank of India (Amendment) Act, 2006 defines 'repo' and 'reverse repo' as instruments for borrowing (lending) funds by selling (purchasing) securities with an agreement to repurchase (resell) the securities on a mutually agreed future date at an agreed price, which includes interest for the funds borrowed (lent). Accordingly, to bring repo/reverse repo transactions onto the balance sheet to reflect their true economic sense and enhance transparency, the accounting guidelines have been reviewed and the revised guidelines came into effect from April 1, 2010. The revised guidelines specify, *inter alia*, that the movement of securities should be accounted for in the books of the counterparties by showing the same as contra entries for the sake of greater transparency.

Regulation of Non-Convertible Debentures (NCDs) of Maturity up to One Year

V.6 In order to address the regulatory gap that existed in the case of issuance of NCDs of maturity up to one year through private placement, the Reserve Bank has issued Directions in terms of section 45W of the RBI (Amendment) Act, 2006 on June 23, 2010. The Directions provide for regulation of the issuance of NCDs of maturity up to one year, which are money market instruments. The Directions are applicable to both secured as well as unsecured NCDs. As per the Directions, NCDs cannot be issued for maturity less than 90 days and cannot have call/put options that are exercisable within 90 days from the date of issue. Issuers of the NCDs need to appoint a Debenture Trustee and all issuances are to be reported to the Reserve Bank. The eligibility criteria, rating requirements, *etc.*, for these NCDs have been prescribed broadly in line with the extant guidelines on issuance of CPs.

GOVERNMENT SECURITIES MARKET

V.7 The government securities market is regarded as the backbone of fixed income securities markets as it provides the benchmark yield and imparts liquidity to the financial system. From the perspective of the Government, a deep

and liquid government securities market facilitates its borrowings from the market at a reasonable cost without incurring rollover risk. For a central bank, a developed government securities market allows greater use of indirect or market based instruments of monetary policy, such as open market operations and repo. Recognising the need for a well developed government securities market, the Reserve Bank, over the years has initiated a series of measures in the government securities market, which include, *inter alia*, market-based price discovery, widening of investor base, introduction of new instruments, establishment of primary dealers and electronic trading and settlement infrastructure.

V.8 During 2008-09, against the backdrop of global financial crisis and the consequent fiscal stimulus package initiated by the government, the market borrowing by the government dominated the activities of the markets. During 2009-10, the borrowing requirements of the government remained high as the fiscal policy stance remained supportive of the recovery. The initiatives regarding development of government securities market during the year were aimed at upgrading the systems, harnessing the developments in technology, ensuring greater transparency, smoothening operating procedures and deepening the market.

Auctions of Government Securities

V.9 The Negotiated Dealing System-Auction platform (NDS-Auction) version 2.0 with capability of handling treasury bill auction was upgraded to conduct the auction of dated securities effective May 13, 2009. In order to improve the efficiency of the auction procedure, the Reserve Bank, in consultation with the Government of India (GoI), has made changes in the manner in which bids are submitted in the auctions of the GoI dated securities and treasury bills, in line with the recommendations of the Working Group on Auction Process of GoI Securities (Chairman: H.R. Khan). These measures include early announcement of the results of the auction and submission of non-competitive bids in electronic form.

Extension of Ready Forward Facility

V.10 Ready forward facility has been permitted by the Reserve Bank in dated securities, treasury bills and state development loans (SDLs) to persons or entities maintaining either a Subsidiary General Ledger (SGL) account or Constituent Subsidiary General Ledger (CSGL) account. With a view to further deepening the government securities market, in addition to the existing categories of eligible entities, unlisted companies, which have been issued special securities by the Government of India and maintain gilt accounts with SCBs, have been permitted to enter into ready forward facility.

Introduction of STRIPS in Government Securities

V.11 The guidelines relating to Separate Trading of Registered Interest and Principal of Securities (STRIPS) in government securities became effective from April 1, 2010. The STRIPS in government securities would ensure availability of sovereign zero coupon bonds, which would lead to the development of a market determined zero coupon yield curve (ZCYC), provide institutional investors with an additional instrument for their asset-liability management, and be attractive to retail/non-institutional investors as they have zero reinvestment risk.

Non-Competitive Bidding for SDLs

V.12 The scheme of non-competitive bidding for state government securities was introduced from the auction held on August 25, 2009. Under this scheme, 10 per cent of the notified amount is reserved for the non-competitive bidders (as against 5 per cent in respect of central government dated securities).

Penalty for SGL Bouncing

V.13 The penalty for subsidiary general ledger (SGL) bouncing has been revised effective July 14, 2010 in the light of the provisions of section 27 and sub-section (3) of section 30 of Government

Securities Act 2006. In terms of the earlier guidelines, if the SGL transfer form bounced three times in a half year, for want of either funds or the securities, the account holder was liable to be debarred from using SGL account facility for a period of six months. After restoration of the facility, if the SGL transfer form bounced again, such account holder was liable to be debarred from using SGL facility. Under the revised guidelines, graded monetary penalties (subject to a maximum penalty of ₹ 5 lakh per instance) are charged for the first nine instances in a financial year while the tenth default would lead to debarment from under taking short sales for the remaining part of the financial year. The permission to undertake short sales shall be restored in the next financial year subject to certain requirements in terms of improved internal controls, *etc*.

FOREIGN EXCHANGE MARKET

V.14 India experienced a resumption of net capital inflows during 2009-10, as witnessed in other emerging market economies (EMEs), driven by the easy liquidity conditions in the global system, low interest rates prevailing in advanced economies and robust growth prospects of the domestic economy. Large and persistent capital flows can potentially jeopardise financial stability as surge in capital inflows in excess of domestic absorptive capacity, could give rise to liquidity overhang, exert upward pressures on exchange rate and overheat asset prices. Further, volatile capital flows are often procyclical, which complicate macroeconomic management. FDI and NRI deposits have been stable components of capital flows in India, while FIIs, ECB, trade credit and banking capital (excluding NRI deposits) remain volatile. Thus, management of capital flows, during episodes of both surges and sudden stops, has been a key challenge for the Reserve Bank.

Current Account

V.15 The Reserve Bank had to continue some of the measures taken during the global crisis to enhance availability of foreign exchange liquidity to avoid disruptions to trade and growth in the initial months of 2009-10. Subsequently however, with stabilisation of global financial markets, easy domestic liquidity and improvement in the trade credit conditions, some of these measures were either scaled down or rolled back. The facility of enhanced export credit refinance limit (from 15 per cent to 50 per cent) provided to the commercial banks by the Reserve Bank was rolled back to the pre-crisis level of 15 per cent on October 27, 2009. The special rupee refinance facility to EXIM Bank was discontinued with effect from April 1, 2010. Further, the swap facility to EXIM Bank has been reduced from USD 1 billion to USD 525 million (the outstanding level as on January 25, 2010), which will be available only up to September 30, 2010. The period of realisation and repatriation to India of the amount representing the full export value of goods or software, which was enhanced from 6 months to 12 months from the date of export initially up to June 2009, however, has been further extended up to March 31, 2011.

V.16 To facilitate transactions and settlements among the Asian Clearing Union (ACU) countries, participants in the ACU have been given the option to settle their transactions either in ACU dollar or in ACU euro, effective January 1, 2009.

Capital Account

V.17 The Reserve Bank pursues a policy of active capital account management in the absence of full capital account convertibility. ECB, as a policy instrument, has been flexibly used during periods of both high capital inflows and sudden reversals. During the global crisis period, ECB norms were liberalised by expanding the list of eligible borrowers, easing all-in-cost ceilings, and allowing relaxations in end-use stipulations. A facility of buyback of FCCBs was made available to the Indian corporates to benefit from asset price corrections in global markets. This facility, initially available up to June 30, 2010, has been extended up to June 30, 2011, under the approval route. Following the improvement in the credit market

conditions and narrowing of credit spreads in the international markets, the relaxation allowed in the all-in-cost ceilings under the approval route for ECB was withdrawn, with effect from January 1, 2010.

V.18 ECB policies were further liberalised to facilitate flow of more external funds to the infrastructure sector to augment the growth potential of the economy. A separate category of NBFCs, *viz*. Infrastructure Finance Companies (IFCs) was introduced for accessing ECB for on-lending to the infrastructure sector. The facility of credit enhancement of raising debt through capital market instruments by entities in the infrastructure sector as also IFCs has been put in place. SEZ developers have been allowed to avail ECB for developing infrastructure facilities within the zones under the approval route. The definition of the infrastructure sector has been expanded by including farm level pre-cooling, for preservation or storage of agricultural and allied produce, marine products and meat, as announced in the Union Budget 2010-11. Corporates engaged in development of integrated township have been permitted to avail of ECB, under the approval route, up to December 31, 2010. Take-out financing has been permitted through ECB under approval route to enhance availability of credit to the infrastructure sector.

V.19 The conversion price norms for FCCBs were relaxed by the government in February 2010, to enable Indian companies to renegotiate the conversion prices, which are substantially in premium even to the current market prices. These measures would facilitate higher conversion ratio and avoid the situation of redemption of bonds, for which many issuers have not provided adequate liquidity. The revision in pricing is, however, subject to approval by the Reserve Bank.

V.20 The process of capital account liberalisation continued in the areas of foreign direct investment, portfolio investment, and overseas investment by Indian corporates, besides further development of forex market. The policy of removal of procedural impediments and anomalies in external transactions was strengthened to make the liberalisation process more meaningful. The guidelines for issue of Indian Depository Receipts (IDRs) have been operationalised since July 2009, thereby enabling foreign companies to mobilise funds directly from the Indian capital market. Now residents can make investments in foreign securities without any limits and going through currency conversion in India. Foreign Institutional Investors (FIIs) registered with the SEBI and the Non-Resident Indians (NRIs) are also allowed to invest, purchase, hold and transfer IDRs.

V.21 FIIs have been permitted to offer domestic government securities as collateral to the recognised stock exchanges in India, in addition to cash and AAA-rated foreign sovereign securities, for their transactions in the cash segment of the market. However, cross-margining of government securities (placed as margins by the FIIs for their transactions in the cash segment of the market) is not allowed between the cash and the derivative segments of the market. The pricing guidelines in respect of issue of shares including preferential allotment and transfer of equity instruments from a resident to a non-resident and *vice versa* have been revised.

V.22 To simplify the procedure, an on-line reporting system for Overseas Direct Investment (ODI) by the Indian parties has been operationalised in a phased manner, with effect from March, 2010. The new system would enable on-line generation of the Unique Identification Number (UIN), acknowledgment of remittance/s and filing of the Annual Performance Reports (APRs) and easy accessibility of data at the AD level for reference purposes.

CORPORATE BOND MARKET

V.23 The absence of an active corporate bond market has generally been perceived as a major hindrance to long term funding of infrastructure projects. In the Indian case, bank finance, coupled with equity markets and external borrowings have been the preferred funding sources for raising of

resources, as compared to the corporate debt market. Public financial institutions and financial intermediaries have been dominant issuers in the corporate debt market although in the recent past, following the lack of access to overseas markets, non-financial sector entities have also been raising funds in this market. Recognising the importance of this market segment and following the recommendations of the High Level Expert Committee on Corporate Bonds and Securitisation (Chairman: Dr. R.H. Patil), a number of steps have been taken in the recent years to address issues related to the primary issuance and smoothen the secondary market trading process for corporate bonds. The efforts to deepen and strengthen this market segment continued in 2009-10.

Settlement of OTC Trades in Corporate Bonds

V.24 In order to facilitate D*v*P based settlement for OTC trades in corporate bonds, the National Securities Clearing Corporation Limited (NSCCL) and the Indian Clearing Corporation Limited (ICCL) have been permitted to open transitory pooling accounts with the Reserve Bank of India, Mumbai. The buyers of the securities can transfer funds from their bank accounts to this account under RTGS to settle OTC trades in corporate bonds on a D*v*P-I (*i.e.,* on a trade-by-trade) basis. The clearing house thereafter transfers the securities from the seller's account to the buyer's account and effects the release of funds from the transitory account to the seller's account. Accordingly, all Reserve Bank regulated entities have been mandated to clear and settle their OTC trades in corporate bonds through the NSCCL or ICCL under the above arrangement, with effect from December 1, 2009.

DERIVATIVES MARKET

V.25 In the pre-global crisis period, derivatives were viewed as important instruments of price discovery, portfolio diversification and risk hedging. However, given the role of the derivative products in the recent global financial crisis, such products are internationally being viewed as a potential source of risk to systemic stability. In India, even before the onset of the global crisis, the approach to introduction of derivative products had been cautious. In terms of the RBI (Amendment) Act, 2006, the Reserve Bank is empowered to regulate, *inter alia*, the money market, the government securities market, the credit market, the foreign exchange market and the related derivatives. In respect of OTC derivatives, only those derivatives where one party to the transaction is regulated by the Reserve Bank, have legal validity. In respect of products traded on the exchanges, procedures for trade execution and settlement fall within the regulatory purview of SEBI. Thus, unlike many countries, India has established procedures for regulation of OTC derivatives.

V.26 Even though this cautious approach has demonstrated its merits during the period of global financial crisis, the need to introduce products through which the market participants can diversify and hedge their risks is acknowledged by the Reserve Bank. The regulatory efforts to widen and deepen these markets were therefore, continued by the Reserve Bank during 2009-10.

Interest Rate Futures

V.27 The Interest Rate Futures contract on 10-year notional coupon bearing GoI security was introduced on August 31, 2009. Going ahead, and based on the market feedback and the recommendations of the Technical Advisory Committee (TAC) on the Money, Foreign Exchange and Government Securities Markets, the Bank has proposed to introduce interest rate futures on 5-year and 2-year notional coupon bearing securities and 91-day treasury bills. The RBI-SEBI Standing Technical Committee shall finalise the product design and operational modalities for introduction of these products on the exchanges.

Credit Default Swaps (CDS)

V.28 Credit Derivative as a product remains one of the important risk management tools, enabling the investors to transfer/hedge their credit risk. This ability to hive off credit risk encourages investors

to hold bonds, thus enhancing the liquidity in the markets.

V.29 In 2007, the Reserve Bank had issued draft guidelines for introduction of credit default swaps (CDS) in India. However, the issuance of final guidelines was kept in abeyance, in view of the role of credit derivatives in the recent financial crisis. It was considered appropriate to proceed with caution, reflecting the lessons from the financial crisis in this regard. In the Second Quarter Review of monetary policy 2009-10, it was proposed to introduce plain vanilla OTC single-name CDS for corporate bonds for resident entities, subject to appropriate safeguards, taking inputs from the international work already conducted/underway in the area of credit derivatives. To begin with, it was proposed that all CDS trades would be required to be reported to a centralised trade reporting platform and in due course they would be brought on a centralised clearing platform. An internal working group was set up to formulate operational guidelines for introduction of CDS, in line with the announcement made in the Review. The draft report of the group has since been placed on the Bank's website on August 04, 2010 for public comments.

Exchange Traded Currency Derivatives

V.30 The currency futures are operational in USD-INR since August 2008. Three more currency pairs, *viz.* Euro-INR, Japanese Yen-INR and Pound Sterling-INR were introduced in the currency futures market during 2009-10 to provide more avenues to hedge the currency exposure of Indian residents. Users can now choose an appropriate currency pair to hedge their exposures directly, without crossing with other currencies. In the interest of financial stability, participation in the currency futures markets is, however, restricted to residents and the issue of wider participation will be examined at a later stage.

V.31 In order to expand the existing menu of exchange traded hedging tools, recognised stock exchanges have since been permitted to introduce plain vanilla currency options on spot US Dollar / Rupee exchange rate for residents.

Reporting of OTC Derivative Transactions

V.32 The issues of transparency and the need for information repositories for transactions in OTC derivatives have assumed sharper focus in the post-global crisis scenario. In India, centralised reporting of OTC trades in interest rate derivatives [interest rate swap (IRS)/forward rate agreements (FRAs)] commenced in August 2007 on the reporting platform of Clearing Corporation of India Limited (CCIL). To capture the trade data pertaining to all OTC derivative transactions for regulation, surveillance and transparency purposes, it is necessary to extend the existing reporting arrangement in respect of IRS to all other OTC derivatives including forex derivatives. Accordingly, the Reserve Bank has set up a Working Group consisting of members of the Reserve Bank, the CCIL and market participants to work out the modalities for an efficient, single point reporting mechanism for all OTC interest rate and forex derivative transactions.

V.33 During 2009-10 the Reserve Bank facilitated the process of recovery by initiating appropriate measures aimed at reducing stress in the financial markets, and smooth conduct of transactions in the financial system. Consistent with the market development goal, several regulatory measures were taken during the year, aimed at enhancing the contribution of the financial system to economic growth, while containing vulnerability to instability. The cautious and gradual approach would continue, driven by the primary goal of ensuring a financial market condition that meets the needs of the real economy.

VI REGULATION AND SUPERVISION OF FINANCIAL INSTITUTIONS

Sound regulatory and supervisory framework for banks and non-banking financial entities proved crucial in containing the impact of the contagion from the global financial crisis on the Indian financial system. Based on the lessons from the crisis and the emerging new international standards and best practices, further fine tuning of the Indian regulatory and supervisory structure would strengthen the financial stability framework, while ensuring that the financial system serves the needs of inclusive and high growth. During 2009-10, several steps were taken in that direction, including the enhanced focus on systemic stability issues and the release of the first Financial Stability Report, announcement of the timeframe for implementation of the advanced approaches to capital adequacy, implementation of the supervisory review and evaluation process under Pillar 2 of Basel II, progress on cross-border supervision and supervisory cooperation, prevention of frauds and strengthened surveillance system for the off-site monitoring based on online returns filing system. Critical financial soundness indicators (FSIs) and stress test results suggested that the financial system remains sound and resilient.

VI.1 The Reserve Bank's regulatory and supervisory architecture, as a key instrument to attain the goal of financial stability, assigns significant emphasis to soundness and resilience of banks and financial institutions, and its relevance and effectiveness was vindicated when the banks and financial institutions in India weathered the global financial crisis without any significant stress. Several specific aspects of the regulatory and supervisory architecture of the Reserve Bank helped in limiting the impact of the contagion on the Indian financial system. The calibrated approach to financial sector reforms, and limited exposure of the banking system to synthetic and complex structured products provided the most effective shield against the contagion effects of the financial crisis. Domestic regulatory policies, implemented even before the onset of the global crisis, emphasised the need for banks to maintain adequate capital and liquidity. Banks' exposures to sensitive sectors that are prone to potential boom-bust cycles, such as real estate and capital market, were contained. Regulations relating to CRR and SLR, which do not entirely fall in the category of prudential regulation, effectively provide cushion against liquidity risks. Certain aspects of regulatory guidelines for securitisation activities of banks especially the one disallowing upfront booking of profit on securitisation ensured that the perverse incentives in the securitisation process were contained unlike what was experienced in the advanced economies.

VI.2 In order to contain systemic risk, the Reserve Bank had restricted access to non-collateralised borrowing and lending in the money markets. To limit contagion risks arising out of inter-connectedness, limits were also imposed on inter-bank liabilities. Recognising the risks to the financial system from systemically important non-deposit taking non-banking entities (NBFCs-ND-SI), these institutions were also brought under the purview of prudential regulation. The Reserve Bank has adopted a gradual and well-calibrated approach towards introduction of new financial products. Unlike in advanced economies, at least one party to any transaction in the OTC derivative markets is required to be under the regulatory jurisdiction of the Reserve Bank. The institutional framework to ensure systemic stability was also in place in the form of a High Level Co-ordination Committee on Financial Markets (HLCCFM), besides the comprehensive self-assessment of India's financial sector that focused

on stability, resilience to stress and compliance with international standards and codes. Risk weights and provisioning requirements for certain categories of exposures such as commercial real estate, personal and consumer loans were varied counter-cyclically over the last five years, so as to ensure the flow of credit to these sectors consistent with the phases of economic cycles.

VI.3 All the above measures collectively contributed towards avoiding a financial crisis in domestic markets in the midst of a severe global crisis. During 2009-10, there have been several regulatory initiatives to develop the institutions and markets further and strengthen the financial stability framework based on lessons from the global crisis (Box VI.1).

Box VI.1
Global Crisis and Regulatory Lessons: India's Response so far

The limitations of regulatory regimes, especially in advanced countries, represent one of the primary causative factors behind the recent global financial crisis. These regimes resulted in undercapitalisation of banks and financial institutions, due to inadequate measurement of risks apart from imparting an element of procyclicality to their operations and leaving many deposit taking entities outside the remit of the regulation. As a result, not just the resilience of the financial sector was undermined but the financial sector also became more susceptible to the amplitudes of the financial cycle. In the post-crisis period, a roadmap is being laid out globally to strengthen the financial regulation and supervision. The Basel Committee has proposed both microprudential and macroprudential measures. The microprudential measures under consideration include raising the quality, quantity, consistency and transparency of the capital base, strengthening the risk coverage of the capital framework, introducing supplementary leverage ratio and global minimum liquidity standard. The macroprudential measures under consideration include countercyclical capital framework as well as more forward-looking provisioning, based on expected losses. IMF, Financial Stability Board (FSB), Committee on Global Financial System (CGFS) and Bank for International Settlements (BIS) have also been working on developing macroprudential frameworks, tools and indicators, including analytical approaches, to the assessment of Systemically Important Financial Institutions (SIFIs).

India's Response

The Indian financial system remained largely stable against the backdrop of global financial crisis, as the Indian banking system was profitable, well-capitalised and prudently regulated. On hindsight, it appears that various measures/proposals now being considered globally as a part of the regulatory reforms in response to the crisis were put into practice in India even before the crisis. These included stringent liquidity requirements, counter-cyclical prudential measures, not recognising many items in Tier I capital that are now being sought to be deducted internationally, recognising profits from sale of securitised assets to SPVs over the life of the securities issued, and not reckoning unrealised gains in earnings or in Tier I capital. The Reserve Bank, like other central banks, however, responded to both the crisis as well as regulatory lessons from the crisis.

Measures for Containing Financial Contagion

The Reserve Bank, apart from ensuring ample rupee and foreign exchange liquidity to ensure smooth functioning of credit and financial markets, also recalibrated various sector specific counter-cyclical regulatory measures involving risk weights and provisioning. It also gave regulatory guidance for restructuring of viable loan accounts for ensuring continued flow of credit to productive sectors of the economy with a view to arresting slowdown in growth. The regulatory measures aimed at furthering institutional and market development and strengthening resilience of the financial system included the following:

Institutional and Market Development Measures

Securitisation Market

Internationally, the post-global crisis reform of the securitisation market is based on the central idea that originators should retain a portion of each securitisation originated by them, as a mechanism to better align incentives and ensure more effective screening of loans. In addition, a minimum period of retention of loans prior to securitisation may also be considered desirable, to give comfort to the investors regarding due diligence carried out by the originator. Keeping in view the above objectives, the Reserve Bank has formulated draft guidelines regarding the minimum holding period and minimum retention requirement for securitisation and placed the same on Reserve Bank's website for public comments in April 2010.

Credit Default Swap(CDS)

An internal working group was set up to formulate operational guidelines for introduction of CDS. The draft report of the group has been placed on the Bank's website on August 4, 2010 for public comments.

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(...Concld.)

Holding Company Structure for Financial Conglomerates

In order to ensure orderly growth of financial conglomerates (FCs) in India, a Working Group has been constituted with representatives from the government, the Reserve Bank, the SEBI, the IRDA and the IBA to recommend a roadmap for the introduction of a holding company structure together with the required legislative amendment/framework.

Presence of Foreign Banks

With global financial markets exhibiting signs of improvement, drawing lessons from the crisis, the Reserve Bank is in the process of preparing a discussion paper on the mode of presence of foreign banks, through branch or wholly owned subsidiary (WOS) route, by September 2010.

Measures for Strengthening Resilience of the Financial System

Basel II Framework

The Basel Committee on Banking Supervision (BCBS) presented a comprehensive reform package in December 2009 to strengthen the global capital and liquidity regulations with the goal of promoting a more resilient banking sector. The Committee conducted a comprehensive Quantitative Impact Study (QIS) for two proposals: one, relating to raising the quality, consistency and transparency of the capital base, risk coverage, leverage ratio and procyclicality and the second, on measures for further elevating the resilience of internationally active banks to liquidity stress across the globe as well as increasing international harmonisation of liquidity risk supervision. Ten large Indian banks also participated in the QIS. The results show that Indian banks are not likely to be stressed significantly in meeting the requirements. Taking into account the results of the QIS, the comments received on the two proposals, the assessments of the economic impact over the transition and the long run economic benefits and costs, the Committee at its meeting in July 2010 reached a broad agreement on the overall design of the capital and liquidity reform package. In particular, this includes the definition of capital, the treatment of counterparty credit risk, the leverage ratio and the global liquidity standard. The calibration and phase-in arrangements are expected to be finalised shortly and the Committee has announced that it will issue the details of the capital and liquidity reforms by end-2010.

Provisioning Coverage

With a view to ensuring countercyclical provisioning in the banking system, the Reserve Bank has mandated that banks should augment their provisioning cushions consisting of specific provisions against NPAs as well as floating provisions, and ensure that their total Provisioning Coverage Ratio (PCR), including floating provisions, is not less than 70 per cent. Banks are required to adhere to this norm by end-September 2010.

SYSTEMIC STABILITY ASSESSMENT

VI.4 After the global crisis, internationally there has been a renewed focus on systemic stability assessment, with specific importance given to assessment of inter-connectedness among financial sector entities and the risks to the financial system from systemically important regulated as well as unregulated entities. To strengthen the systemic stability focus, the Reserve Bank instituted the Financial Stability Unit (FSU) in the Bank and the first Financial Stability Report (FSR) was released in March 2010. The remit of FSU includes conduct of macroprudential surveillance of the financial system on an ongoing basis. While the FSR will be published twice a year, more frequent assessments will be reported to the top management of the Bank.

VI.5 The system level stress tests for the period ended December 2009 suggested that the banking sector remained broadly healthy, with well capitalised banks, in terms of capital adequacy ratios, higher core capital and sustainable financial leverage. Stress tests for credit and market risk reveal banks' ability to withstand unexpected levels of stress. Banks are required to hold a minimum percentage of their NDTL in risk-free government and other approved securities, which to a large extent, helps in containing liquidity and solvency concerns. Stress test results indicated that the banking sector is comfortably resilient and, even in a worst case scenario, with all standard advances restructured during the downturn hypothetically becoming NPAs, the resultant stress would not be significant. While the resilience of the commercial banks to credit and interest rate shocks has improved over time, the liquidity scenario analysis shows some potential risk. The margins of banks might face pressure from the mark to market (MTM) impact on the investment portfolio, increased

provisioning requirement and calculation of interest on savings deposits on a daily basis from April 1, 2010. The asset liability management (ALM) analysis did not indicate any significant mismatches. The credit growth in recent times, however, has been mostly marked in sectors like infrastructure and commercial real estate, both of which require longer term funding. The resultant ALM mismatches would require careful monitoring on an ongoing basis.

VI.6 The analysis also suggested that the share of low cost current and savings account deposits in total deposits was high. However, over reliance on bulk deposits in certain institutions, which remain at elevated levels, could impact the cost and stability of the deposit base. Like the banking sector, the NBFC sector was also able to manage the fallout of the crisis without creating systemic issues. However, ALM mismatches, credit quality and the inter-connected flows between NBFCs and other financial sector entities would need to be closely monitored. Given the increasing significance of the non-banking financial sector, the supervisory regime for the NBFCs-ND-SI will need to be strengthened further for a more robust assessment of the underlying risks.

VI.7 An analysis of the recent period suggests that the SCBs continued to strengthen their capital cushion as both the CRAR and core CRAR recorded increase as at end-March 2010. Asset quality of SCBs, which was showing a distinct improvement since 2005, witnessed a marginal deterioration during 2009-10, mainly as a fallout of the impact of the global financial crisis on the Indian economy, notwithstanding the restructuring of standard advances (Chart VI.1).

VI.8 Income of SCBs from securities trading and forex operations declined substantially during 2009-10, thus partly offsetting the rise in the other operating income and hence, the growth of net profit of banks moderated somewhat. The ratio of liquid assets to total assets has been at the level of above 32 per cent for last several years. Return on assets (ROA) of SCBs, an indicator of efficiency with which banks deploy their assets, which had increased over last few years, recorded marginal decline during 2009-10 (Table VI.1).

VI.9 In the case of UCBs as well, the CRAR showed an improvement and both gross NPA as well as net NPA ratios declined. The deposit taking NBFCs further strengthened their capital base with rise in CRAR from 18.5 per cent to 22.2 per cent, though the gross NPA ratio deteriorated. In the case of NBFCs-ND-SI, the return on equity (RoE), which is an indicator of the efficiency with which capital is employed, declined, while RoA also declined.

VI.10 A high degree of heterogeneity in terms of deposits/asset base, areas of operation and nature of business characterise the urban co-operative banking sector in India. UCBs play an important role as financial intermediaries in urban and semi-urban areas catering to the needs of the non-

Chart VI.1: Soundness Indicators of SCBs

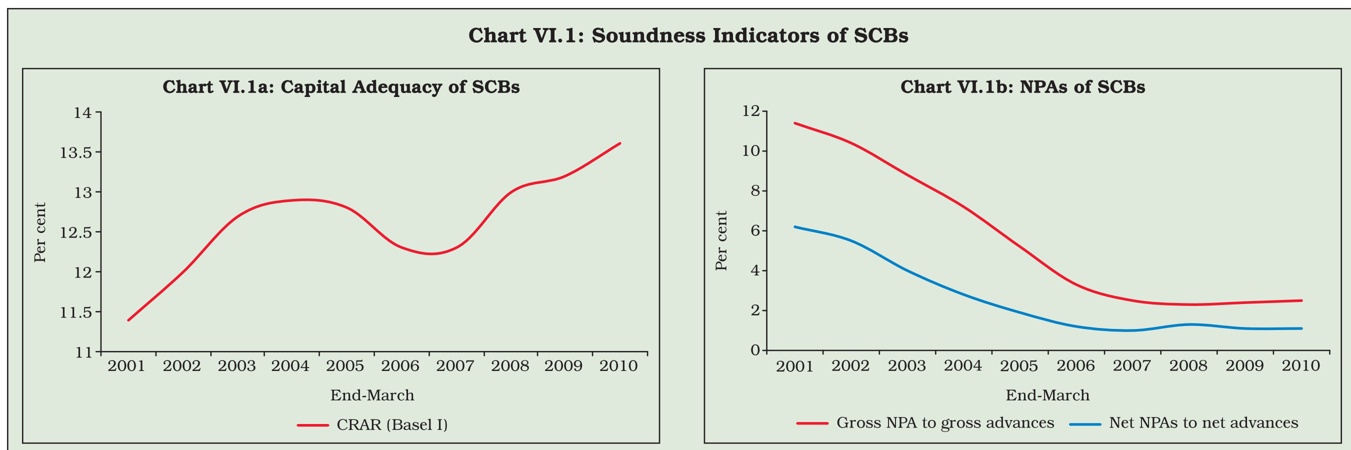


Table VI.1: Select Financial Indicators

(Per cent)

Item	End-March	Scheduled Commercial Banks	Scheduled Urban Co-operative Banks	All India Financial Institutions	Primary Dealers	NBFCs-Deposit taking	NBFCs-ND-SI
1	2	3	4	5	6	7	8
CRAR	2009	13.2 * 14.0 **	12.6	24.6	34.8	18.5	40.5
	2010	13.6 * 14.6 **	12.9	24.2	43.5	22.2	N.A.
Gross NPAs to Gross Advances	2009	2.4	11.5	0.3	..	1.0	2.5
	2010	2.5	9.2	0.2	..	2.0	N.A.
Net NPAs to Net Advances	2009	1.1	3.5	0.1	..	-	1.0
	2010	1.1	3.4	0.1	..	-	N.A.
Return on Total Assets #	2009	1.1	0.8	1.2	6.6	2.7	2.5
	2010	1.1	0.7	1.4	1.8	N.A	2.0
Return on Equity #	2009	14.5	N.A.	9.6	21.5	15.9	8.9
	2010	13.3	N.A.	7.5	6.8	N.A.	7.0
Efficiency (Cost/Income Ratio) #	2009	45.4	53.2	15.9	11.7	74.1	71.3
	2010	45.8	60.1	18.5	31.2	N.A.	73.5
Net Interest Margin (per cent) #	2009	2.7	N.A.	2.3	..	4.5	1.3
	2010	2.7	N.A.	2.3	..	N.A.	1.8

*: CRAR under Basel I. **: CRAR under Basel II. #: Pertain to financial year. N.A.: Not Available. .. : Not Applicable. -: Nil/Negligible.

Note: 1. Data for 2010 are unaudited and provisional, except for AIFIs.
2. Data for SCBs are inclusive of 4 LABs.
3. Data for SCBs cover domestic operations, except for CRAR.
4. For NBFC-D, data for 2010 pertain to period ended September 2009.
5. CRAR for UCBs excludes Madhupura Mercantile Co-op. Bank Ltd.

Source: 1. SCBs: Off-site supervisory returns.
2. UCBs: Off-site surveillance returns.
3. AIFIs: Audited OSMOS Returns received from AIFIs.

agricultural sector, particularly small borrowers. In the context of their role in the national economy, several initiatives are being taken by the Reserve Bank to help the sector to grow on sound lines. The impact of various measures can be assessed through the changing profile of the sector. The number of Grade III and Grade IV UCBs taken together, implying weakness/sickness in UCBs, declined from 39 per cent at end March 2005 to 20 per cent at end-March 2010.

VI.11 The economic slowdown led to deceleration in the growth of the balance sheet of the banking system. This could have a lagged effect on credit quality and profitability of banks. Asset quality could be impacted to some extent if there are slippages in some of the accounts which were restructured under a special dispensation introduced over a limited period to preserve the economic value of viable units affected by the downturn in 2008 and 2009. The 2009-10 annual inspection process reviewed the manner in which the restructuring guidelines were implemented by the banks to ensure that the preconditions and safeguards prescribed in this regard had been complied with by them. It was observed that though there were some deviations, these were not widespread and slippage in restructured accounts was not expected to be significant, especially in view of the recovery in the economy. As on March 31, 2010, the restructured standard advances constituted less than 3 per cent of the total gross advances of the banks. It is expected that the system level delinquency would not rise significantly in future because of the restructuring taken up during the economic downturn. Some borrowers could be affected due to adverse exchange rate movements. Banks would therefore also need to carefully assess the risks from unhedged foreign currency exposures of their corporate clients.

MAJOR DECISIONS TAKEN BY BOARD FOR FINANCIAL SUPERVISION

VI.12 The Board for Financial Supervision (BFS), constituted in November 1994, remains the main guiding force behind the Reserve Bank's supervisory and regulatory initiatives. The BFS held twelve meetings during the period July 2009 to June 2010. In these meetings, it considered, *inter alia*, the performance and the financial position of banks and financial institutions during 2008-09. It reviewed 96 inspection reports (28 reports of public sector banks, 22 of private sector banks, 24 of foreign banks, 4 of local area banks, 4 of financial institutions and 14 of local head offices of a public sector bank). During the period, the BFS also reviewed summaries of inspection reports pertaining to 20 scheduled UCBs and summaries of financial highlights pertaining to 43 scheduled UCBs classified in Grade I / II.

VI.13 As part of the endeavour to strengthen the effectiveness of the Supervisory Rating framework, the BFS approved a proposal relating to revision of Earnings Appraisal component of the rating model. This revision partially reduces the marks allotted to RoE (Return on Equity) component in the existing rating model to accommodate the RoA (Return on Assets) parameter. As directed by the BFS, the same has been implemented with effect from the inspection cycle of 2009-10.

VI.14 During 2009-10, the BFS also approved modification of the reporting format for the banks falling under the monthly monitoring mechanism to ensure a comprehensive oversight of their activities, operations and processes. The modified monitoring procedure has been accordingly implemented.

VI.15 In an effort to enhance transparency in the operations of banks by stipulating comprehensive disclosures in tune with the international best practices, the BFS approved a proposal to prescribe additional disclosure norms, as part of 'notes to accounts', in various areas of banks' operations.

VI.16 At the behest of BFS, the norms/criteria for identification of FCs owing to their presence in different financial market segments and the criteria for determining constituent entities of the FCs have been revised so that all groups which are systemically important and all entities over which the identified groups exercise 'control' are brought under the purview of the monitoring framework. With a view to gathering more qualitative information on the groups, the FC reporting format has been suitably revised.

VI.17 The BFS continued its efforts towards strengthening the mechanism for monitoring of frauds in banks and directed that the board / top management of the banks may be held accountable for non action / delayed action on frauds. The BFS felt that the top management is also required to follow up with the investigating agencies regarding the progress in the investigation. The BFS also directed that the efficacy and robustness of fraud risk management mechanism in banks should be looked into and specifically commented on in the annual financial inspection (AFI) reports.

VI.18 The BFS approved the special monitoring mechanism for banks identified as outliers on account of high concentration of frauds. It was decided that, in the initial stage, the monitoring may be implemented through an internal mechanism where the outlier banks may be identified and necessary action, including discussions with the top management of the bank, initiated without actually intimating the bank about its categorisation as an outlier bank. The monthly and quarterly discussions and AFI meetings will henceforth involve more focused discussions on frauds, especially where the banks fall in the outlier category.

VI.19 The BFS approved the proposals on the cross-border supervision and supervisory cooperation mechanism, which allow for signing of Memorandum of Understanding (MoU) with overseas regulators on supervisory cooperation and exchange of information with them, participation of Reserve Bank in supervisory colleges convened by overseas regulators and setting up of supervisory colleges by the Reserve Bank for large/complex Indian banks. The Reserve

Bank is finalising the MoU in consultation with the Government of India.

COMMERCIAL BANKS

Regulatory Initiatives

New Capital Adequacy Framework

VI.20 All commercial banks in India migrated to Basel II framework for maintaining regulatory capital in two stages (*i.e.* on March 31, 2008 and March 31, 2009), adopting the simpler approaches. In July 2009, the timeframe for implementation of the advanced approaches in India was laid down (Table VI.2). The extant guidelines for implementation of the Basel II framework in India were revised/enhanced in February 2010, as appropriate for banks using simpler standardised approaches, in line with the changes made by the Basel Committee on Banking Supervision (BCBS) to the Basel II framework in July 2009. The changes in Pillar 1 (minimum capital requirement) of the framework relating to standardised approaches are mainly aimed at increasing capital requirements for securitisation exposures, both in the banking book and trading book. The revised guidelines on Pillar 2 (Supervisory Review Process) are intended to assist the banks in better identifying and capturing firm-wide risks in their internal assessments of capital adequacy and managing them appropriately. The Pillar 3 (Market Discipline) revisions include more granular disclosure requirements for credit risk mitigations and securitised exposures.

VI.21 Detailed guidelines on The Standardised Approach (TSA) for calculation of capital charge for operational risk and Internal Models Approach (IMA) for measuring the capital charge for market risk were issued in March and April 2010, respectively.

Prudential Norms

Countercyclical Capital Adequacy and Provisioning Norms

VI.22 As part of the policy measures adopted to deal with the contagion from the global crisis, risk weights and provisioning prescriptions were relaxed in November 2008 as a countercyclical measure. In view of large increase in credit to the commercial real estate sector over the last one year and the extent of restructured advances in this sector, the provision required on standard asset in the commercial real estate sector was increased from 0.4 per cent to 1 per cent for building up cushion against likely deterioration in asset quality. Further, recognising the impact that temporary restructuring and slower growth might have on the credit quality of banks and taking into account the need to build up provisions when banks' earnings are good, banks were advised in December 2009 that their total provision coverage ratio, including floating provisions, should not be below 70 per cent by September 2010.

Modification to Prudential Norms for Projects under Implementation

VI.23 Asset classification guidelines applicable to projects under implementation were modified during the year so as to provide some flexibility in

Table VI.2: Timeframe for Implementation of Advanced Approaches in India

Approach	The earliest date of making application by banks to the Reserve Bank	Likely date of approval by the Reserve Bank
1	2	3
a. Internal Models Approach (IMA) for Market Risk	April 1, 2010	March 31, 2011
b. The Standardised Approach (TSA) for Operational Risk	April 1, 2010	September 30, 2010
c. Advanced Measurement Approach(AMA) for Operational Risk	April 1, 2012	March 31, 2014
d. Internal Ratings-Based (IRB) Approaches for Credit Risk (Foundation- as well as Advanced IRB)	April 1, 2012	March 31, 2014

cases where completion of project, particularly the infrastructure projects, got delayed. The modifications were made within the restructuring framework thus ensuring that the modifications would not lead to dilution of prudential standards.

VI.24 An infrastructure project loan where the project is not able to commence operations on due date, can now continue to be classified as standard asset for a maximum period of four years (against two years allowed earlier) from the original date of commencement of commercial operations. Similarly, non-infrastructure project loans not being able to commence commercial operations on due date, can also continue to be classified as standard assets up to a maximum period of one year (against six months allowed earlier). These modifications are subject to certain conditions including a requirement for higher provision.

Modifications to Prudential Norms Governing Banks' Exposure to Infrastructure Sector

VI.25 With a view to providing incentive to SCBs for financing infrastructure, investment by them in the long-term bonds with a minimum residual maturity of seven years, issued by companies engaged in executing infrastructure projects is now allowed to be classified under held-to-maturity (HTM) category.

VI.26 Banks were permitted to treat annuities under build-operate-transfer (BOT) model in respect of road/highway projects and toll collection rights, where there are provisions to compensate the project sponsor if a certain level of traffic is not achieved, as tangible securities, subject to the condition that banks' right to receive annuities and toll collection rights is legally enforceable and irrevocable.

VI.27 Infrastructure loan accounts which are classified as sub-standard will attract a provisioning of 15 per cent instead of the current prescription of 20 per cent. To avail of this benefit of lower provisioning, banks should have in place an appropriate mechanism to escrow the cash flows and also have a clear and legal first claim on these cash flows.

VI.28 Risk weight for banks' exposures to infrastructure finance companies (NBFC-IFCs) would be linked to the ratings assigned to such companies by the rating agencies registered with the SEBI and accredited by the Reserve Bank. This will result in lower risk weight than hitherto for well rated NBFC-IFCs.

Definition of Commercial Real Estate Exposure (CRE)

VI.29 The definition of "Commercial Real Estate Exposure" (CRE) was rationalised to make it consistent with the definition of CRE given in the Basel II framework. An exposure should be classified as CRE, if the funding results in the creation/acquisition of real estate where the prospects for repayment, as also the prospect of recovery would depend primarily on the cash flows generated from such funded asset which is taken as security. Further, exposures will also be classified as CRE in certain cases where the exposure may not be directly linked to the creation or acquisition of CRE but the repayment would come from the cash flows generated by CRE.

IFRS Implementation in Indian Banks

VI.30 As part of the efforts to ensure convergence of the Indian Accounting Standards (IASs) with the International Financial Reporting Standards (IFRSs), the roadmap for banking companies and non-banking financial companies (NBFCs) has been finalised by the Ministry of Corporate Affairs in consultation with the Reserve Bank. As per the roadmap, all SCBs will convert their opening balance sheet on April 1, 2013 in compliance with the IFRS converged IASs. A Working Group has been constituted by the Reserve Bank to address implementation issues and facilitate formulation of operational guidelines in the context of convergence of IFRSs for the Indian banking system.

Working Group on Valuation Adjustments and Treatment for Illiquid Positions

VI.31 The Reserve Bank issued guidelines to banks in February 2010 consequent upon enhancements to Basel II framework announced by the BCBS in July 2009. These guidelines *inter alia* require banks to make specified valuation adjustments for various risks/costs in their portfolios including derivatives, which are subject to MTM requirement and also for illiquidity of these positions. These guidelines also permit banks to follow any recognised models/methods for computing the amount of valuation adjustment. In order to ensure that a consistent methodology is adopted by banks for the purpose, a Working Group has been constituted with members from the Reserve Bank, FIMMDA, IBA, FEDAI and a few banks to recommend an appropriate framework in this regard.

Compensation Practices

VI.32 In line with the steps taken by global community, particularly the initiatives taken by G-20 nations, the Reserve Bank has come out with draft guidelines for private sector banks and foreign banks with regard to sound compensation policy. These guidelines are largely based on Financial Stability Board's (FSB) principles on sound compensation practices. The guidelines cover effective governance of compensation, alignment of compensation with prudent risk-taking and disclosures for whole time directors (WTDs)/chief executive officers (CEOs), risk takers of banks as well as staff in the audit, compliance and risk management areas.

Base Rate System

VI.33 The BPLR system, introduced in 2003, fell short of its original objective of bringing transparency to lending rates as banks could lend below BPLR. Sub-BPLR lending was about 65.8 per cent in December 2009. From the viewpoint of policy makers, it was difficult to assess the transmission of policy rates of the Reserve Bank to lending rates of banks in the absence of transparency. In order to address this issue, the system of 'base rate' was introduced from July 01, 2010 as recommended by the Working Group on Benchmark Prime Lending Rate (Chairman: Shri Deepak Mohanty). The base rate will include all those elements of the lending rates that are common across all categories of borrowers. Banks are free to use any methodology for computation of base rate, provided it is consistent, and is made available for supervisory review. Banks determine their actual lending rates on loans and advances with reference to the base rate and by including such other customer and product specific charges, as considered appropriate. All categories of loans are to be priced only with reference to the base rate except the following: (a) DRI advances (b) loans to banks' own employees (c) loans to banks' depositors against their own deposits. Exemptions from the base rate have also been granted for eligible crop loans and export credit where interest subvention from GoI is available and also in the case of certain restructured loans for the purpose of viability of the borrowing unit. The base rate could also serve as the reference benchmark rate for floating rate loan products, apart from external market benchmark rates.

Know Your Customer /Anti-Money Laundering (AML) Measures

VI.34 A comprehensive evaluation of India's AML/ combating of financing of terrorism(CFT) regime was conducted by a joint team of assessors from Financial Action Task Force (FATF) and Asia Pacific Group (APG). With a view to ensuring compliance with the FATF standards, suitable amendments to Prevention of Money Laundering Act, 2002 and Prevention of Money Laundering Rules, 2005 as well as to the Unlawful Activities (Prevention) Act, 1967 were introduced by the Government of India. Accordingly, regulatory guidelines to banks/ financial institutions were issued by the Reserve Bank. As a result FATF has accorded full-

fledged membership to India, in its Plenary held in June 2010.

Branch Authorisation

VI.35 As recommended by the working group on branch authorisation, (Chairman: Shri P. Vijaya Bhaskar), the extant branch authorisation policy for domestic SCBs (other than RRBs) was liberalised. Accordingly, with effect from December 01, 2009, banks were permitted to open branches in Tier 3 to Tier 6 centres (with population up to 49,999 as per census 2001) without obtaining prior permission from the Reserve Bank. Banks were also permitted to open branches in rural, semi-urban and urban centres in North Eastern states and Sikkim without obtaining prior permission from the Reserve Bank. Banks are required to plan their branch expansion in such a manner that at least one-third of total number of branches opened in a financial year in Tier 3 to Tier 6 centres are in the under banked districts of under banked States.

VI.36 As regards opening of branches in Tier 1 and Tier 2 centres (centres with population of 50,000 and above), banks would continue to obtain prior authorisation from the Reserve Bank. For consideration of such proposals by the Reserve Bank, the banks' branch expansion record in Tier 3 to Tier 6 centres would be one of the criteria, apart from banks' performance on financial inclusion, priority sector lending and level of customer service.

Foreign Bank Entry

VI.37 During the year 2009-10, the Reserve Bank issued 6 approvals to foreign banks to open branches in India. As on April 30, 2010, 34 foreign banks were operating in India with 311 branches. Besides, 45 foreign banks were also operating in India through representative offices.

VI.38 A revision to the Reserve Bank's "Roadmap for Presence of Foreign Banks in India", released in February 2005, was due in April 2009. At that juncture, however, the global financial markets were in turmoil and there were uncertainties surrounding the financial strength of banks around the world. Accordingly, it was decided to review the roadmap once there was greater clarity regarding stability and recovery of the global financial system. While the conditions of global financial markets have been improving, various international fora have been engaged in setting out policy frameworks incorporating the lessons learnt from the crisis. Drawing lessons from the crisis, it has been decided to prepare a discussion paper on the mode of presence of foreign banks through branch or WOS route by September 2010.

New Bank License

VI.39 Subsequent to the Union Budget which mentioned licensing of new banks, it was announced in the Annual Policy for 2010-11, that a discussion paper marshalling the international practices, the Indian experience as also the extant ownership and governance guidelines on licensing of new banks would be placed on the Reserve Bank's website shortly for wider comments and feedback. Detailed discussions would be held with all stakeholders on the discussion paper and guidelines would be finalised based on the feedback. All applications received in this regard would be referred to an external expert group for examination and recommendations to the Reserve Bank for granting licenses. The discussion paper has been finalised and placed on the Bank's website on August 11, 2010.

Credit Information Companies

VI.40 Credit information companies maintain credit records of borrowers and make them available to lenders to assess a customer's credit history. This exchange of information on borrowers decreases default rates, reduces average interest rates, increases lending and also helps in deepening the credit markets. During the year, the Reserve Bank for the first time issued Certificates of Registration (CoRs) to two private credit information companies to commence business of credit information. The applications of two other

companies (one of which is an existing credit information company), to whom in-principle approval had already been granted, are under consideration for issue of CoRs.

Supervisory Initiatives

Implementation of the Supervisory Review and Evaluation Process

VI.41 In order to enable the Inspecting Officers (IOs) of the Reserve Bank to carry out Supervisory Review and Evaluation Process (SREP) under Pillar 2 of Basel II, as a part of the AFIs of banks, detailed guidance was prepared by an internal working group. SREP would seek to assess the risk profiles of various banks under a rating-driven framework.

Frauds Monitoring Mechanism

VI.42 The number and amount of frauds reported by banks exhibited some increase during the year (Table VI.3). The fraud monitoring mechanism in the Reserve Bank so far has been primarily based on criminal intention (*mens rea*) involving financial loss to the bank and undue gain to the perpetrators or fraudsters. As per an internal review, fraud will have to be defined in a non-legal manner without putting exclusive emphasis on *mens rea*, financial loss to the bank and undue gain to perpetrators. With the above altered definition in place, the supervisory focus could be placed on serious wrongdoings which are apparently not the outcome of simple negligence. Banks, however, will have to continue to take necessary legal action in respect of frauds as before.

Table VI.3: Frauds in Banking Sector

(Amount in Rupees crore)

Year	All frauds		Out of which large value frauds involving ₹1 crore and above	
	No.	Amount	No.	Amount
1	2	3	4	5
2005-06	13,914	1,381	194	1,094
2006-07	23,618	1,194	150	840
2007-08	21,247	1,059	177	659
2008-09	23,914	1,883	212	1,404
2009-10	24,797	2,017	225	1,524

VI.43 As per the extant instructions, fraud cases could not be closed by banks unless the cases pending with CBI / police / court were finally disposed off, which took several years and showed unrealistic data about frauds in banks. In order to address this issue, it was decided that banks could be allowed, for limited statistical purposes, to close fraud cases involving amount up to ₹25 lakh which are pending for more than three years from the date of filing of the first information report (FIR) or filing of charge sheet/challan/final report by CBI/ police in the court and trial by the court was in progress.

Off-site Monitoring and Surveillance Framework

VI.44 As part of the policy decision to receive off-site monitoring regulatory returns through a secured online returns filing system (ORFS), the existing periodic prudential off-site returns submitted by banks are being migrated to the ORFS in a phased manner. The benefits of ORFS include ease of compilation, speedy submission, monitoring, incorporating changes in the returns and maintenance of the system.

Customer Service

VI.45 During the year many important initiatives were taken by the Reserve Bank for improving customer service by banks. Banks were required to put in place a policy, duly approved by their board, for dealing with frequent dishonour of cheques of value of less than ₹1 crore. On inoperative accounts, the banks were advised that the savings account could be treated as inoperative only after two years from the date of the last credit entry of the interest on fixed deposit account. In respect of renewal of term deposit accounts frozen by enforcement authorities, banks were advised to grant option to the depositor to choose the term for renewal, failing which banks may renew the same for term equal to the original term. Banks were advised to display essential details about the local

level committees set up under the National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999. A system of calculation of saving bank interest on daily product basis started with effect from April 1, 2010. In order to facilitate hassle free complaint redressal, the upgraded version of Complaint Tracking Software (CTS) package, which has several enhanced functions, went live from July 1, 2009.

VI.46 When instances of omissions and commissions by banks, which are detrimental to the interests of the customers, are noticed by the Reserve Bank, general directions to all banks are issued to protect customers. Such initiatives in 2009-10 included action against a bank regarding mode of calculation of interest rates on deposit accounts, direction to a bank to recalculate interest rate on all the housing loans as per terms of the agreements entered into with all the borrowers without their application for relief and direction to a bank to recredit insurance premium, which was debited from savings accounts without the concurrence of holders, under group insurance scheme. The Reserve Bank also issued instructions to the banks regarding disbursement of pension and arrears to the pensioners and compensation for delayed period in respect of payment of pension on receipt of complaint from one of the pensioners.

Outreach Activities Carried out by Banking Ombudsman

VI.47 With a view to creating more awareness about the Banking Ombudsman Scheme and its hassle free redressal mechanism, a number of focused initiatives were pursued during the year including interface with banks, organising awareness camps, participation in exhibitions and publicity through various media.

Code of Bank's Commitment to Customers

VI.48 The membership of Banking Codes and Standards Board of India (BCSBI) has grown from 67 banks in 2006 to 102 banks in 2010 and the membership of 16 more banks is in process. To keep pace with the growing expectations of customers, innovations in the banking system, ongoing market developments and the contemporary regulatory framework, BCSBI released the revised Code of Bank's Commitment to Customers in August 2009. The revised Code raises the existing standards of banking practices relating to customer service, brings about greater transparency and a more efficient grievance redressal system in banks.

URBAN CO-OPERATIVE BANKS

MoU Arrangements

VI.49 Since 2005 an effort is being made to address the problem of dual control of UCBs by signing of Memoranda of Understanding (MOUs) between the Reserve Bank and the respective state governments. The process of signing MoUs which was started in June 2005 was completed in February 2010, thus bringing all the UCBs in the country under the cover of MoUs. With the comfort of coordinated supervision, financially sound and well managed UCBs were permitted to expand their business by allowing them to open currency chests, sell units of mutual funds and insurance products, provide foreign exchange services, open new ATMs and convert extension counters into branches. Furthermore, UCBs were also considered for grant of license to open new branches.

Consolidation through Mergers

VI.50 With a view to encouraging and facilitating consolidation and emergence of strong entities as well as for providing an avenue for non-disruptive exit of weak/unviable entities in the co-operative banking sector, the Reserve Bank issued guidelines on merger/amalgamation for UCBs in February 2005. Pursuant to the issue of guidelines on merger of UCBs, the Reserve Bank received 143 proposals for mergers in respect of 124 banks. The Reserve Bank has issued no objection certificate (NOC) in 103 cases. Of these, 83 mergers became effective upon the issue of statutory orders by the Central

Registrar of Co-operative Societies (CRCS)/ Registrar of Co-operative Societies (RCS) concerned. Twenty five proposals for merger were rejected by the Reserve Bank, 6 proposals were withdrawn by the banks and the remaining 9 are under consideration. Out of the 83 banks for which orders of merger have been received from the RCS / CRCS, 52 had negative net worth.

Transfer of Assets and Liabilities of UCBs to Commercial Banks

VI.51 The Reserve Bank issued detailed guidelines on the scheme of transfer of assets and liabilities of UCBs (including branches) to commercial banks, as an additional option for resolution of weak banks, where proposals for amalgamation within the UCB sector were not forthcoming. The scheme ensures complete protection to depositors and DICGC support would be restricted to the amount provided under section 16(2) of the DICGC Act, 1961. The UCB concerned should have negative net worth as on March 31, 2007 or earlier and continue to have negative net worth as on the date of transfer.

Unlicensed UCBs

VI.52 Based on the revised guidelines issued by the BFS in August 2009, a review of existing unlicensed banks was made and since then 50 UCBs were granted banking licences. As on June 30, 2010, there are 6 unlicensed banks and review in respect of these banks will be completed shortly.

Rating Model for UCBs

VI.53 In order to bring about supervisory convergence between UCBs and commercial banks, the supervisory rating model for UCBs was revised and implemented from the inspection cycle beginning March 31, 2009. With the introduction of revised rating model, the gradation system of UCBs was dispensed with. The revised CAMELS rating model will be applicable to UCBs with deposits of ₹100 crore and above and a revised simplified version thereof would be applicable to UCBs with deposits of less than ₹100 crore. UCBs will be assigned a composite rating on a scale of A+ to D, based on the weighted average of the ratings of individual components.

RURAL CO-OPERATIVES

Progress of the Revival Package

VI.54 The implementation of the Government of India's "Revival Package for Short-term Rural Co-operative Credit Structure" is in progress. NABARD, the implementing agency, had released an amount of ₹7,988 crore, by end-June 2010, towards Government of India's share for recapitalisation of 49,779 Primary Agricultural Credit Societies (PACS) in 14 states, while the state governments had released ₹754 crore as their share. Sixteen states have so far amended their respective State Co-operative Societies Acts.

Licenses to StCBs/DCCBs

VI.55 The parameters for licensing of existing unlicensed State Co-operative Banks (StCBs) / District Central Co-Operative Banks (DCCBs) were relaxed in October 2009. Prior to October 2009, 14 StCBs (out of a total of 31) and 75 DCCBs (out of a total of 371) were licensed. After issuance of the relaxed parameters, another 8 StCBs and 125 DCCBs have been licensed, taking the total number of licensed StCBs and DCCBs to 22 and 200, respectively, as at end-June 2010.

Branch Licensing

VI.56 Guidelines were issued regarding branch licensing of StCBs in August 2009. Accordingly, proposals of StCBs, which have CRAR of at least 9 per cent, have not defaulted on CRR and SLR requirements, have net NPA to net advances ratio of less than 10 per cent and do not have any serious irregularity may be considered for branch licensing. Additionally, it is also required that the concerned state government should have signed the MoUs in connection with the Government of India's Revival

Package for short-term rural co-operative credit structure.

Strengthening of RRBs

VI.57 A Committee constituted by the Government of India (Chairman: Dr. K. C. Chakrabarty) to examine the financials of the RRBs and suggest a roadmap to bring the CRAR of RRBs to 9 per cent by March 2012 has recommended recapitalisation requirement of ₹2,200 crore for 40 of the 82 RRBs. The Committee has also recommended, *inter alia*, increase in the authorised capital of RRBs, allowing RRBs with higher net worth to access capital market in due course, improving governance, management structure and efficiency of RRBs. The recommendations of the Committee are under examination.

VI.58 In order to strengthen and consolidate RRBs, the Government of India in 2005 initiated the process of amalgamation of RRBs in a phased manner. Consequently, the total number of RRBs has reduced from 196 to 82 as on March 31, 2010.

VI.59 As per the status reports received from sponsor banks, 21 RRBs have migrated fully to core banking solutions (CBS) and implementation of CBS is in progress in the remaining RRBs.

VI.60 RRBs have been allowed to issue inter-bank participation certificates (IBPC) of a tenor of 180 days on risk-sharing basis to SCBs against their priority sector advances in excess of 60 per cent of their outstanding advances.

DEPOSIT INSURANCE AND CREDIT GUARANTEE CORPORATION OF INDIA

VI.61 Deposit insurance scheme at present covers all commercial banks, including Local Area Banks (LABs) and Regional Rural Banks (RRBs) in all the states and union territories. With the present limit of deposit insurance in India at ₹1 lakh, the number of fully protected accounts (12,670 lakh) as on March 31, 2010 constituted 89.0 per cent of the total number of accounts (14,239 lakh) as against the international benchmark of 80[1] per cent. Amount-wise, insured deposits at ₹23,69,483 crore constituted 55.3 per cent of assessable deposits at ₹42,82,966 crore against the international benchmark of 20 to 40 per cent. During the year 2009-10, the Corporation settled aggregate claims for ₹ 654.65 crore in respect of 82 Co-operative Banks (28 original claims and 54 supplementary claims) as compared with claims for ₹228.43 crore during the previous year.

NON-BANKING FINANCIAL COMPANIES

Applicability of NBFCs-ND-SI regulations

VI.62 A non-deposit taking NBFC with an asset size of ₹100 crore is classified as a systemically important entity. NBFCs have been advised that they may comply with the Reserve Bank's regulations issued to NBFCs-ND-SI from time to time, as and when they attain an asset size of ₹100 crore, irrespective of the date on which such size is attained and may continue to comply with the extant directions, even in case of reduction in the size of assets subsequently.

Acceptance of Deposits by Chit Fund Companies

VI.63 Chit fund companies, classified as miscellaneous non-banking companies (MNBCs), can accept deposits from the shareholders but have been prohibited from accepting deposits from public. Hence, they have been advised to repay public deposits on maturity.

Fit and Proper Criterion

VI.64 In view of some evidence of consolidation in the NBFC sector, it has been decided that any

1 Accepted as a rule of thumb at the First Annual Conference of the International Association of Deposit Insurance (IADI) in Basel, Switzerland in May 2002.

takeover/acquisition of shares of a deposit taking NBFC or merger/amalgamation of a deposit taking NBFC with another entity or any merger/amalgamation of an entity with a deposit taking NBFC that would give the acquirer/another entity control of the deposit taking NBFC, would require prior approval of the Reserve Bank. Further, it has also been decided to ensure that upon such merger/amalgamation, the general character of management complies with the 'fit and proper' criteria prescribed by the Reserve Bank.

Interest Rate Futures for NBFCs

VI.65 NBFCs have been allowed to participate as clients in the designated interest rate futures exchanges recognised by SEBI, subject to Reserve Bank/SEBI guidelines in the matter, for the purpose of hedging their underlying exposures.

New category of NBFC-Infrastructure Finance Companies

VI.66 Considering the critical role played by companies which provide credit to the infrastructure sector, it has been decided to introduce a fourth category of NBFCs *viz.* "Infrastructure Finance Companies" (IFCs). Companies that deploy a minimum of 75 per cent of total assets in infrastructure loans, have net owned funds of ₹300 crore or above, have minimum credit rating 'A' or equivalent; and CRAR of 15 per cent (with a minimum Tier I capital of 10 per cent) would be classified under this category and be allowed to exceed the extant credit concentration norms by lending to single/group borrowers by an additional 5 per cent of owned funds.

Submission of Statement of Interest Rate Sensitivity [NBS-ALM3]

VI.67 NBFCs-ND-SI have been advised to submit the return on Interest Rate Sensitivity (NBS-ALM3) within 20 days of the close of the half year to which it relates.

No Objection Certificate (NoC) for Overseas Investment by NBFCs

VI.68 As making any overseas investment without regulatory clearance is a violation of FEMA Act, NBFCs have been directed to obtain 'No Objection Certificate' (NoC) from the Reserve Bank before making such investments, overseas.

Finance for Housing Projects- Information Disclosure

VI.69 In order to ensure adequate disclosure NBFCs have been advised that the terms and conditions while granting finance to housing / development projects should stipulate that the borrower would disclose in the pamphlets / brochures /advertisements *etc.*, the name(s) of the entity to which the property is mortgaged and that they would provide 'no objection certificate' (NOC) / permission of the mortgagee entity for sale of flats / property, if required. Funds should not be released unless the borrower fulfils the above requirements.

Change in or Take Over of the Management of the Business of the Borrower by Securitisation Companies and Reconstruction Companies (Reserve Bank) Guidelines, 2010

VI.70 As announced in the Monetary Policy Statement for the year 2010-11 the Reserve Bank of India notified the guidelines on "Change in or Take Over of the Management of the Business of the Borrower by SCs/RCs, 2010" on April 21, 2010. These guidelines are aimed at proper management of the business of the borrower to enable the SCs/RCs to realise their dues from the borrowers, by effecting change in or takeover of the management of the business of the borrower and related matters.

The Securitisation Companies and Reconstruction Companies (Reserve Bank) Guidelines and Directions, 2003 – Amendments

VI.71 With a view to bringing transparency and market discipline in the functioning of SCs/RCs, additional disclosures related to assets realised

during the year, value of financial assets unresolved as at the end of the year, value of security receipts pending for redemption, *etc.*, have been prescribed. It is now mandatory for SCs/RCs to invest in and continue to hold a minimum of five per cent stake of the outstanding amount of the security receipts issued by them under each scheme and each class till the redemption of all the security receipts issued under a particular scheme.

NBFCs-ND-SI -applicability for exemption from concentration norms

VI.72 NBFCs-ND-SI also issue guarantees and devolvement of these guarantees may require access to public funds. Those NBFCs-ND-SI which do not access public funds either directly or indirectly or do not issue guarantees were advised to approach the Reserve Bank for exemption/ modification in the prescribed ceilings with regard to concentration of credit / investment norms.

Loan facilities to the physically / visually challenged

VI.73 In order to eliminate the possibility of discrimination on grounds of disability, NBFCs were advised not to discriminate in extending products or facilities to the physically/visually challenged applicants. All possible assistance may be rendered to these applicants for availing of the various business facilities.

VI.74 Going forward, the adoption of global best practices and the convergence of Indian accounting standards with IFRS would pose significant challenges to the financial sector. As new markets and products are developed or introduced, the risks emanating from such markets or products would need to be carefully assessed. The key underpinnings, while developing the markets or products, would be to ensure that one, the process of disintermediation away from banks is genuine and two, areas where both banks and NBFCs are involved, the risks are clearly and transparently captured within a prudential framework. Given the increasing significance of the non-banking financial sector, the supervisory regime of the sector will need to be strengthened for a more robust assessment of the underlying risks. The inter-connected flows between NBFCs and other financial sector entities also needs closer monitoring. The global changes in regulatory standards and practices, when applied to Indian conditions, could entail implications for flow of credit for higher and inclusive growth.

VII PUBLIC DEBT MANAGEMENT

The large borrowing programme of the Government in 2009-10 reflected the need to sustain the expansionary fiscal stance to stimulate a faster recovery in growth. The challenge for the Reserve Bank, therefore, was to manage borrowing programme without disrupting market liquidity or adding much pressure on the interest rate structure, both of which could have impeded the recovery in growth. Although high fiscal deficit and inflationary expectations led to some pressure on medium to long-term yield, excessive pressure on yield was largely contained through active liquidity management operations and by shortening the maturity profile of government bonds. Subdued demand for credit from the private sector, particularly in the first half of the year, also contributed to the non-disruptive completion of the borrowing programme. The borrowing programme for 2010-11 has to be managed, keeping in view the pressure on yield from the elevated inflation, gradual withdrawal of excess liquidity and stronger pick-up in the private sector credit demand.

VII.1 The public debt management strategy of the Reserve Bank during 2009-10 was guided by the imperatives to finance the large fiscal gap arising from the continuation of the fiscal stimulus to sustain recovery in growth, while striving to maintain stability in the government securities yield. In view of the sharp increase in the size as also the frequency of market borrowings by the Centre and the State governments, the Reserve Bank took steps in a pro-active manner to manage the borrowing programme by modulating market liquidity as well as the maturity profile of securities to contain excessive pressure on interest rates. Thus, despite concerns of high fiscal deficit and elevated inflation, the weighted average cost of borrowings of the Centre decreased during 2009-10. These policy measures also helped contain excessive pressure on the secondary market yield on government securities.

VII.2 The market borrowing programme of the State governments during 2009-10 was also conducted successfully even as the gross borrowings were higher than that of the previous year. The higher deficit concerns and inflation expectations also weighed on the cost, leading to a marginal increase in the weighted average yield on the State government securities. The spread on State government securities over Central government securities, however, moderated, reflecting the more evenly distributed auctions of State loans. Given the surplus cash position of State governments, the WMA limits of the State governments have been kept unchanged since 2006-07.

DEBT MANAGEMENT OF CENTRAL GOVERNMENT

Market Borrowings

VII.3 The gross and net amounts raised through dated securities were around 65 per cent and 74 per cent higher in 2009-10 than those raised in the previous year (Table VII.1). The Reserve Bank managed the enhanced borrowing programme, keeping in view the twin objectives of minimisation of cost over time and balancing of maturity profiles that are consistent with low rollover risk. First, the Reserve Bank front-loaded the borrowing programme for 2009-10 as credit off-take by the private sector is usually low in the first half and credit demand was expected to pick-up in the second half with stronger recovery in growth. Second, Market Stabilisation Scheme (MSS)

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

(Rupees crore)

Item	2008-09			2009-10			2010-11	
	Budget Estimate	Revised Estimate	Actual	Budget Estimate	Revised Estimate	Actual	Budget Estimate	Actual@
1	2	3	4	5	6	7	8	9
Gross borrowing	1,76,453	3,42,769	3,18,550*	4,91,044 *	4,92,368 *	4,92,497 *	4,98,635	1,99,376
Net Borrowing	1,15,571	2,66,539	2,42,317*	3,97,957 *	3,94,229 *	3,94,358 *	3,45,010	1,07,083
(i) Dated Securities	1,00,571	2,61,972	2,28,972*	3,97,957 *	3,98,411 *	3,98,411 *	3,45,010	1,02,966
(ii) 364-day TBs	15,000	4,567	13,345	-	-4,182	-4,053	0	4,117
Memo:								
(i) Additional 182-day TBs	-1,000	19,390	10,995	-	-	1,325	-	300
(ii) Additional 91-day TBs	-1,571	43,720	45,224	-	-	-4,046	-	-21,649
(iii) MSS De-sequestering	-	-	12,000	33,000	33,000	33,000	-	-

#: Dated securities and 364-day Treasury Bills. *: Includes MSS de-sequestering. @: Up to July 31, 2010.

securities were de-sequestered to meet a part of the borrowing requirements. Third, the Reserve Bank resorted to active liquidity management by way of unwinding of MSS securities and purchase of securities through pre-announced calendar of open market operations (OMO) in order to reduce uncertainty and infuse confidence in the market (for details, refer Chapter III). The Reserve Bank also continued with the policy of passive consolidation of dated securities during 2009-10. Out of 108 auctions during the year, 101 securities were reissues of existing securities and seven were new securities.

VII.4 There was pressure on yields throughout the year, particularly for medium to long-term securities, stemming from high fiscal deficit and inflationary expectations. The weighted average yield on the dated securities issued during the year, however, moderated somewhat (Table VII.2), which was attained, *inter alia*, through reduction in the weighted average maturity of the loans issued. The maturity profile of debt issuances during the year was modulated keeping in view the capacity and preference of various market segments (Table VII.3). Despite a reduction in maturity profile, average maturity of the outstanding stock would still continue to be higher than that of many developed countries and EMEs.

VII.5 The surplus liquidity and interest rates prevailing in money markets kept the yield on Treasury Bills low during most part of 2009-10. The yields, however, hardened during the fourth quarter, reflecting, *inter alia*, the increase in CRR in January 2010 and hike in repo and reverse repo rates in March 2010 (Table VII.4). The bid-cover ratio in the auctions during 2009-10 improved over the previous year as the liquidity remained comfortable

Table VII.2: Central Government's Market Loans - A Profile@

(Yield in per cent / Maturity in years)

Year	Range of YTMs at Primary Issues			Issues during the year			Outstanding Stock	
	under 5 years	5-10 years	Over 10 years	Weighted Average Yield	Range of Maturities	Weighted Average Maturity	Weighted Average Maturity	Weighted Average Coupon
1	2	3	4	5	6	7	8	9
2007-08	-	7.55-8.44	7.62-8.64	8.12	6-29	14.90	10.59	8.50
2008-09	6.24-6.77	5.44-9.14	6.53-10.03	7.69	4-30	13.81	10.45	8.23
2009-10	6.09-7.27	6.07-7.77	4.86*-8.43	7.23	5-30	11.16	9.83	7.89

@ : Excludes issuances under MSS; YTM: Yield to Maturity; - : No Issues

* : Cut-off yield on the floating rate bond amounting to ₹2,000 crore with 11-year tenor auctioned on December 18, 2009.

Table VII.3: Maturity Profile of Central Government Dated Securities*

(Per cent of total)

Year	Issued during the year			Outstanding Stock #		
	Under 5 Years	5-10 Years	Over 10 Years	Under 5 Years	5-10 Years	Over 10 Years
1	2	3	4	5	6	7
2004-05	11	11	78	25	31	44
2005-06	0	26	74	25	32	43
2006-07	7	47	46	26	35	39
2007-08	0	61	39	26	38	36
2008-09	6	55	39	26	40	34
2009-10	12	45	43	29	38	33

* : Excludes issuances under MSS. # : As at end-March.

and the market interest in Government securities generally improved.

VII.6 The Reserve Bank continued with the uniform price auction format introduced in 2008-09 in view of the uncertain market environment and the need for enabling aggressive bidding by the investors in the context of large market borrowing programme. With surplus liquidity conditions sustained by the Reserve Bank contributing to market confidence, the devolvement on primary dealers (PDs) during 2009-10 was lower at ₹7,219 crore than that of ₹10,773 crore in the previous year.

VII.7 One of the factors impeding banks' participation in the primary market had been the firming up of inflationary expectations and their apprehensions about a possible exposure to marked-to-market losses in their investment portfolio. The feedback from the banks and PDs indicated that floating rate bonds (FRBs), by reducing their portfolio duration, could insulate investors from the interest rate risk and enable them to undertake asset liability management in a more effective manner. It was also felt that the FRBs could turn out to be cost effective for the Government *vis-à-vis* fixed rate bonds. The product design of FRBs was changed in consultation with the market participants, permitting re-issuance of FRBs, and thereby enabling build up of liquidity. Accordingly, the Reserve Bank, after a gap of 5 years, issued 11-year FRBs on December 21, 2009. Subsequently, FRBs were reissued on January 25 and April 26, 2010.

VII.8 The Central Government issued special securities to oil marketing companies amounting to ₹10,306 crore on September 15, 2009, which stood much lower than ₹95,942 crore in 2008-09

Table VII.4: Treasury Bills in the Primary Market

(Per cent)

Year/ Month	Notified Amount (₹ crore)	Average Implicit Yield at Minimum			Average Bid-Cover Ratio		
		91-day	182-day	364-day	91-day	182-day	364-day
1	2	3	4	5	6	7	8
Apr-09	39,000	3.81	4.11	4.08	3.22	2.79	5.07
May-09	29,000	3.26	3.54	3.59	3.18	2.25	3.14
Jun-09	22,500	3.35	3.56	4.00	3.37	5.65	2.86
Jul-09	40,000	3.23	3.45	3.77	3.92	2.86	3.90
Aug-09	28,000	3.35	3.84	4.25	3.04	2.18	3.76
Sep-09	32,000	3.35	3.94	4.47	3.67	4.17	4.05
Oct-09	36,000	3.23	4.01	4.57	3.15	3.88	2.86
Nov-09	30,000	3.28	3.78	4.49	3.5	3.59	3.36
Dec-09	26,500	3.57	4.08	4.63	3.12	2.99	4.10
Jan-10	33,000	3.86	4.13	4.67	1.97	3.60	4.61
Feb-10	31,000	4.11	4.52	4.95	2.10	2.51	2.49
Mar-10	33,000	4.35	4.66	5.13	2.48	3.51	3.48
2010-11							
Apr-10	36,000	4.14	4.64	5.07	3.1	3.31	3.37
May-10	36,000	4.39	4.76	4.92	2.54	2.82	4.10
Jun-10	15,000	5.29	5.31	5.49	3.61	3.52	2.91
Jul-10	13,000	5.56	5.86	5.99	3.61	2.44	4.26

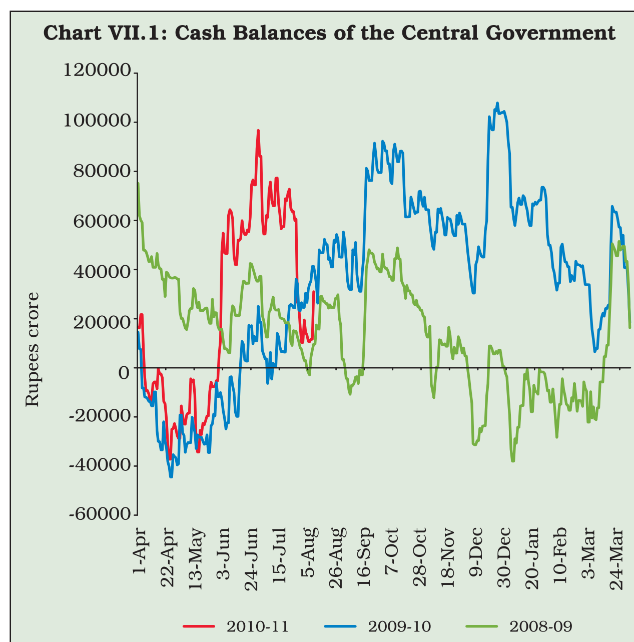
(issued to oil marketing and fertiliser companies). The Reserve Bank advised the Government on the prevailing market yield, spread, timing, maturity and the size of individual issuances of special securities as also their phased-in offloading by investors in the secondary market.

VII.9 Although the gross market borrowings of the Central Government through dated securities for 2010-11 are budgeted 9.4 per cent higher over the previous year, the net borrowings would be 5.6 per cent lower than the previous year (excluding MSS de-sequestering). The issuance calendar for dated securities for the first half of 2010-11 (April-September), released in consultation with the Central Government, is scheduled to raise ₹2,87,000 crore. The Central Government has raised a large part of the scheduled borrowing programme so far (up to July 31, 2010) (Table VII.1). The weighted average yield of dated securities issued during 2010-11 (up to July 31, 2010) was higher at 7.67 percent as compared with 6.93 percent during the corresponding period of the previous year.

Cash Management

VII.10 The cash balance position of the Central Government remained comfortable throughout 2009-10 except for the first quarter. The Government took recourse to ways and means advances (WMA) on April 4, 2009 due to large expenditure commitments. After reaching the WMA ceiling of ₹20,000 crore for the first half of the year on April 15, 2009, it resorted to overdrafts (OD). The Government continued to be in WMA up to June 15, 2009 and subsequently for three days during July 2009. The Government resorted to WMA for 76 days including OD for 28 days on three occasions during 2009-10. The cash balances turned positive since July 10, 2009 on account of the quarterly advance tax inflows, subsequently boosted by the surplus transfer from the Reserve Bank (₹25,009 crore) on August 13, 2009 (Chart VII.1). The Central Government started the financial year (2010-11) with a cash surplus but

Chart VII.1: Cash Balances of the Central Government



subsequently went into WMA on April 6, 2010 and continued to be in WMA up till May 30, 2010. The cash balances switched to surplus mode, thereafter, reflecting inflows on account of 3G/BWA spectrum auctions and quarterly tax receipts.

VII.11 The Government of India, in consultation with the Reserve Bank, decided to issue a new short-term instrument, known as Cash Management Bill (CMB) to meet the temporary cash flow mismatches of the Government. The CMBs are non-standard, discounted instruments for maturities of less than 91 days. Accordingly, two tranches of CMBs with maturity of 35 days and 28 days were issued in May 2010 amounting to ₹12,000 crore.

VII.12 Due to outflow of liquidity from the banking system on account of 3G/BWA spectrum auctions, inflationary pressures and rise in policy rates, the primary market yields on Treasury Bills firmed up. Liquidity pressures were addressed, *inter alia*, by scaling down the issuance of Treasury Bills in June and July 2010 by ₹22,000 crore and ₹20,000 crore, respectively. Further, the Government bought back dated securities to the tune of ₹9,614 crore. The notified amount of dated securities for July 2, 2010 auction was also lowered from the planned amount of ₹13,000 crore to ₹10,000 crore.

DEBT MANAGEMENT OF STATE GOVERNMENTS

Market Borrowings

VII.13 Despite an increase in borrowing requirements, the State governments completed their market borrowing programme smoothly given the comfortable liquidity conditions in the market (Table VII.5). Orissa was the only State that did not participate in the market borrowing programme in 2009-10, like the previous year when Orissa and Chhattisgarh both had abstained, in view of their improved revenue account position. Five States did not raise their full sanctioned amount in 2009-10 as against 15 States in 2008-09. The market borrowing programme was evenly spaced throughout the year.

VII.14 Reflecting the sheer size of issuances, the weighted average yield of the State government securities issued during 2009-10 stood higher than the previous year (Table VII.6). The spread between the benchmark Central Government securities and the State Development Loans (SDLs), however, stood lower during 2009-10, reflecting more evenly spaced distribution of market borrowings during 2009-10. Since 2005-06, all issuances of SDLs have a maturity of 10 years (Table VII.7).

Table VII.5 : Market Borrowings of State Governments #

(Rupees crore)

Item	2007-08	2008-09	2009-10
1	2	3	4
1. Net Allocation $	28,781	51,719	1,02,458
2. Additional Allocation @	40,234	62,990	2,679
3. Total Net Allocation (1+2)	69,015	1,14,709	1,05,137
4. Repayments	11,555	14,371	16,238
5. Gross Allocation (3+4)	80,570	1,29,081	1,21,375
6. Gross Sanctions under Article 293 (3) of the Constitution	80,570	1,25,019	1,36,948
7. Gross Amount Raised	67,779	1,18,138	1,31,122
8. Net Amount Raised	56,224	1,03,766	1,14,883
9. Amount Raised as a ratio of Amount Sanctioned (%)	84.1	94.5	95.7
10. SDLs outstanding (at the end-period)	2,98,845	4,02,611	5,17,472
Memo:			
No. of tranches	18	23	28

\# : Includes the Union Territory of Puducherry.

$: Net Allocation for 2009-10 pertains to 26 States/UT only

@ : Include allocation in lieu of NSSF shortfall for 2007-08, 2008-09 and 2009-10 and second stimulus package for 2008-09.

Table VII.6: Yield on State Government Securities

(Per cent)

Year	Range	Weighted Average
1	2	3
1997-98	12.30-13.05	12.82
1998-99	12.15-12.50	12.35
1999-00	11.00-12.25	11.89
2000-01	10.50-12.00	10.99
2001-02	7.80-10.53	9.20
2002-03	6.60-8.00	7.49
2003-04	5.78-6.40	6.13
2004-05	5.60-7.36	6.45
2005-06	7.32-7.85	7.63
2006-07	7.65-8.66	8.10
2007-08	7.84-8.90	8.25
2008-09	5.80-9.90	7.87
2009-10	7.04-8.58	8.11

VII.15 In order to raise resources at a lower cost, a State Government offered put option for its three issuances during September-October 2009, which could be exercisable by the investors after 4 to 5 years from the date of issue. Accordingly, the cut-off yields for the State in the auctions held on September 22, October 6 and October 29, 2009 were lower. Put options could be beneficial from the standpoint of price discovery and some reduction in the interest burden for the Government. There could, however, be rollover

Table VII.7: Residual Maturity Profile of Outstanding State Development Loans and Power Bonds

(Rupees crore)

Year of Maturity	State Development Loans	Power Bonds	Total
1	2	3	4
2010-11	15,641	2,907	18,548
2011-12	21,993	2,907	24,900
2012-13	30,628	2,870	33,498
2013-14	32,079	2,870	34,949
2014-15	33,384	2,870	36,254
2015-16	35,191	2,907	38,098
2016-17	31,522	1,453	32,975
2017-18	67,779	0	67,779
2018-19	1,18,138	0	1,18,138
2019-20	1,31,122	0	1,31,122
Total	**5,17,476**	**18,784**	**5,36,260**

risk and bunching of repayment obligations in the short-term if investors choose to exercise the option.

VII.16 Another important development during the year was the introduction of non-competitive bidding facility in the auction of SDLs. To widen the scope for participation of retail investors in the auction of SDLs, non-competitive bidding facility has been extended to SDLs since the auction held on August 25, 2009. Under the Scheme, up to 10 per cent of the notified amount of SDLs (5 per cent in the case of Central Government security) is allotted to eligible individuals and institutions, subject to a maximum of one per cent of the notified amount for a single bid per stock (₹2 crore in the case of Central government security). Retail/mid segment investors responded well due to the attractiveness of the scheme and as a result of wider retail participation, the cut-off yield was settled at a lower level in respect of many States.

VII.17 During 2010-11(up to July 2010), eight tranches of auctions were conducted under the market borrowing programme of the State Governments and 17 States raised an aggregate amount of ₹31,641 crore on a gross basis (net ₹23,519 crore) as compared to ₹32,566 crore (net ₹23,404 crore) raised by 17 States during the corresponding period of the previous year. The cut-off yield ranged 8.05-8.58 per cent as compared to 7.04-7.97 per cent during the corresponding period of the previous year. Consequently, the weighted average yield was higher at 8.28 per cent as compared with 7.65 per cent during the corresponding period of the previous year.

Cash Management

VII.18 Following the recommendations of the Advisory Committee on Ways and Means Advances and Overdrafts to State Governments (Chairman: Shri M.P. Bezbaruah), a revised WMA/OD Scheme was put in place with effect from 2006-07. Accordingly, the aggregate normal WMA limit for States for 2009-10 was ₹9,925 crore; on a review, the same limit has been retained for 2010-11. Reflecting the cash surplus position and management of cash balances by the States, the outstanding WMA/OD remained relatively moderate during 2009-10 (Table VII.8).

VII.19 Most State governments have accumulated sizeable cash surpluses in recent years, which reflected, inter alia, the fiscal consolidation process undertaken since 2005-06. The temporary setback to fiscal consolidation in the wake of the global crisis, however, did not affect much the pattern relating to cash surplus of the States. The liquidity

Table VII.8: WMA/Overdrafts of State Governments*

(Rupees crore)

Month	Special WMA			Normal WMA			Overdraft			Total		
	2008-09	2009-10	2010-11	2008-09	2009-10	2010-11	2008-09	2009-10	2010-11	2008-09	2009-10	2010-11
1	2	3	4	5	6	7	8	9	10	11	12	13
Apr	489	619	588	287	294	290	139	111	191	916	1,024	1069
May	310	126	298	3	50	14	0	2	0	313	179	312
Jun	9	5	36	0	67	0	0	0	0	9	71	36
Jul	25	76	2	0	7	0	0	0	0	25	83	2
Aug	2	55		47	52		0	0		49	107	
Sep	139	216		18	246		0	77		158	540	
Oct	653	54		83	161		0	2		736	216	
Nov	754	388		152	74		0	0		906	462	
Dec	223	22		0	31		0	0		223	53	
Jan	370	120		0	47		0	25		370	191	
Feb	86	508		0	32		0	0		86	540	
Mar	320	274		62	248		11	87		392	609	
Avg.	282	205	231	54	109	76	13	25	48	349	340	355

* : Average of daily outstanding.

Table VII.9: Number of days States availed of Special & Normal WMA and Overdraft

States	Special WMA			Normal WMA			Overdraft		
	2008-09	2009-10	2010-11*	2008-09	2009-10	2010-11*	2008-09	2009-10	2010-11*
1	2	3	4	5	6	7	8	9	10
Andhra Pradesh	0	1	3	0	0	0	0	0	0
Haryana	5	7	10	0	5	10	0	0	8
Kerala	105	18	0	18	2	0	0	0	0
Madhya Pradesh	2	11	0	2	11	0	0	0	0
Maharashtra	10	0	0	0	0	0	0	0	0
Nagaland	21	69	0	18	45	0	4	13	0
Punjab	23	130	0	21	128	0	0	29	0
Uttar Pradesh	0	8	4	0	8	4	0	0	0
West Bengal	168	95	38	39	15	12	4	8	4
Mizoram	0	29	25	0	15	15	0	0	0
Goa	0	0	0	0	1	0	0	0	0
Uttarakhand	57	69	33	28	26	12	15	9	10

* Up to July 31, 2010.

pressures, though, were confined to a few State Governments (Table VII.9).

VII.20 The surplus cash balances of the State Governments are automatically invested in 14-day Intermediate Treasury Bills, the discount rate of which is presently fixed at 5 per cent. The higher accumulation of surplus balances, particularly during the second half of 2009-10 were deployed in Intermediate Treasury Bills due to interest rate advantage (Table VII.10). The Government of Mizoram bought back SDLs amounting to ₹22 crore during 2009-10 under the "High Cost Debt Buy Back Scheme" of the State.

VII.21 The Reserve Bank, on behalf of the State governments, maintains the consolidated sinking fund (CSF) that provides a cushion for amortisation of market borrowing/liabilities and the guarantee redemption fund (GRF), which provides for the servicing of contingent liability arising from invocation of guarantees issued in respect of

Table VII.10 : Investments of the State Governments / UT*

(Rupees crore)

Month	Investment in 14-day Treasury Bills			Investment in Auction Treasury Bills			Total		
	2008-09	2009-10	2010-11	2008-09	2009-10	2010-11	2008-09	2009-10	2010-11
1	2	3	4	5	6	7	8	9	10
April	48,192	74,607	79,603	31,780	8,875	250	79,972	83,482	79,853
May	48,280	66,585	76,967	32,244	8,664	250	80,525	75,249	77,217
June	42,865	69,482	77,487	40,285	6,125	704	83,150	75,607	78,191
July	46,742	75,403	85,998	38,802	2,125	3,262	85,543	77,528	89,260
August	44,110	78,046		43,069	1,125		87,179	79,171	
September	40,112	73,663		40,927	1,125		81,038	74,788	
October	39,328	85,784		32,705	825		72,033	86,609	
November	41,878	87,974		26,988	750		68,866	88,724	
December	51,551	98,162		24,055	625		75,606	98,787	
January	63,420	1,01,871		20,084	500		83,504	1,02,371	
February	75,193	1,02,628		14,150	500		89,342	1,03,128	
March	1,01,557	1,06,697		6,893	313		1,08,450	1,07,009	
Avg.	**53,602**	**85,075**	**80,014**	**29,332**	**2,629**	**1,116**	**82,934**	**87,704**	**81,130**

*: Average of Friday outstanding.

borrowings by state level undertakings or other bodies. As on July 31, 2010, 20 State governments have notified CSFs and 10 have set up GRFs. The outstanding investments under CSF and GRF amounted to ₹32,316 crore and ₹3,466 crore, respectively, as at end-July 2010.

VII.22 Although the net market borrowings of the Central Government in 2010-11 would be lower than in the previous year, the borrowing programme, measured by the scale of fresh supplies of government paper, is likely to be much higher. The borrowing programme has to be managed keeping in view certain adverse factors. First, during 2009-10, the large market borrowing was facilitated by the unwinding of MSS securities and OMO purchases, as a result of which fresh issuance of securities constituted 63 per cent of the total budgeted market borrowings. In 2010-11, almost the entire budgeted market borrowings would, however, be funded by fresh issuance of securities. Therefore, notwithstanding the lower budgeted net market borrowings, fresh issuance of securities in 2010-11 would be significantly higher than during 2009-10. Second, in view of the revival in private credit demand and excess SLR holdings of banks, they may not invest in government securities as much as they did last year. Third, the demand for government securities from the state owned insurance companies could also be muted as they may participate in the disinvestment programme of the Government, while also meeting the rising long-term financing needs of the infrastructure sector. Therefore, the market conditions in 2010-11 are likely to be more challenging for the conduct of debt management operations. The auction calendar for dated securities for the first half of 2010-11, however, provides some comfort to the market as issuance of securities of 5-9 year maturities would continue to account for a significant portion of the borrowing programme. This is facilitated by the relatively higher duration of the outstanding stock of government securities.

VIII CURRENCY MANAGEMENT

Reflecting the Reserve Bank's clean note policy, there was larger withdrawal of soiled notes from circulation alongside higher supply of fresh notes. Expenditure incurred on security printing increased primarily due to higher supply of fresh notes. Counterfeit notes detected during 2009-10 were of the same magnitude as in the previous year. The systems for prevention and detection of counterfeit notes are being strengthened on a continuous basis by enhancing the security features of the currency notes, creating greater public awareness, simplifying the administrative and legal arrangements to encourage reporting of counterfeit notes, and enhancing the use of technology in banks.

VIII.1 Issue and management of bank notes has been one of the basic and most publicly visible functions of the Reserve Bank since its inception. The demand for currency has increased constantly with the growth of the size of the economy, notwithstanding the progress on non-cash modes of payments due to advances in technology. Distribution of fresh notes as well as withdrawal and destruction of soiled notes constitute the core of the currency management operations of the Reserve Bank. With the rising risk of counterfeit notes, preserving public confidence in the currency has assumed critical significance.

CURRENCY OPERATIONS

VIII.2 In pursuing the objective of providing good quality banknotes to the public, the Reserve Bank undertook a series of initiatives, which included regular supply of fresh banknotes, speedier disposal of soiled banknotes and extensive mechanisation of cash processing activities. The Reserve Bank has also been examining various options to enhance the life of banknotes as part of its 'Clean Note Policy'. The Bank has been taking several steps to check the menace of counterfeit notes, such as (i) creating awareness through publicity campaigns, (ii) enhancing the security features, and (iii) using technology to detect fake notes.

Infrastructure for Currency Management

VIII.3 The note issue and currency management function of the Bank is performed through its 18 issue offices, one sub-office at Lucknow, a currency chest at Kochi and a wide network of currency chests (CCs) and small coin depots (SCDs). The number of currency chests increased from 4,299 at end-December 2008 to 4,300 at end-December 2009 while the number of SCDs increased from 4,060 to 4,078 during the same period. As a part of the process of phasing out the currency chests with sub treasury offices (STOs), their number reduced further to 11 during 2009-10. The State Bank of India continues to have the largest share (71.0 per cent) of currency chests, followed by the nationalised banks (25.6 per cent) and private sector/foreign banks (2.6 per cent). Regional Rural Banks and Co-operative banks hold one chest each.

VIII.4 Bank notes and coins are distributed through more than 64,000 bank branches and more than 43,000 ATMs. Besides, banks distribute coins through Coin Vending Machines. To facilitate processing of currency, the Reserve Bank has installed 54 high capacity currency verification and processing system (CVPS), 28 currency disintegration and briquetting system (CDBS), 40 desktop note sorting machines across its offices. During the year, the Bank has initiated steps to purchase 5 more CVPS and enhance the capacity

of 5 CDBS. The commercial banks have installed note sorting machines (NSM), desktop note sorters, note counting machines, ATMs, cash recyclers, and note detectors. Having installed them in the currency chests and in sensitive and high business branches, they have now embarked on increasing the coverage in a time-bound manner.

NOTES AND COINS IN CIRCULATION

Bank Notes in Circulation

VIII.5 Both value and volume of banknotes in circulation increased during 2009-10 (Table VIII.1). The 10 rupee denomination showed the highest rate of growth in terms of both value and volume.

Coins in Circulation

VIII.6 The total volume of coins, including small coins in circulation, increased by 5.3 per cent during 2009-10 as compared with 4.7 per cent in the previous year. In value terms, the increase was 11.2 percent during 2009-10 as compared with 9.6 per cent a year ago (Table VIII.2). The circulation of new bimetallic ₹10 coins represented an insignificant proportion of the total coins in circulation at the end of the year.

Table VIII.1: Banknotes in Circulation

Denomination	Volume (million pieces) End - March			Value (Rupees crore) End - March		
	2008	2009	2010	2008	2009	2010
1	2	3	4	5	6	7
₹2 & ₹5	7,405	7,865	7,953	2,747	2,936	2,930
	(16.7)	(16.0)	(14.1)	(0.5)	(0.4)	(0.4)
₹10	9,333	12,222	18,536	9,333	12,222	18,536
	(21.1)	(25.0)	(32.8)	(1.6)	(1.8)	(2.4)
₹20	2,054	2,200	2,341	4,108	4,399	4,681
	(4.6)	(4.5)	(4.1)	(0.7)	(0.6)	(0.6)
₹50	5,302	4,888	4,211	26,508	24,440	21,057
	(12.0)	(10.0)	(7.4)	(4.6)	(3.6)	(2.7)
₹100	13,457	13,702	13,836	1,34,575	1,37,028	1,38,364
	(30.4)	(28.0)	(24.5)	(23.1)	(20.1)	(17.6)
₹500	5,262	6,166	7,290	2,63,108	3,08,304	3,64,479
	(12.0)	(12.6)	(12.9)	(45.2)	(45.3)	(46.2)
₹1000	1,412	1,918	2,383	1,41,219	1,91,784	2,38,252
	(3.2)	(3.9)	(4.2)	(24.3)	(28.2)	(30.2)
Total	**44,225**	**48,963**	**56,549**	**5,81,598**	**6,81,133**	**7,88,299**

Note: Figures in bracket represent per cent to total.

Table VIII.2: Coins in Circulation

Denomination	Volume (million pieces) End - March			Value (Rupees crore) End - March		
	2008	2009	2010	2008	2009	2010
1	2	3	4	5	6	7
Small coin	54,735	54,736	54,738	1,455	1,455	1,455
	(57.3)	(54.7)	(52.0)	(16.0)	(14.6)	(13.1)
₹1	24,721	26,975	29,461	2,472	2,696	2,964
	(25.9)	(27.0)	(28.0)	(27.2)	(27.1)	(26.8)
₹2	9,535	11,179	13,198	1,907	2,236	2,640
	(10.0)	(11.2)	(12.5)	(21.0)	(22.4)	(23.8)
₹5	6,500	7,141	7,760	3,250	3,570	3,880
	(6.8)	(7.1)	(7.4)	(35.8)	(35.9)	(35.0)
₹10	–	–	149	–	–	149
			(0.1)			(1.3)
Total	**95,491**	**1,00,013**	**1,05,306**	**9,084**	**9,957**	**11,070**

Note: Figures in bracket represent per cent to total.

CLEAN NOTE POLICY

VIII.7 The Reserve Bank adopted the 'Clean Note Policy' for circulation of fairly good quality banknotes and withdrawal of unfit/soiled banknotes from circulation and their destruction. As a result of this, 14,987 million fresh banknotes were issued by the Bank for circulation during 2009-10 as compared with 13,809 million in 2008-09. However, 13,072 million pieces of soiled banknotes were withdrawn and disposed off/destroyed during the year (11,962 million pieces in 2008-09).

Indent and Supply of Fresh Banknotes and Coins

VIII.8 To meet the increasing demand for banknotes in a growing economy, the Reserve Bank has been placing increasing indent for banknote production/supply (Table VIII.3). The indent for banknotes for 2009-10 (April-March) was met by the printing presses for the fourth consecutive year.

VIII.9 The Bharatiya Reserve Bank Note Mudran Pvt. Ltd. (BRBNMPL) supplied 9,517 million pieces of banknotes during 2009-10 (July - June) as compared to 8,501 million pieces supplied during 2008-09 (July-June). The notes printed by Security Printing and Minting Corporation of India Ltd. (SPMCIL) was 7,517 million pieces in 2009-10 (July - June) as compared to 5,160 million pieces in 2008-09 (July-June). With regard to coins, for

Table VIII.3: Banknotes Indented and Supplied

Volume (million pieces)

Denomination	2008-09		2009-10		2010-11
	Indent	Supply	Indent	Supply	Indent
1	2	3	4	5	6
₹5	250	250	1,000	548	—
₹10	5,000	5,030	5,000	5,060	5,000
₹20	500	500	800	820	1,500
₹50	1,000	1,008	1,000	1,004	2,000
₹100	4,200	4,215	4,000	3,969	4,300
₹500	3,500	3,459	4,000	4,008	4,000
₹1000	800	763	1,000	1,007	1,000
Total	**15,250**	**15,225**	**16,800**	**16,416**	**17,800**

Table VIII.5: Disposal of Soiled Notes and Supply of Fresh Banknotes

Volume (million pieces)

Denomination	2007-08		2008-09		2009-10	
	Disposal	Supply	Disposal	Supply	Disposal	Supply
1	2	3	4	5	6	7
₹1000	17	633	39	664	78	865
₹500	444	1,756	735	2,611	1,247	3,513
₹100	3,727	4,015	3,690	4,277	4,307	3,935
₹50	2,172	1,522	2,403	1,042	2,400	791
₹20	834	728	1,003	605	790	467
₹10	3,030	4,580	3,700	4,607	3,832	4,975
Up to ₹5	472	478	392	3	418	441
Total	**10,969**	**13,742**	**11,962**	**13,809**	**13,072**	**14,987**

the first time, the indent of coins was fully met by the supplies from the mints during 2009-10 (Table VIII.4).

Disposal of Soiled Banknotes

VIII.10 During the year 2009-10, 13,072 million pieces of soiled banknotes (23.1 per cent of notes in circulation) were processed and removed from circulation (Table VIII.5). Out of the total disposal, about 53.6 per cent were processed over 54 CVPS and remaining banknotes were disposed of under Dynamic Working Model.

High Level Group on Systems and Procedures for Currency Distribution

VIII.11 A High Level Group on Systems and Procedures for Currency Management (Chairperson: Smt. Usha Thorat, Deputy Governor, RBI) constituted by the Bank, submitted its Report in August 2009, to enhance the integrity and efficiency of the systems and procedures for stocking and distribution of currency notes. The Group emphasised the use of technology as the prime imperative for the changes needed in currency management. The Group suggested different measures for detecting counterfeit notes and maintaining good quality notes in circulation, and strengthening security systems. As per the recommendations, to ensure issuance of only clean and genuine notes to public, banks should use note sorting machines. The Reserve Bank, in turn, should set parameters and standards for such machines. To avail economies of scale, cash processing centres with high speed and high capacity machines should be established by banks. The number of currency chests should be rationalised. To contain risks, chest holding limits should be fixed. The soiled notes should be shrink-wrapped to enhance security and prevent pilferage.

Table VIII.4: Indent and Supply of Coins

Denomination	Volume (million pieces)					Value (Rupees crore)			
	2008-09		2009-10		2010-11	2008-09		2009-10	
	Indent	Supply	Indent	Supply	Indent	Indent	Supply	Indent	Supply
1	2	3	4	5	6	7	8	9	10
50 paise	400	153	200	100	70	20	8	10	5
₹1	2,500	2,110	3,000	2,918	2,600	250	211	300	292
₹2	1,800	1,617	2,000	2,284	1,700	360	334	400	457
₹5	1,200	335	800	778	1,300	600	168	400	389
₹10	0	80	100	205	1,000	0	80	100	205
Total	**5,900**	**4,295**	**6,100**	**6,285**	**6,670**	**1,230**	**801**	**1,210**	**1,348**

Other Measures taken to Improve the Quality of Banknotes in Circulation

VIII.12 Following the recommendations of the Group, the Reserve Bank issued a directive to the commercial banks on November 19, 2009 under Section 35A of Banking Regulation Act, 1949 directing them to issue to public only such notes (of higher denomination) which are pre-processed for genuineness and fitness through note sorting machines. Banks have been further directed that all branches must duly check for authenticity/ genuineness and fitness of the notes by machines; the specific norms are that branches who have average daily cash receipt of over ₹1 crore must comply by April 1, 2010 and those between ₹50 lakh to ₹1 crore by April 1, 2011. Banks have also been advised to prepare a roadmap for complying with these directions for the remaining branches. Parameters on fitness sorting and authentication have also been issued by the Reserve Bank. Banks are required to use only those machines, which comply with these parameters.

VIII.13 The Reserve Bank, along with the Government, has been exploring methods to increase the life of currency notes, especially of the lower denomination which have a much shorter life. Several countries have resorted to plastic notes to elongate the life of their banknotes. However, there are certain apprehensions regarding the use of plastic notes. The Reserve Bank, in consultation with the Government, has initiated steps to conduct a field trial of plastic notes in the denomination of ₹10 in the year 2010-11 to gather valuable lessons.

COUNTERFEIT BANKNOTES

VIII.14 Counterfeit banknotes detected during the year were of similar magnitude as in 2008-09. There was, however, a large increase in the number of counterfeit notes detected during 2008-09 (Table VIII.6). Out of the total detection of 401 thousand pieces, 86.9 per cent was detected at bank branches, which indicate the result of increased use of NSMs at their end.

Table VIII.6: Counterfeit Notes Detected

Year	Detection at RBI (no. of pieces)	Detection at other banks (no. of pieces)	Total (no. of pieces)
1	2	3	4
2006-07	59,049 (56.4)	45,695 (43.6)	104,743
2007-08	62,134 (31.7)	133,677 (68.3)	195,811
2008-09	55,830 (14.0)	342,281 (86.0)	398,111
2009-10	52,620 (13.1)	348,856 (86.9)	401,476

Note: Figures in parentheses represent the shares in total.

VIII.15 The Reserve Bank has been taking several steps to check the menace of counterfeit banknotes. The legal provision with respect to filing of First Information Report (FIR) seems to be coming in the way of detecting and reporting of the counterfeit notes. The High Level Group (HLG) recommended that these rules need to be simplified so that innocent members of the public are not harassed by the legal provisions (Box VIII.1).

CUSTOMER SERVICE

Exchange of Banknotes - Revision of Note Refund Rules

VIII.16 With a view to further simplifying the Note Refund Rules with regard to exchange of soiled and mutilated / torn notes, the Note Refund Rules 2009, after approval of the Parliament, were notified/published in the Official Gazette of India and came into force on August 4, 2009. The new Note Refund Rules 2009 are simple and easy to comprehend and implement, leaving less scope for subjectivity. The procedure required to be followed by the branches for acceptance, adjudication, and maintenance of records of mutilated notes is also laid down in the booklet. During 2009-10 (April-March), the number of banknotes adjudicated by the Reserve Bank offices was 24.3 million as against 5.7 million by currency chests. The Citizens' Charter has been updated and put on the RBI website in April 2009. It contains detailed information on exchange of soiled and mutilated notes on public counters, procedure, cost,

Box VIII.1
Procedure for Dealing With Counterfeit Currency

Printing and/ or circulation of forged Indian Currency Notes is an offence under Sections 489A to 489E of the Indian Penal Code. As per Section 39 of the Criminal Procedure Code, every person, aware of the commission of or of the intention of any other person to commit certain offences, including those relating to counterfeiting of currency, is required to immediately give information about such commission or intention to the nearest magistrate or police officer. Accordingly, the procedure prescribed by the Reserve Bank of India for the commercial banks requires impounding all counterfeit notes detected by the banks and sending them to the police for lodging an FIR in accordance with the law. The Reserve Bank has instructed each bank to establish at its Head Office a Forged (Counterfeit) Note Vigilance Cell to undertake the functions relating to handling of counterfeit notes.

Banks/Treasuries examine the banknotes received by them from their customers for presence of security features to determine their genuineness. If a banknote is suspected as a counterfeit on examination, it is branded with a stamp "COUNTERFEIT BANKNOTE" and impounded in the presence of the tenderer. An acknowledgement is issued to the tenderer. The receipt is authenticated by the cashier as well as by the tenderer. The receipt is issued even in cases where the tenderer is unwilling to countersign the receipt. The impounded note is forwarded to local police authorities for investigation by filing the FIR. Particulars such as name, address of the tenderer and his/ her statement as to how the said note came into his/ her possession are also forwarded to police authorities. FIR is required to be filed in respect of each case of detection of counterfeit note irrespective of the number of pieces and bonafides of the tenderer.

As incidence of fake notes has been increasing, individuals may come in possession of a counterfeit note without knowledge of it being a counterfeit and unintentionally become a conduit for circulation of the same by presenting it to a bank or business establishment. This could lead to harassment for the member of the public/ bank personnel as currently the requirement is that FIR should be filed in all such cases. Because of the FIR requirement, there is a tendency to under report such cases to the police/ RBI. The High Level Group on 'Systems and Procedures for Currency Distribution' constituted by the Reserve Bank, which submitted its Report in August, 2009 looked into the issue of counterfeit notes. As per the recommendations of the Group, where any person inadvertently in possession of fake notes up to five pieces tenders the same at the bank counter:

(a) Banks should impound such notes and provide acknowledgement to the tenderer as per current guidelines.

(b) Banks should obtain approved ID document(s) of the tenderer (in case of a customer the bank would already have the necessary documents, for a non-customer approved ID document or finger prints may be obtained).

(c) Banks should include such instances in the Counterfeit Currency Report (CCR) to FIU-IND / RBI. The counterfeit notes may be sent to RBI.

(d) The bank need not file an FIR in such cases.

The Reserve Bank has initiated discussions with the Government for appropriate amendment to rules/codes. The Bank continued to work with the Government for introduction of notes with new/changed design and new/ updated security features in the year 2010. Other ongoing programmes include, withdrawal of old series notes in a non-disruptive way, public awareness programmes through print/electronic media/ posters, training of cash handlers, coordination with various law enforcing/ investigating agencies, and creation of administrative/ other infrastructure in banks.

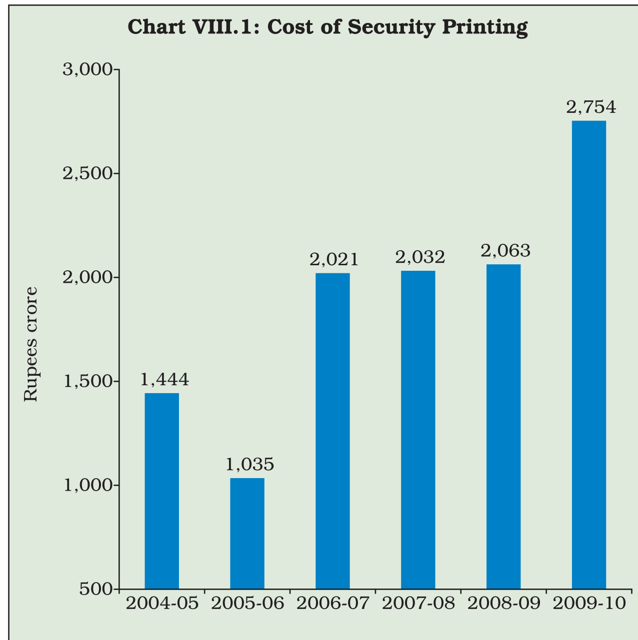
time for availing these services and Mechanism for Grievance Redressal.

INDIGENISATION OF PAPER, INK AND OTHER RAW MATERIALS FOR PRODUCTION OF BANKNOTES

VIII.17 In order to indigenise production of bank notes, the foundation stone of Bank Note Paper Mill, a 50:50 shareholding between BRBNMPL and SPMCIL, was laid at Mysore. The installed capacity in the first phase will be 6000 metric tonnes (MT) by 2012 and will be enhanced to 12000 MT in another year or so. Factors like self reliance in paper, cost savings, strategic considerations and security were the main considerations in setting up a paper mill.

EXPENDITURE ON CURRENCY PRINTING AND DISTRIBUTION

VIII.18 The expenditure incurred on security printing charges (note forms) in 2009-10 (July-June) increased by ₹691 crore (33.5 per cent) to



₹2,754 crore (Chart VIII.1). The increase in expenditure on security printing was mainly on account of increase in procurement of banknotes in 2009-10 (July-June) by 24.7 per cent and partly on account of moderate increase in prices of banknotes (3 to 11 per cent) in different denominations.

VIII.19 Expenditure on Remittance of Treasure has increased from ₹32 crore in 2008-09 to ₹37 crore in 2009-10 (July-June), mainly on account of increase in indent and revision of salary of Police/ other forces deployed for security/ guarding/ escorting of Treasure post Sixth Pay Commission.

VIII.20 Providing adequate supply of good quality banknotes and coins in the country would continue to be the focus of currency management operations in the Reserve Bank. Enhancing the efficiency in currency operations of banks will be a focus in the coming years and use of technology will be the key. Establishment of cash processing centres (CPC) across the country and improved logistics management will ensure clean and good quality notes. The Reserve Bank would also continue with its efforts to further strengthen security features in the banknotes and educate the public about security features in genuine banknotes so as to mitigate the risk posed by counterfeiting.

VIII.21 The initiatives in other areas of currency management would also be pursued vigorously, particularly examining various options for increasing the circulation life of banknotes of lower denominations, ensuring printing of banknotes meeting very strict quality rules/standards, reviewing the banknotes and coins handling practices including recycling of banknotes and coins, and issue of currency through ATMs.

IX PAYMENT AND SETTLEMENT SYSTEMS AND INFORMATION TECHNOLOGY

Recognising the significance of advances in payment and settlement systems matching the needs of the economy and the financial system, the Reserve Bank works with a clear mission to ensure that all payment and settlement systems operating in the country are "safe, secure, sound, efficient, accessible and authorised". Consistent with the mission, the Reserve Bank took several measures during the year for improving the efficiency of existing systems as well as promoting the use of new modes/systems while also striving to put in place a framework for off-site and on-site surveillance of payment systems. With a view to further leveraging the role of information technology (IT) in enhancing the efficient functioning of the financial system, the Reserve Bank undertook important steps covering IT infrastructure and implementation of new applications.

IX.1 Payment and Settlement Systems are a vital part of the economic and financial infrastructure and contribute to the overall economic performance and financial stability by facilitating efficient financial intermediation. The Indian financial system is characterised by existence of a variety of payment systems and products reflecting continuation of traditional paper based mode of payments along with a significant growth in a range of diverse electronic modes of payments. The increasing penetration and emergence of new forms of payment and settlement systems makes the supervision and oversight of payment systems a critical function of the Reserve Bank for ensuring the safety of these systems. Apart from performing the regulatory functions and facilitating the development of payment and settlement systems, the Reserve Bank also plays a critical role in harnessing the benefits of advances in information technology (IT), both for the banking sector as a whole and its own operations.

IX.2 The payment and settlement systems in India functioned in a non-disruptive manner during the stress in the global financial markets and thereby did not act as a channel of contagion. Payment and settlement systems functioned smoothly and efficiently in 2009-10 as well ensuring the timely settlement of both systemically important high value transactions and retail transactions of the public at large. This was facilitated by various technological advancements that were initiated in payment and settlement systems by the Reserve Bank.

PAYMENT AND SETTLEMENT SYSTEMS

IX.3 Technology induced developments in payment and settlement systems have been significant in recent years and can be analysed under two major categories. The first category relates to adapting the existing payment products for use on new channels brought about by technology. The card schemes with their ubiquitous acceptance network fit into the first category. The adaptation of card based payments over the internet has enabled the use of such products across the globe. The second category relates to new channels of delivery enabled by technology. Internet/mobile based products have become important means of payments. This has also brought in non-bank players into the arena. The role of Reserve Bank as a regulator and facilitator of these developments assumes critical importance, given the pace and complexity of changes as well as the risks involved.

Regulatory and Developmental Role of the Reserve Bank in Payment and Settlement Systems

IX.4 In terms of the Payment and Settlement Systems Act (the PSS Act), 2007, the Reserve Bank has been vested with statutory powers to regulate and supervise the payment systems in the country.

Under the PSS Act, the Bank has constituted an apex body, the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS). The Department of Payment and Settlement Systems (DPSS) of the Reserve Bank assists the BPSS in administering various provisions of the PSS Act.

IX.5 The PSS Act enjoins upon any entity the need to obtain authorisation from the Bank (unless specifically exempted in terms of the PSS Act) for operating any payment system as defined therein. By the end of June 2010, authorisation has been granted to 37 payment system operators of pre-paid payment instruments, card schemes, cross border inward money transfers, Automated Teller Machine (ATM) networks and centralised clearing arrangements. The details of authorised entities are available on the Reserve Bank's website (www.rbi.org.in). All payment system operators have been advised to comply with the relevant Anti Money Laundering (AML) standards and Combating Financing of Terrorism (CFT) guidelines issued by the Bank.

Developments in Payment and Settlement Systems

IX.6 The total turnover under various payment and settlement systems registered a growth of 15.6 per cent in terms of value during 2009-10, as compared with 13.3 per cent during 2008-09 (Table IX.1). The annual turnover in payment systems has been increasing as a ratio of GDP which is consistent with the financial deepening of the economy.

Paper-based Payment Systems:

IX.7 The paper-based systems still continue to dominate in terms of volume, and therefore are

Table IX.1 : Payment System Indicators - Annual Turnover

Item	Volume (000s)			Value (Rupees crore)		
	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10
1	2	3	4	5	6	7
Systemically Important Payment Systems (SIPS)						
1. High Value Clearing	21,919	21,848	5,525	55,00,018	45,50,667	18,61,560
2. RTGS	5,840	13,366	33,241	2,73,18,330	3,22,79,881	3,94,53,359
Total SIPS (1+2)	**27,759**	**35,214**	**38,766**	**3,28,18,348 (6.6)**	**3,68,30,548 (6.6)**	**4,13,14,919 (6.6)**
Financial Markets Clearing						
3. CBLO	113	119	142	81,10,829	88,24,784	1,55,41,378
4. Government Securities Clearing	216	270	346	56,02,602	62,54,519	89,86,718
5. Forex Clearing.	757	838	884	1,27,26,832	1,69,37,489	1,42,11,486
Total Financial Markets Clearing (3 to 5)	**1,086**	**1,227**	**1,372**	**2,64,40,263 (5.3)**	**3,20,16,792 (5.7)**	**3,87,39,582 (6.2)**
Others						
6. MICR Clearing	12,01,045	11,40,492	11,43,164	60,28,672	58,49,642	66,64,003
7. Non-MICR Clearing	2,37,600	2,33,566	2,30,567	18,67,376	20,60,893	18,78,425
Retail Electronic Clearing						
8. ECS DR	1,27,120	1,60,055	1,50,214	48,937	66,976	69,819
9. ECS CR	78,365	88,394	98,550	7,82,222	97,487	1,17,833
10. EFT/NEFT	13,315	32,161	66,357	1,40,326	2,51,956	4,11,088
Total Retail Electronic Clearing Cards	**2,18,800**	**2,80,610**	**3,15,121**	**9,71,485**	**4,16,419**	**5,98,740**
11. Credit Cards	2,28,208	2,59,561	2,34,209	57,985	65,356	62,950
12. Debit Cards	88,306	1,27,654	1,70,170	12,521	18,547	26,566
Total Others (6 to 12)	**19,73,954**	**20,41,883**	**20,93,231**	**89,38,039 (1.8)**	**84,10,857 (1.5)**	**92,30,684 (1.5)**
Grand Total (1 to 12)	**20,02,799**	**20,78,324**	**21,33,369**	**6,81,96,650 (13.8)**	**7,72,58,197 (13.9)**	**8,92,85,185 (14.3)**

Notes: 1. High value clearing refers to cheques of ₹1 lakh/10 lakh. The clearing has been discontinued with effect from April 1, 2010.
2. Settlement of government securities clearing, CBLO and forex transactions is through Clearing Corporation of India Ltd.
3. At the end of April 2010, the MICR clearing was available at 66 centres (65 centres during previous year).
4. The figures relates to Cards are for transactions at POS Terminals only.
5. Figures in parentheses are ratios to GDP at current market prices.
6. Retail Electronic Clearing for 2007-08 (Volume and Value) includes refund of the oversubscription amount of IPOs floated by companies using electronic mode by the stock exchanges as mandated.

categorised as a System-Wide Important Payment System (SWIPS). Its share has, however, been declining both in volume and value terms in recent years (Chart IX.1). To streamline the process and reduce the time taken for collection of outstation cheques, the concept of Speed Clearing (introduced in 2008, leveraging on the core banking infrastructure of banks) has now been made available as part of Magnetic Ink Character Recognition (MICR) clearing at all the 66 MICR Cheque Processing Centres (CPCs). This has reduced the time taken for realisation of proceeds of outstation cheques to T+2/ 3 days. As a consequence, the separate inter-city clearing run by Reserve Bank was discontinued from November 2009.

IX.8 To ensure further efficiency as also to reduce physical movement of cheques, the Cheque Truncation System (CTS) that involves use of images for processing of cheques in clearing was introduced in the National Capital Region (NCR) of Delhi in 2008. With complete migration of cheque volume to CTS, the MICR processing has been discontinued in the NCR. The CTS system now handles around 12 per cent of the total cheque volume in the country. In a bid to extend the benefit of CTS to other parts of the country, the process of roll-out of CTS at Chennai has been initiated. A grid-based approach is being envisaged as part of the roll-out process whereby all the centres in a region can reap the benefits of CTS by joining the arrangements.

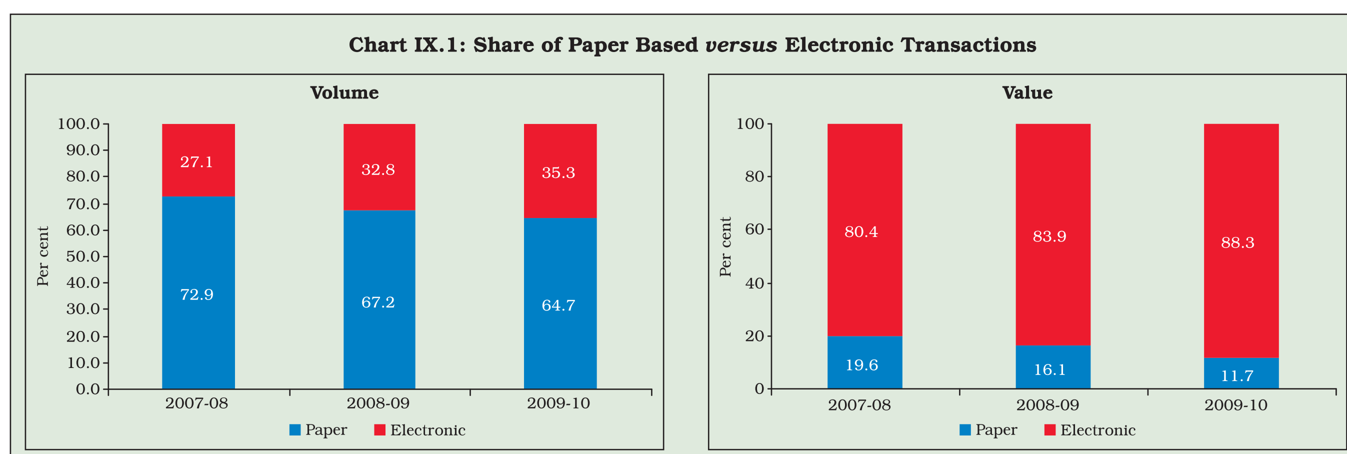
IX.9 After a comprehensive review and discussions with stakeholders, a new cheque standard styled 'CTS-2010 Standard' prescribing mandatory and desirable security features on cheque forms/leafs has been proposed, which would further increase the comfort of banks while using images for presenting and processing (Box IX.1). This is expected to be implemented in a phased manner starting early 2011.

IX.10 Considering the inherent risks involved and as an important step towards encouraging transition to alternate efficient electronic payment systems *viz*. RTGS, NEFT, the Reserve Bank discontinued the separate High Value Clearing (HVC) (*i.e.,* same day clearing of local cheques of ₹1 lakh and above), that was operational at 30 large centres across the country, in a non-disruptive manner. Cheques of higher value can, however, continue to be presented in the normal MICR clearing.

Electronic Payment Systems

IX.11 The Reserve Bank has been, over a period of time, proactively encouraging the introduction of electronic payment products that are superior to paper-based systems in terms of traceability, efficiency, speed and safety. These include large value payment options like the Real Time Gross Settlement (RTGS) as also retail payment options that facilitate multiple credit/debit transactions (Electronic Clearing Service (ECS) - credit/debit) or person to person electronic payments (National Electronic Funds Transfer - NEFT).

Chart IX.1: Share of Paper Based *versus* Electronic Transactions



Box IX.1
New Cheque Standard "CTS 2010"

The developments in cheque clearing, such as growing use of multi-city and payable-at-par cheques, introduction of Cheque Truncation System (CTS) for image-based cheque processing, and increasing popularity of Speed Clearing for local processing of outstation cheques have increased complexity in cheque processing which calls for process re-engineering and automation. Such developments along with the diversity in patterns, designs and security features of cheque forms introduced over a period of time have necessitated prescription of certain minimum security features in cheques printed, issued and handled by banks for uniform application across the banking industry. Against this backdrop, a Working Group comprising various stakeholders *viz.*, commercial banks, paper manufacturers and security printers apart from Reserve Bank was set-up by the Bank for examining the need for further standardisation of cheque forms and enhancement of security features therein.

Based on the recommendations of the Working Group and the feedback received from banks, Indian Banks Association (IBA) and National Payments Corporation of India (NPCI) among others, certain benchmarks towards standardisation of cheques have been issued. The benchmarks styled "CTS-2010 standard" contains mandatory and optional security features on cheque forms. The mandatory security features include quality of security paper, "CTS-INDIA" watermark, bank's logo in invisible ink (UV ink) and void pantograph (an anti-copying feature). Additionally, certain desirable features have also been suggested, which could be implemented by banks based on their needs and their own risk perception. The new cheque standard mandates placement of significant fields on the cheque forms. It also recommends use of light/pastel colours and clutter free background in cheque forms for improving quality and content of cheque images in CTS scenario. The benchmarks, *inter alia,* include prohibition of alterations/corrections on cheque forms other than for date validation. Use of UV image view in CTS has been kept on hold for the present considering the implementation challenges and will be reviewed in future.

This set of minimum security features would not only ensure uniformity across all cheque forms issued by banks in the country, but also aid presenting/collecting banks while scrutinising/recognising cheques of drawee banks in an image-based processing scenario. The homogeneity in security features is expected to act as a deterrent against cheque frauds, while the standardisation of field placements on cheque forms would enable straight-through-processing by use of optical/image character recognition technology. The "CTS-2010 standard" is proposed to be implemented by banks before the roll-out of CTS at Chennai. IBA and NPCI have been vested with the responsibility to co-ordinate and advise banks on introduction of additional security features on cheques as also other aspects relating to implementation of the new standard across the country.

a) A new variant of ECS styled National Electronic Clearing Service (NECS) was introduced in September 2008, to overcome the geographical limitations of the coverage of the current ECS, which was available only at 86 major centres, and to enable users to avoid submission of multiple files to different centres. NECS facilitates participation of all Core Banking Solution (CBS) enabled branches of member banks. The processing and settlement of NECS is centralised at Mumbai. As a further refinement, to cater to the need of banks operating at the State/ Regional level, Regional ECS (RECS) credit was introduced on a pilot basis in Bangalore in May 2009. RECS operates from a single location in the State (the capital city) and credits are made to beneficiary accounts maintained with core-banking enabled branches across the entire State. This has since been extended to Chennai and is proposed to be operationalised across the country.

b) The NEFT system has been strengthened by: (i) enhancing Business Continuity Plans/ Disaster Recovery arrangements, ii) mandating creation of Customer Facilitation Centre (CFC) for prompt resolution of customer complaints, (iii) increasing the number of settlements from six to eleven and making the system available from 0900 hours to 1900 hours on weekdays and 0900 hours to 1300 hours on Saturdays and (iv) mandating *'Positive Confirmation'* to be sent to the originator confirming successful credit to beneficiary's account. NEFT is presently available across over 69,000 branches in the country.

c) The scope and coverage of RTGS was expanded by (i) permitting SEBI regulated clearing entities to settle funds leg of OTC

trades of the corporate bond transactions in RTGS, since December 2009, and (ii) extending the cut-off time for processing customer transactions in RTGS at the Reserve Bank up to 1630 hours on weekdays and 1330 hours on Saturdays. Accordingly, the cut-off time for processing inter-bank transactions was extended up to 1800 hours on weekdays and 1500 hours on Saturdays. It is expected that banks would, in turn, correspondingly facilitate longer cut off time to their customers for putting through transactions in RTGS.

IX.12 The RTGS system has been in operation in India since March 2004 and has been exhibiting rapid growth, not only in terms of volume and value of transactions but also in the coverage of branches (Chart IX.2). During the year 2009-10, a total of 11,172 bank branches were added in the RTGS system, thereby increasing the number of RTGS enabled bank branches to 66,178. The efficiency of RTGS system can be judged from the peak volume of RTGS transactions, which touched 248 thousand transactions on March 30, 2010 as compared to the last year's peak level of 128 thousand transactions on March 29, 2009. The increased volumes could be handled smoothly as the Reserve Bank upgraded central systems at Data Centre in December 2009 by implementing architectural changes in the RTGS application.

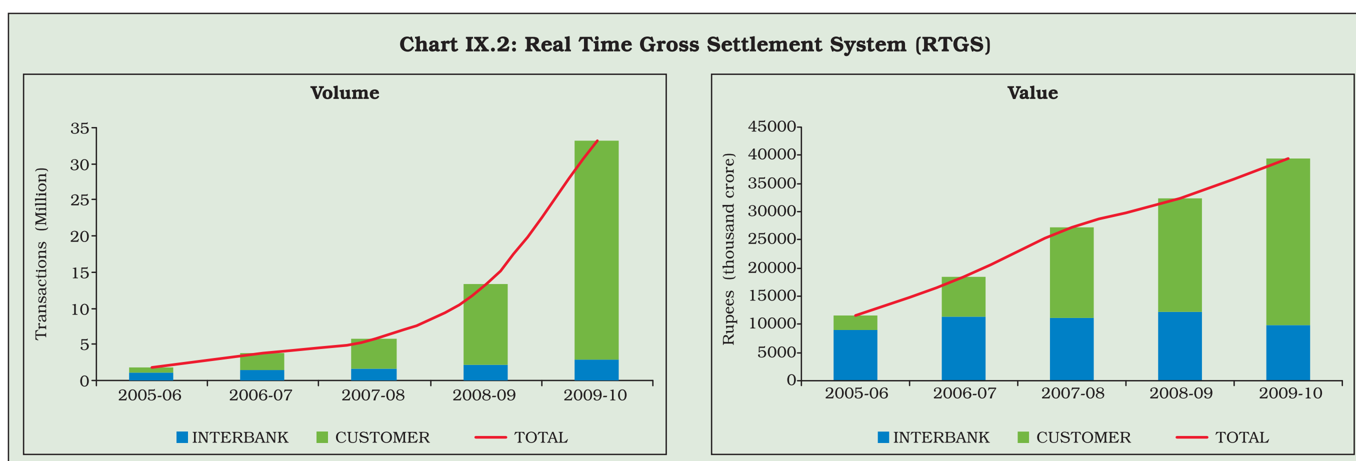
IX.13 Considering the importance of RTGS for settling the large value payments, the Reserve Bank has initiated steps to revamp the current RTGS system. The proposed system would improve technological and liquidity saving features at par with the similar systems operating elsewhere in the world. A Working Group comprising representatives from the Reserve Bank and major commercial banks has been constituted for preparing the basic approach towards a next generation RTGS system, both from the business and IT perspective.

Emerging Payment Channels

IX.14 Advances in Information Technology have brought about significant changes in payment channels available across the globe. In India too, while card based payments have been in use for quite some time, more recently, internet/mobile phone based products and the use of these channels for transactions have been gaining momentum and popularity. Further variations of cards like the pre-paid cards also have emerged. The challenge to the Reserve Bank as a regulator posed by such developments is to strike the right balance between encouraging innovations and protecting the integrity and safety of the payment system and upholding the interests of the users. Within this broad framework, the Reserve Bank took several initiatives to encourage the orderly development of these payment channels.

IX.15 To mitigate the risks arising out of the use of credit/debit cards over internet/IVRS (technically referred to as card not present (CNP) transactions),

Chart IX.2: Real Time Gross Settlement System (RTGS)



it was mandated that all CNP transactions should be additionally authenticated based on information not available on the card and an online alert should be sent to the cardholders for such transactions of value for ₹5,000 and above.

IX.16 Pre-paid payment instruments facilitate purchase of goods and services against the value stored on such instruments. To bring in transparency and facilitate orderly growth of this payment product, the Bank issued guidelines in April 2009 and August 2009 on issuance and operations of pre-paid payment instruments. 25 banks and 12 non-banks have so far been accorded approval for issuing pre-paid cards.

IX.17 The operating guidelines for mobile banking issued in October 2008 were relaxed in December 2009, facilitating mobile banking transactions up to ₹50,000, both for e-commerce and money transfer purposes. Banks have also been permitted to provide money transfer facility up to ₹5,000 from a bank account to beneficiaries not having bank accounts with cash payout facility at an ATM or Banking Correspondent. Till June 30, 2010, 40 banks have been granted approval for providing mobile banking facility.

Customer Service

IX.18 Any efficient payment system has to effectively address the customer service issues relating to ease and cost of access, safety of funds and compensation. The Reserve Bank undertook several important measures in this direction.

(a) To effectively address the customer service issues arising out of failed ATM transactions where the customer's account gets debited without actual disbursal of cash, the Reserve Bank issued directive to banks in July 2009. The directives re-iterated that the 12 working day time limit be adhered to for re-crediting of such failed transactions and mandating compensation of ₹100 per day for delays beyond the stipulated period. Banks were also advised to submit periodical reports to their Board detailing penalty payments. Furthermore, a standardised template was prescribed for being displayed at all ATM locations to facilitate lodging of complaints by customers.

(b) Recognising the fact that the number of Points of Sale (PoS) terminals in the country is over 8 times the number of ATMs and the need for increasing the number of outlets for currency dispensation to enhance customer convenience, the Bank has permitted cash withdrawal up to ₹1,000 using debit cards at PoS terminals. So far, four banks have been accorded permission to introduce this facility.

(c) The use of electronic/online mode of payments for purchase of goods and services and making payments to public utility companies is becoming increasingly popular. This involves intermediaries like aggregators and payment gateway service providers handling customer funds. To ensure the safety of customer funds involved, guidelines were issued in November 2009, which *inter-alia* prohibit the use of such funds by these intermediaries and require the banks holding these balances to ensure timely onward settlement of funds to public utility companies/ merchants.

International Co-operation/Co-ordination:

IX.19 In July 2009, the Committee on Payment and Settlement Systems (CPSS), constituted under the aegis of the Bank for International Settlements (BIS), expanded its membership and India has been included as one of the members. The CPSS serves as a forum for central banks to monitor and analyse developments in domestic payment, settlement and clearing systems as well as in cross-border and multi-currency settlement schemes. The Reserve Bank is also represented on four Working Groups of CPSS set-up for drawing of standards/guidelines towards efficient functioning of payment and settlement systems and supporting market infrastructures across the world. India is also a member of the SAARC Payments Council. Under the SAARC initiatives, the Reserve Bank has been assisting Royal Monetary Authority (RMA) of Bhutan in setting up the retail electronic payment systems.

Payment System Vision

IX.20 Following the enactment of the PSS Act, the Reserve Bank with directions from the BPSS has suitably enhanced its Mission statement, "to ensure that all the payment and settlement systems operating in the country are safe, secure, sound, efficient, accessible and authorised". Towards achieving this Mission, a document for 2009-12 with definite targets has been prepared. The Bank in the short and medium term will endeavour to enhance the security, integrity and resilience of the payment system infrastructure in the country. Towards this, the Bank is in the process of putting in place a framework for off-site and on-site surveillance of payment systems.

IX.21 Remaining challenges include: (i) implementing Cheque Truncation System at National level, (ii) reviewing RECS (Credit and Debit) and integrating with NECS (Credit and Debit), (iii) guiding the expansion of NPCI activities to introduce IndiaCard, POS Switch and Mobile Payments Settlement Network and (iv) developing Next-Gen RTGS.

IX.22 The borderless nature of internet has resulted in payment service providers, authorised in one or few countries, extending their payment services to customers of other countries. These entities, which provide cross border payments, money transfer and stored value accounts facilitate, flow of funds in/out of the country, and also pool the funds due to customers of the country in accounts outside the country, which can militate against legal/regulatory requirements of a country where the capital account is not fully convertible. This also poses challenges in ensuring compliance with the AML/CFT requirements of the country. Furthermore, as most of these arrangements are often unregulated and operated from outside the country, the customers of the country would have no recourse on failure of such entities to deliver their services or winding-up of operations by these entities. The challenge for the Reserve Bank, in such a scenario, is in ensuring that while authorised payment systems/entities are enabled to function smoothly, the unauthorised entities are identified and mitigating measures are taken in a timely manner.

INFORMATION TECHNOLOGY

IX.23 Information Technology (IT) has helped in increasing the speed and efficiency of banking operations by facilitating the emergence of innovative products and new delivery channels. The role of the Reserve Bank as the driver of technology initiatives in the banking sector assumes greater importance given the challenges posed by rapid advancements in technology. In an environment of fast changing trends and ever increasing demands of users, IT adoption poses several challenges, spanning applications, security, network, vendor management and data management.

IX.24 During 2009-10, the Reserve Bank undertook a number of initiatives in improving IT infrastructure facilities, implementing new applications and initiating steps for further adoption of technology in the financial sector.

Information Technology Infrastructure

IX.25 As availability of quality IT infrastructure is the prerequisite for adoption of technology in the financial sector, the Reserve Bank has been constantly working towards making significant improvements in the IT infrastructure.

Data Centres: The Reserve Bank has set up three data centres for running systemically important payment and settlement system for the financial sector and also its internal applications. All the three data centres are running on a 24X7 basis. Apart from ensuring smooth running of applications (relating to both payment and non-payment systems), the data centres provide enhanced assurance for business continuity. During 2009-10, Disaster Recovery (DR) drills were conducted for payment and settlement system applications as well as non-payment related applications at periodical intervals.

Networks: Indian Financial Network (INFINET), a closed user group communication backbone for the Indian financial sector set up by the Institute for Development and Research in Banking Technology (IDRBT), continues to provide secured connectivity for accessing all payment and settlement system applications.

Secured Internet Website: This is a single web based interface for connecting banks and government entities with the Reserve Bank over the internet. It provides for secured exchange of information between the Reserve Bank and other external agencies. Among various utilities, this site is being used for Online Returns Filing System (ORFS) by banks, Complaint Tracking System related to Banking Ombudsman scheme, and sharing of MICR/ECS data by banks and clearing houses.

Information Technology Applications

IX.26 IT Applications managed by the Reserve Bank can be classified into three categories: (i) Payment and Settlement System Applications, (ii) Non-payment System Applications and (iii) Applications for internal users of the Reserve Bank. Among Payment and Settlement Systems related applications, Real Time Gross Settlement (RTGS) and Public Debt Office-Negotiated Dealing System (PDO-NDS) are used across the financial sector, whereas Integrated Accounting System (IAS) and Centralised Public Accounts Department System (CPADS) are used by various departments of the Reserve Bank.

Payment and Settlement System Applications

IX.27 The Government Securities segment has seen some of the new products launched during 2009-10, such as the STRIPS, Interest Rate Futures and Dated Cash Management Bills. The PDO-NDS application was suitably modified to enable smooth operations of the above products.

IX.28 From a decentralised accounting package (BASIS Software) in Regional Offices of the Reserve Bank, there has been a move towards an Integrated Accounting System (IAS), running from data centres which would replace the existing BASIS software in all Deposit Accounts Departments (DAD). For facilitating tele-enquiry, a centralised Interactive Voice Response System (IVRS) has been implemented in data centres, connecting all DADs. The facility is available to all current account holders of the Reserve Bank through a single toll free number. By using this facility, the current account holders can obtain information relating to their account free of cost through telephone or fax.

IX.29 CPADS, a centralised web based application with Public Key Infrastructure (PKI) based security for handling Government transactions has been made live in all the Public Account Departments with effect from September 1, 2009. The application is being upgraded for meeting additional business requirements.

IX.30 Efforts have also been initiated to implement Core Banking Solution (CBS) for the Bank. Once implemented, it is likely to replace the existing disparate accounting systems in the Bank.

Non-payment System Applications

IX.31 Some of the non-payment system applications having external users, like Database on Indian Economy (DBIE), Integrated Computerised Currency Operations and Management Systems (ICCOMS), Computerised Offsite Monitoring System (COSMOS) have already been migrated to the Data Centre whereas Offsite Monitoring System (OSMOS) and Offsite Surveillance System (OSS) are in the process of migration.

Applications for Internal Users in the Reserve Bank

IX.32 Applications like Mail Messaging Solution (MMS), Enterprise Knowledge Portal (EKP), Document Management Information System (DMIS), Integrated Establishment System (IES) and Human Resources Management System (HRMS) have been helping in automating internal processes and procedures in the Reserve Bank.

IX.33 The project for total revamping of the existing Local Area Network, which was commissioned in 1999, with the latest available technology has been undertaken. Replacement of the existing proxy servers and domain controllers at all Reserve Bank locations has also commenced.

IX.34 In order to manage the increasing volume of transactions in the payment system applications, steps have been initiated to upgrade the existing mainframe resources. For the purpose, a Technical Advisory Group (TAG) has been constituted with members from various institutions. The group will review the mainframe resources

requirements during the next 3-5 years and submit its recommendations accordingly.

IX.35 As part of regulatory and supervisory functions bestowed on it, the Reserve Bank collects various fixed format data (returns) from commercial banks, financial institutions, authorised dealers and non-banking financial institutions. The Reserve Bank has already put in place an ORFS through which the banks can submit their returns. A Working Group has also been formed to study the existing IT systems in the banks and suggest a suitable approach for implementing automated data flow from these systems to the Reserve Bank. In the process, the banks can improve their internal reporting systems and build effective MIS and decision support systems.

IX.36 With the increased use of IT, there is a need to focus on IT security. As the development and maintenance of applications get increasingly outsourced, issues relating to management and monitoring of the vendors become a challenge and need to be addressed in a pro-active manner. For the financial system as a whole, ensuring that different agents in the financial system adhere to sound IT Governance Principles assumes critical significance (Box.IX.2). The adoption of IT based solutions has resulted in collection and storage of huge volumes of data in the banking sector and with the increased use of information for decision making at the central bank, there is a need to improve the quality of data submitted by the banks.

IT Vision

IX.37 A High Level Committee was constituted under the Chairmanship of the Deputy Governor (Dr. K.C. Chakrabarty) and members from IIT, IIM, IDRBT, Banks, and Reserve Bank to prepare the IT Vision for the Reserve Bank for the period 2011-2017 and *inter-alia*, to review the functions of Department of Information Technology and suggest measures for way forward.

Box IX.2
IT Governance

Information Technology Governance is a subset of corporate governance focused on information technology systems and their performance and risk management. While an effective corporate governance strategy allows an organisation to manage all aspects of its business in order to meet its objectives, IT governance helps to ensure the delivery of the expected benefits of IT in a controlled way and enhance the long term sustainable success of the organisation. The primary goals of IT Governance are to assure that the investments in IT generate business value, and to mitigate the risks that are associated with IT. As IT infrastructure has evolved as the backbone to organisational activities of banks, IT Governance assumes critical significance. Setting up of an efficient IT infrastructure in banks involves enormous investment. Therefore, in terms of its continuous availability and return on investment, it requires basic governance principles to be enunciated.

Standard IT governance frameworks

ISO/IEC 38500

The world's formal international IT Governance Standard, IS/IEC 38500 was published in June 2008. ISO/IEC 38500 sets out a very straightforward framework for the board's governance of Information and Communications Technology.

ITIL® / CobIT® / ISO17799

There are three widely-recognised, vendor-neutral, third party frameworks that are often described as 'IT governance frameworks' *viz.*, ITIL®, CobiT® and ISO17799. While, on their own, they are not completely adequate to that task, each has significant IT governance strengths. ITIL®, or IT Infrastructure Library®, was developed by the UK's Office of Government Commerce as a library of best practice processes for IT service management. Widely adopted around the world, ITIL is supported by ISO/IEC 20000:2005, against which independent certification can be achieved. CobiT®, or Control Objectives for Information and related Technology, was developed by America's IT Governance Institute. CobiT is increasingly accepted as good practice for control over information, IT and related risks. ISO17799, now renumbered as ISO27002 and supported by ISO 27001, (both issued by the International Standards Organisation in Geneva), is the global best practice standard for information security management in organisations.

Without an effective IT governance to deal with these constraints, IT projects will have a higher risk of failure. Each organisation faces its own unique challenges as their individual environmental, political, geographical, economic and social issues differ. Any one of these issues can present obstacles to providing effective governance. Common among such inhibiting factors are poor strategic alignment, lack of project ownership, poor risk management and ineffective resource management.

X HUMAN RESOURCES DEVELOPMENT AND ORGANISATIONAL MATTERS

The Reserve Bank as the central bank of one of the fastest growing emerging market economies has a responsibility to serve 1.2 billion population of the country. To be able to face the multi-dimensional complex challenges effectively, the Reserve Bank has constantly strived to strengthen its human resources. The emphasis particularly has been on acquisition of relevant skills and knowledge, which is reflected in the Bank's approach to recruitment, training of staff, schemes for higher studies and incentive schemes for attaining professional qualifications by the staff. During its Platinum Jubilee year, the Bank organised several events to sensitise the public about its role and services and to receive feedback from the public about its expectations from the Reserve Bank, while also aiming at achieving greater financial literacy and financial inclusion. Responding to public grievances, several initiatives were taken to improve the quality of customer service offered by the banks.

X.1 A central bank could discharge its duties effectively and efficiently depending on the expertise, experience and judgement of its staff. The recent global crisis revealed that a central bank can ill-afford to allow skill gaps in any important area falling in the domain of its core functions and responsibilities, since skill gap in itself could be a potential source of vulnerability to crisis. Recognising the importance of human resources in a skill-intensive organisation, the Reserve Bank has been constantly striving to upgrade the skills and quality of its human resources.

PLATINUM JUBILEE CELEBRATIONS

X.2 Commencing its operations in April 1935, the Reserve Bank completed its 75th year in April 2010. To commemorate its Platinum Jubilee year, the Reserve Bank launched several new initiatives and organised a number of events. These initiatives broadly covered: (i) various learning events that served to build understanding about what the Reserve Bank does and how, as the apex institution of the country in the monetary and financial system, it values two-way communication to enhance the relevance of its policies to all, (ii) internal interactive programmes and get-togethers involving the former and the current serving staff and (iii) extensive outreach visits to different areas of the country to enhance understanding of how people in general view the Reserve Bank and what they expect it to do, that could change their lives (Annex II).

X.3 A number of learning events such as symposium, seminar and lectures by eminent personalities were organised on a variety of emerging issues of relevance to central banking. The most prominent events were: (a) a high level symposium on “Challenges for Central Banking” on August 14, 2009 at Hyderabad, (b) an International Conference on ‘‘Funding of Deposit Insurance Systems’’, January 18-20, 2010 at Goa (hosted by DICGC), (c) First International Research Conference (FIRC) on “Challenges to Central Banking in the Context of Financial Crisis”, February 12-13, 2010 at Mumbai and (d) Joint RBI-OECD International Workshop on “Delivering Financial Literacy” at Bangalore, inaugurated by the Hon’ble Finance Minister, Shri Pranab Mukherjee on March 22, 2010.

X.4 A series of internal events included “Down Memory Lane” sessions with former executives and employees, staff get-togethers, intra-organisational cultural meets and programmes for the Bank’s staff and their families. The flagship programme of these Platinum Jubilee events, celebrated in diverse ways, was the Outreach Programme (Box X.1).

Box X.I
Reserve Bank's Platinum Jubilee Year: Outreach Programme

The flagship project of the Reserve Bank's Platinum Jubilee celebrations was the outreach programme. The outreach visits were focused on taking forward the twin objectives of financial inclusion and financial literacy. A team of Reserve Bank officials, including the Governor and other top executives visited several villages across India. Interactions with the people helped the top executives to gain first hand experience of the hopes and aspirations of the people at the grass root level. The visits also gave to the top executives a feel of how the grass-root institutions, namely, self-help women's groups, micro-finance institutions, non-government organisations, rural cooperatives and rural branches of commercial banks operate. During these visits, the Reserve Bank officials also got an opportunity to explain to people what the Reserve Bank does and in what way it touches their everyday life.

The outreach programme started in June 2009. The areas were chosen carefully to represent wide and varied segments of demographic, social and economic constituencies in the State/region. Venues for these outreach programmes included: schools, colleges, local self-government offices, community centres, farmers' clubs, and popular local clubs. Other than Reserve Bank officials, the visiting team generally comprised State-level and local bankers, local Government officials, local public representatives, representatives from local media (both print and electronic), college and school teachers and members of NGOs.

It was ensured that at least some members of the visiting team, including some of the Reserve Bank's representatives, were conversant with the local language. Presentations and/ or lecture sessions scheduled as part of these visits focused on: (i) spreading awareness about the economy in general and the role and importance of the central bank in particular, (ii) familiarising the audience about basic functions of the Reserve Bank, (iii) emphasising on how the Reserve Bank is seeking to make a difference to the lives of millions of Indians all over the country and (iv) making people better aware of the financial services that banks offer and how using banking facilities could reduce their hardship and vulnerability as also expand opportunities for them to improve the quality of their lives.

As part of these outreach programmes, 160 remote unbanked villages across the country were selected with a view to transforming them into 'Model Villages'. Going forward, the successful pilot projects of these 'Model Villages' will be upscaled and replicated in all the 6,00,000 villages in the country. The 'Model Villages' will be characterised by: (i) 100 per cent financial inclusion in the totally unbanked villages through information and communication technology (ICT) initiatives, appropriately leveraging on business correspondents / business facilitators, (ii) each household will have at least one credit facility, *viz.,* General Credit Card/*Kisan* Credit Card/overdraft against a No Frills Account, (iii) easy and effective access to exchange of currency notes and coins and (iv) effective grievance redressal mechanism and awareness among the villagers. Banks were urged to see that the IT solutions offered to customers are highly secure, amenable to audit, and follow widely-accepted open standards to ensure eventual inter-operability among the different systems. In many ways, these outreach programmes have been a reality check on the design and implementation of the Reserve Bank's policies and the experience gained through these visits will enhance the commitment of the Reserve Bank to financial inclusion as a vehicle for changing the lives of many who are currently financially excluded.

Publications

X.5 The following three publications were brought out during the Platinum Jubilee year: (i) a Brochure outlining the role and functions of the Reserve Bank was released by the present and the former Reserve Bank Governors on December 7, 2009, (ii) a book titled, 'Mint Road Milestones – RBI at 75' documenting the milestones in the Reserve Bank's journey over 75 years and (iii) a book, 'I Can Do - Financial Planning' conceived, as a part of the Bank's initiatives on financial education. On the recommendation of the Steering Group on Project Financial Literacy, Smt. Swapna Mirashi, an independent financial planner was commissioned to write this book aimed at first time earners. The Hon'ble Finance Minister, Shri Pranab Mukherjee released the book at the RBI-OECD International Workshop on Financial Literacy held on March 22, 2010 at Bengaluru. The book is being translated into 12 regional languages.

Release of Stamp

X.6 The Department of Posts, Government of India issued a special commemorative stamp to

mark the Reserve Bank's Platinum Jubilee year. Her Excellency, the Hon'ble President of India, Smt. Pratibha Devisingh Patil released the commemorative stamp at a function held at the Reserve Bank Office, New Delhi on January 16, 2010.

Panel Discussion

X.7 A panel discussion on the changing role of central banks after the global economic crisis was organised in Mumbai on December 7, 2009 by a satellite television channel. Governor Dr. D. Subbarao as well as three former Governors- Dr. C. Rangarajan, Dr. Bimal Jalan and Dr. Y. V. Reddy were the discussants.

Town Hall Events

X.8 Two town hall events were organised. One in English, hosted by a satellite television channel was at the premises of Egmore Museum in Chennai on February 1, 2010 and the other was hosted by another satellite television channel in Hindi at the historic Asiatic Library, Mumbai on March 5, 2010. The theme of the events was 'RBI and the Common Person'. These events were designed to enable the common person to interact with the entire top management of the Reserve Bank.

Films

X.9 Several films were made during the Platinum Jubilee year. Some were made by private satellite television channels on their own initiative to pay tribute to the central bank and some were commissioned to meet specific objectives, such as, to explain the role and functions of the Reserve Bank or to document the Reserve Bank's initiative of outreach visits. A short film depicting the outreach programmes undertaken by the Reserve Bank as part of Platinum Jubilee was prepared with the help of a television channel. The Hon'ble Union Finance Minister released the film on March 6, 2010 at the Central Office, Mumbai. A one-minute film explaining the functions of the Reserve Bank was also released on business television channels as a public service announcement in April 2010. A satellite television channel made a documentary on the Reserve Bank, tracing the Bank's role during various economic crises in the past 75 years. The film was telecast by the television channel on January 22, 2010 to coincide with the function held in Delhi to release the commemorative book, containing select speeches of all current and former Governors. A seven-minute film 'Suno Bandhuon', explaining the functions of the Reserve Bank in a folklore style was another effort to reach out to the common person. The film has been translated into 11 regional languages and will be used by the Bank's Regional Offices during outreach visits.

X.10 The Platinum Jubilee finale function was held at the National Centre for Performing Arts (NCPA), Mumbai on April 1, 2010. Dr. Manmohan Singh, Hon'ble Prime Minister, was the Chief Guest on this occasion. The Prime Minister released a commemorative coin to mark the occasion. Complimenting the Reserve Bank for serving India with great distinction in its 75 years of existence, the Prime Minister noted that the Bank must remain committed to further the penetration of banking services so that banks can touch the lives of more and more of our people. Shri Pranab Mukherjee, Hon'ble Finance Minister, Shri K. Sankaranarayanan, His Excellency, the Governor of Maharashtra and Shri Ashok Chavan, the Hon'ble Chief Minister of Maharashtra were the Guests of Honour. Former Governors and retired as well as current senior executives of the Reserve Bank, senior government officials, senior officials from banks and financial institutions, leading industrialists and other dignitaries from the world of finance graced the occasion.

HUMAN RESOURCE DEVELOPMENT INITIATIVES

Training/ Deputation/ Higher Studies/ Distance Learning

X.11 The two training establishments of the Reserve Bank, *viz.,* the Reserve Bank Staff College (RBSC), Chennai and the College of Agricultural

Table X.1: Reserve Bank Training Establishments - Programmes Conducted

Training Establishment	2005-06 (July-June)		2006-07 (July-June)		2007-08 (July-June)		2008-09 (July-June)		2009-10 (July-June)	
	No. of Progra-mmes	No. of Parti-cipants	No. of Progra-mmes	No. of Parti-cipants	No. of Progra-mmes	No. of Parti-cipants	No. of Progra-mmes	No. of Parti-cipants	No. of Progra-mmes	No. of Parti-cipants
1	2	3	4	5	6	7	8	9	10	11
BTC, Mumbai *	85	1,908	89	2,148	42 ^	1,242 ^	-	-	-	-
RBSC, Chennai	127	2,633	138	2,941	158	3,302	149	3,015	143	2,960 **
CAB, Pune	152 #	3,812 #	146	4,279	154	4,511	161	4,867	160	4,885 @
ZTCs (Class I-BMP)	-	-	-	-	10	254	17	370	47 ##	1,066 ##
ZTCs (Class III)	230	4,710	215	4,069	191	3,563	150	2,602	112	1,826
ZTCs (Class IV)	76	1,592	78	1,605	65	1,309	64	1,329	63	1,214

* : Closed on April 1, 2008. ^ : Figures pertain to July-February.
** : Includes 19 concurrent auditors, 4 officers from NHB, 8 officers from Bangladesh Bank and 17 non-RBI Directors of private sector banks.
@ : Includes 19 foreign participants.
# : Includes 13 off-site programmes involving 437 participants.
: Includes one programme for 18 officials of Royal Monetary Authority of Bhutan.

Note: BTC : Bankers' Training College. RBSC : Reserve Bank Staff College.
CAB : College of Agricultural Banking. ZTC : Zonal Training Centre.

Banking (CAB), Pune cater to the training needs of officers of the Reserve Bank and the banking industry. They have been consistently striving for skill upgradation, while modernising the techniques for imparting training as well as revamping the course content in response to the evolving challenges for central banks and the associated changing needs for training in the banking sector. The four Zonal Training Centres (ZTCs) mainly focus on training of Class III and IV staff of the Reserve Bank (Table X.1).

X.12 The Reserve Bank had launched the Centre for Advanced Financial Learning (CAFL) in March 2006. Given the significant developments in the financial sector in the intervening period, a Committee, headed by Dr. Ashok Ganguly, Member, Rajya Sabha and former Director on the Reserve Bank's Central Board, was formed to examine the related issues in detail. The Committee has submitted its Report, which is presently under the Bank's consideration. Furthermore, a Committee under the Chairmanship of Shri K.V. Kamath, Chairman, ICICI Bank, was constituted to review the working of the National Institute of Bank Management (NIBM), Pune and lay down a roadmap for the next 10 years for the institute, keeping in view the new/emerging requirements of the banking system. The Bank is currently looking into the Report submitted by the Committee.

X.13 During 2009-10, 1,104 officers were deputed by the Bank to participate in training programmes, seminars and conferences organised by external management/banking institutions in India. The Reserve Bank also deputed 553 officers to attend training courses, seminars, conferences and workshops conducted by banking/financial institutions and multilateral institutions in more than 45 countries (Table X.2). A number of Class III and Class IV employees were deputed for training in external institutions during the year. In addition, 347 Class III employees and 1,045 Class IV

Table X.2: Number of Officers Trained in External Training Institutions in India and Abroad

Year	No. of officers trained in India	No. of officers trained abroad
1	2	3
2005-06	625	273
2006-07	871	352
2007-08	895	520
2008-09	718	426
2009-10	1104	553

employees were deputed for in-house training programmes within the Bank.

X.14 Four officers were selected during the year under the Golden Jubilee Scholarship Scheme for higher studies abroad during 2010-11. Under this scheme, officers of the Bank get an opportunity to pursue courses in leading international universities and achieve excellence. In all, 99 officers have been selected under this scheme since its inception in 1986. Four officers of the Bank availed study leave under different schemes for pursuing higher studies during the year. Furthermore, 570 employees availed the benefits under the incentive scheme for pursuing select categories of part- time and distance education courses during 2009-10.

Joint India-IMF Training Programme (ITP)-Pune

X.15 The Reserve Bank of India and the International Monetary Fund jointly established the Joint India–IMF Training Program (ITP) at NIBM, Pune in May 2006, initially for a period of three years to impart policy oriented training in economics and related operational fields to Indian officials (from Central Government, State Governments, Reserve Bank and other regulatory bodies) and the officials of countries from South Asia and East Africa. The ITP has served as a platform to disseminate policy lessons learned in other parts of the world and as a forum to discuss regional issues. During the year eight programmes were conducted under this joint training initiative covering topics, *inter-alia,* on macroeconomic management and financial sector issues. On a review of the first three years of successful operations, the ITP has been extended up to April 30, 2013.

OTHER INITIATIVES

Lateral Infusion of Expertise/ Recruitment of Executive Interns

X.16 With a view to further expanding the knowledge base and infuse fresh ideas and expertise into the organisation, a scheme has been evolved for lateral recruitment of experts at senior levels in specialised and policy-oriented work areas of the Bank. Moreover, in order to address the shortage of officers at the base level, a scheme for recruitment of 200 Executive Interns on contract basis for a period of three years is being implemented.

Human Resources Audit

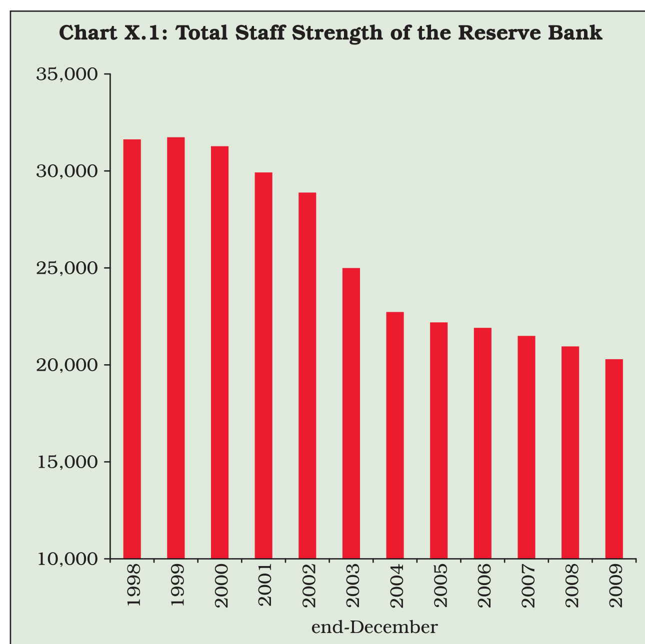
X.17 With a view to improving the existing HR management processes, a diagnostic audit of certain critical HR areas, *viz.,* performance appraisal, recruitment policies and practices, transfers and rotations, promotions, training and development and compensation policy were undertaken by engaging the services of M/s. Hewitt Associates, HR consultants. The audit also encompassed an Employee Engagement Survey. Based on the findings/ recommendations of the audit, a review of the processes relating to certain existing policies is under consideration.

RBI Young Scholars Scheme

X.18 The Reserve Bank Young Scholars Scheme was launched in the year 2007 for students between 18 and 23 years of age studying in undergraduate classes in various institutions across the country. Under the Scheme for 2010, a country-wide selection test was conducted in all scheduled languages. While more than 30,000 candidates applied for these scholarships this year, 150 Young Scholars have been selected for pursuing projects, spanning two to three months, at various Reserve Bank offices throughout India.

Grants and Endowments

X.19 Apart from its own training colleges, the Reserve Bank has also catalysed the creation of four research and training institutions in India, *viz.,* (i) Indira Gandhi Institute of Development Research (IGIDR), Mumbai; (ii) NIBM, Pune; (iii) Indian Institute of Bank Management (IIBM), Guwahati; and (iv) Institute for Development and Research in Banking Technology (IDRBT), Hyderabad. The Reserve Bank extended financial support of ₹13.0



crore, ₹14.5 crore and ₹49.8 lakh to IGIDR, NIBM and IIBM, respectively, during 2009-10.

Industrial Relations

X.20 Industrial relations in the Bank remained, by and large, peaceful during 2009-10. The Bank continues to hold periodical meetings with the recognised associations/federations of officers and employees/ workmen on various matters related to service conditions and welfare measures.

Recruitment

X.21 During 2009 (January-December), the Reserve Bank recruited 151 employees. Of this, 29 belonged to Scheduled Castes (SCs) and Scheduled Tribes (STs) categories, constituting 19.2 per cent of total recruitment (Table X.3).

Table X.3: Recruitment by the Reserve Bank – 2009*

Category of Recruitment	Total	*of which* SC	*of which* ST	Percentage SC	Percentage ST
1	2	3	4	5	6
Class I	108	13	7	12.0	6.5
Class III	25	3	1	12.0	4.0
Class IV					
(a) Maintenance Attendant	8	4	0	50.0	0.0
(b) Others	10	1	0	10.0	0.0
Total	**151**	**21**	**8**	**13.9**	**5.3**

* January-December.

Staff Strength

X.22 The total staff strength as on December 31, 2009 was 20,295 as compared with 20,952 a year ago (Chart X.1). Of the total staff, 21 per cent belonged to SCs and 8.9 per cent belonged to STs (Table X.4).

X.23 The total strength of OBCs (recruited after September 1993) in the Reserve Bank as on December 31, 2009 stood at 921. The total strength of ex-servicemen and the physically challenged employees in the Reserve Bank as on December 31, 2009 stood at 1,065 and 457, respectively.

X.24 Of the total staff, 46.5 per cent belonged to Class I, 18.7 per cent to Class III and the remaining 34.9 per cent to Class IV (Table X.5).

Table X.4: Staff Strength of the Reserve Bank

Category	Total Strength December 31, 2008	Total Strength December 31, 2009	SC December 31, 2008	SC December 31, 2009	ST December 31, 2008	ST December 31, 2009	Per cent to Total Strength December 31, 2009 SC	Per cent to Total Strength December 31, 2009 ST
1	2	3	4	5	6	7	8	9
Class I	8,760	9,430	1,278	1,365	614	658	14.5	7.0
Class III	4,908	3,789	786	596	545	439	15.7	11.6
Class IV	7,284	7,076	2,383	2,300	718	710	32.5	10.0
Total	**20,952**	**20,295**	**4,447**	**4,261**	**1,877**	**1,807**	**21.0**	**8.9**

Table X.5: Category-wise Actual Staff Strength

(As on December 31, 2009)

Class	Actual Strength
1	2
Class I	
1. Senior Officers in Grade F	88
2. Senior Officers in Grade E	170
3. Senior Officers in Grade D	393
4. Officers in Grade C	878
5. Officers in Grade B	1,470
6. Officers in Grade A	6,180
7. Treasurer	16
8. Deputy Treasurer	45
9. Assistant Treasurer	190
Total Strength in Class I	**9,430**
Class III	
1. Senior Assistant	1,296
2. Assistant	1,037
3. Secretarial assistant	120
4. Word Processor Assistant	400
5. Special Assistant (Teller)	448
6. Class III (Others)	488
Total Strength in Class III	**3,789**
Class IV	
1. Maintenance Staff	1,511
2. Service Staff	4,593
3. Technical Staff	212
4. Other Staff	760
Total Strength in Class IV	**7,076**
Total Strength in the RBI	**20,295**

X.25 Mumbai centre (including the Central Office Departments) continued to have the maximum number of staff (29.1 per cent) followed by Kolkata (9.6 per cent), Chennai (7.3 per cent) and Delhi (6.8 per cent) (Table X.6).

Table X.6: Reserve Bank's Office-wise Staff Strength

(As on December 31, 2009)

Office	Class I	Class III	Class IV	Total
1	2	3	4	5
1. Ahmedabad	422	185	287	**894**
2. Bengaluru	546	159	285	**990**
3. Belapur	161	72	245	**478**
4. Bhopal	189	26	99	**314**
5. Bhubaneswar	228	73	228	**529**
6. Chandigarh	230	37	117	**384**
7. Chennai	602	326	544	**1,472**
8. Guwahati	266	101	221	**588**
9. Hyderabad	366	126	302	**794**
10. Jaipur	346	127	234	**707**
11. Jammu*	114	8	58	**180**
12. Kanpur	322	189	408	**919**
13. Kochi	58	44	43	**145**
14. Kolkata	792	457	703	**1,952**
15. Lucknow	217	60	135	**412**
16. Mumbai	688	559	1,161	**2,408**
17. Nagpur	327	266	293	**886**
18. New Delhi	659	291	439	**1,389**
19. Panaji, Goa	3	4	2	**9**
20. Patna	296	76	275	**647**
21. Pune-CAB-CRDC-ITP	73	15	87	**175**
22. Raipur (Sub-Office)	12	-	-	**12**
23. Ranchi (Sub-Office)	11	-	-	**11**
24. Shimla (Sub-Office)	5	-	-	**5**
25. Dehradun (Sub-Office)	8	2	3	**13**
26. Thiruvananthapuram	242	73	170	**485**
A. Total	**7,183**	**3,276**	**6,339**	**16,798**
B. CODs@	**2,247**	**513**	**737**	**3,497**
Grand Total	**9,430**	**3,789**	**7,076**	**20,295**

* : Includes Srinagar Sub-Office.
@ : Central Office Departments.
CAB : College of Agricultural Banking.
CRDC : Central Records and Documentation Centre.
ITP : IMF Training Programme, Pune.
Note: Gangtok Sub-Office was opened on January 25, 2010.

Creation of Financial Stability Unit (FSU)

X.26 Pursuant to the announcement in the Annual Policy Statement of 2009-10, the Financial Stability Unit (FSU) was set up in the Bank, which became functional with effect from July 17, 2009. The main functions of the FSU include: (a) conduct of macro-prudential surveillance of the financial system on an ongoing basis, (b) preparation of financial stability reports, (c) development of a data base on key variables, which could impact financial stability in co-ordination with the supervisory wing of the Bank, (d) development of a time series of a core set of financial indicators, (e) conduct of systemic stress tests to assess resilience and (f) development of models for assessing financial stability in due course. The FSU acts as the Secretariat to the Bank's representative in the Financial Stability Board.

Opening of Sub-Office of RBI at Gangtok (Sikkim)

X.27 The Gangtok Sub-Office of the Reserve Bank, catering to the State of Sikkim, was opened on January 25, 2010. The Sub-Office has two main

functions: (i) to co-ordinate with NABARD and banks to carry on the mission of financial inclusion through IT- enabled services and Banking Correspondent model as also to promote financial literacy in the State to facilitate faster financial inclusion, (ii) To monitor availability of good quality currency notes in the State by overseeing the operations of currency chests/bank branches and also to give a thrust to public awareness campaigns (*i.e.,* awareness to detect fake notes) in partnership with banks.

Rajbhasha

X.28 The Reserve Bank continued with its efforts to promote the use of Hindi in its working during 2009-10 in pursuance of the statutory requirements of Rajbhasha Policy involving implementation of the provisions of the Official Languages Act, 1963, the Official Language Rules, 1976 and the Annual Programme issued by the Government of India. The Reserve Bank conducted various Hindi training programmes and other promotional activities such as publication of reference material, shield competitions, inter-bank Hindi essay competition and Hindi/bilingual in-house journal competitions. Many programmes were conducted during Hindi fortnight observed from September 14, 2009. The Reserve Bank continued to bring out its various publications in bilingual form, *i.e.,* both in Hindi and English.

Customer Service and Grievance Redressal System

X.29 The vision of the Customer Services Department is to work towards fair and responsible banking and to ensure cost effective and credible system of dispute resolution for common persons utilising the banking services. The Reserve Bank has been constantly striving to improve the quality of customer service offered by the banks. In this endeavour, it has set up a Committee (Chairman: Shri M. Damodaran, former Chairman, SEBI) to look into grievance redressal system of banks and suggest ways to improve them.

Management of the Bank's Premises

X.30 During 2009-10, the Premises Department continued its planned efforts towards renovation of office space/buildings and upgradation of various amenities in residential flats as per HRDD guidelines. The Department completed the work of retrofitting and renovation of the Central Office building façade in March 2010.

X.31 Replacement of old AC chiller packages with energy efficient ones having refrigerant of lowest Ozone Depletion Potential and Global Warming Potential has been completed/ initiated in some offices. A feasibility study for obtaining 'Green' rating, which is known as LEED-EB (Leadership in Energy and Environment Design-Existing Building) for the Bank's Central Office Building at Mumbai, has been commissioned and the work of facilitation of Green Building Services has been awarded to a reputed agency.

Internal Audit/ Inspection

X.32 The Management Audit and Systems Inspection (MASI) including Risk Based Internal Audit (RBIA), Information Systems (IS) Audit, snap audits of the Offices/Departments of the Bank were undertaken at prescribed intervals during 2009-10. Inspections, adopting the risk-based methodology, were carried out at four Regional Offices. Management audit of four offices of Banking Ombudsman (BO) were carried out by the Inspection Department/ External Audit firms.

X.33 Implementation of ISO 9001 Standards at four more Regional Offices (ROs) of Issue and Banking Departments is at a final stage and ISO Certification is expected to be achieved by September 2010. Implementation of ISO standards in the Department of Economic Analysis and Policy (DEAP), Central Office is underway. Implementation of ISO certification at eight more ROs has also been taken up and is expected to be completed by 2010. ISO 27001 (Information Security Management System) standards implementation has been taken up at

Central Accounts Section (CAS), Nagpur and Financial Markets Department (FMD), with Certification targeted to be achieved by September, 2010. All locations certified under both the above Standards during earlier years have successfully faced surveillance/ sustenance audits. Technology audits of several important applications, *viz.*, e-treasury, Liquidity Adjustment Facility, Integrated Establishment System (IES) and Estate Management System (EMS) were completed during the year, with assistance from external experts.

Communication Policy

X.34 Effective communication is critically important for a central bank to enhance the effectiveness of its policies and the credibility. As a part of the Bank's initiatives to further improve communication, for the first time, a teleconference with a new target group, namely, researchers and analysts was organised after the release of the Third Quarter Review of the Monetary Policy in January 2010. The teleconference gave an opportunity to this influential group to interact with the Governor and the Deputy Governors and better understand the rationale behind the Reserve Bank's monetary policy stance. Around 500 national and international researchers and analysts participated in the interaction. The interaction with this group through teleconference was repeated in the subsequent Policy announcement in April 2010. Given the potential of this outreach effort, interaction with researchers and analysts has become a permanent communication activity after the quarterly Monetary Policy announcements. Interaction through teleconference was also extended to the media persons, which enabled the media from far away places, such as, Guwahati to interact with the Reserve Bank's top management. In order to make communication more transparent and increase its outreach, transcripts of Governor's post-Policy press conference and interactions with researchers and analysts are now being placed on the Reserve Bank website.

Public Awareness Campaigns

X.35 The Reserve Bank, in coordination with the Directorate of Audio and Visual Publicity, Government of India, launched a campaign under its 'Jago Grahak Jago' programme to alert members of the public against fraudulent e-mails. The e-mails relate to fictitious offers/lottery winnings/ employment offers/remittance of cheap funds in foreign currency from abroad being sent by certain foreign entities/individuals, including Indian residents acting as representatives of such entities. As part of the campaign, advertisements cautioning the public against falling prey to such fictitious offers were released in major daily newspapers and on the national television channels. Media campaign was also undertaken to make the members of public aware of the security features of genuine bank notes, mobile banking and the Banking Ombudsman Scheme.

Launch of Financial Education in School Curriculum in Karnataka

X.36 The Bank developed material on financial education for inclusion in the school curriculum in Karnataka. The chapters on financial literacy were formally launched at a ceremony held in Bengaluru on March 22, 2010. The material has been sent to all the Regional Offices for translation and for taking up with the respective State Governments to have it included in the school curriculum.

Right to Information Act (RIA), 2005

X.37 The Heads of various Central Office Departments have been designated as Central Public Information Officers, with Executive Director (Shri C. Krishnan) as the Appellate Authority. Receipt of requests continues to be centralised at the RIA Division, Central Office, which also acts as a central monitoring agency to ensure compliance. Generic e-mail ids have been created for all the CPIOs and a list of CPIOs, together with their e-mail ids, addresses and a brief description of the functions of all the

Departments, have been placed on the Bank's website, to enable members of public to submit their requests online.

X.38 The number of requests for information has steadily increased from 2,455 in the year 2007-08 to 3,333 in 2008-09 and further to 4,350 in 2009-10. About 96 percent of all requests had been responded to. The requests in respect of which information could be fully disclosed and actually disclosed, rose from 75 per cent as on June 30, 2009 to 77 per cent as on June 30, 2010. The number of appeals received against the decision of CPIOs /non-disclosure of information was 550 for the year 2008-09 and 795 for the year 2009-10. Central Information Commission had dealt with 194 appeals as on June 30, 2010. The Commission upheld the decisions of the CPIOs/ first Appellate Authority of the Bank in 114 cases and provided minor directions in 80 cases.

X.39 A majority of the requests for information that were received during the year pertained to the Reserve Bank's regulatory and supervisory functions. Certain requests seeking opinions, views, reasons, interpretations or grievance redressal were outside the scope of the Act and were dealt with accordingly. Similarly, no information was provided with respect to certain information, which is exempt from disclosures. A 'Disclosure Log' summarising disclosures of general interest has also been placed on the Reserve Bank's website.

Research Activities

X.40 The research and analysis requirements of the Bank have increased in line with the growing complexities of central banking issues and the Bank's two Departments, *i.e.,* Department of Economic Analysis and Policy (DEAP) and Department of Statistics and Information Management (DSIM) continued to meet analytical research and data support for formulation of policies. The First International Research Conference (FIRC) on "Challenges to Central Banking in the Context of Financial Crisis" was organised by DEAP during February 12-13, 2010 at Mumbai. In the conference, several emerging issues of relevance to central banks were discussed, such as inflation targeting framework, monetary policy role in relation to asset prices, challenges of globalisation for monetary policy and options to deal with the impossible trinity (Box III.1).

X.41 The two Departments, besides meeting the needs of policy research, conduct empirical research and generate primary data covering many critical sectors of the economy, which are disseminated through various publications of the Bank. The Bank also promotes economic research in external agencies through various schemes and it aims at strengthening the link between RBI funded external research and Bank's information set used for formulation of policies.

X 42 During the year, research was undertaken both internally and in collaboration with external experts on several important topical issues such as productivity and potential output, inflation persistence, impact of exchange rate movements on inflation and exports, fiscal risks to inflation, neutral policy rate, monetary policy formulation and impact of higher capital requirements on growth. Following its commitment to make available time series data published by the Bank to the public through database on Indian economy (DBIE) site, the "Real-Time Handbook of Statistics (RTHBS)'' went live from September 15, 2009.

X.43 The broad categories of financial assistance provided by the Bank for promoting external research support include: (a) Endowment Scheme of the Bank, (b) DRG Studies, (c) financing of projects, (d) funding seminars/conferences/ workshops, (e) financial support to research journals and (f) scholarship scheme for faculty members from academic institutions.

X.44 In order to streamline the research support activities of the Bank, an Expert Committee was constituted under the Chairmanship of Dr. Bimal Jalan. Based on the recommendations, resolutions have been passed by the Central Board of Directors for making the financial assistance

provided for research by the Bank to become more visible and effective in supporting Bank's policy decisions. Accordingly, schemes established for external research are being reoriented and focused on the lines of the resolutions of the Central Board of Directors of the Bank. These are in various stages of implementation. The research undertaken by the external experts under the corpus fund is being reoriented with a focus on issues and challenges that are of immediate relevance to central banking.

THE CENTRAL BOARD AND ITS COMMITTEES

Meetings of the Central Board and its Committee

X.45 The Central Board held eight regular meetings and a special meeting during the year 2009-2010. Of these, five were held at traditional metro centres (New Delhi, Kolkata and three at Mumbai) and three at non-traditional centres (Gangtok, Patna and Thiruvananthapuram). The Hon'ble Finance Minister, Shri Pranab Mukherjee attended the post-Budget meetings of the Central Board held on July 9, 2009 in New Delhi and March 6, 2010 in Mumbai after the presentation of Union Budgets 2009-10 and 2010-11, respectively . The post budget meeting is traditionally held at New Delhi. The post-Budget meeting of 2010-11 was held in Mumbai in view of the celebrations of the Bank's Platinum Jubilee year. Dr. Manmohan Singh, Hon'ble Prime Minister of India, addressed the Central Board on April 1, 2010 at Mumbai during the Platinum Jubilee Finale Event. The Finance Minister, the Governor and the Chief Minister of Maharashtra were also present on the occasion.

X.46 The discussions at the meetings of the Central Board broadly covered matters pertaining to general superintendence and direction of the Bank's affairs. The Board in its meetings also deliberated on matters like India's contribution to the IMF's additional fund raising initiatives, issue of India Depository Receipts (IDRs) by foreign banks, financial sector reforms and inclusive growth.

X.47 Forty- six weekly meetings of the Committee of the Central Board (CCB) were held during the year in Mumbai. The CCB, as usual, attended to the current business of the Bank, including approval of the Reserve Bank's weekly accounts pertaining to the Issue and the Banking Departments. Heads of Central Office Departments were invited to make brief presentations to the CCB on key issues and five such presentations were made.

X.48 The occasion of the Central Board meetings held at Gangtok, Patna and Thiruvananthapuram were utilised by the Governor for interacting with Chief Ministers and senior officials of the State Government, commercial banks and financial institutions in these States to discuss issues like extension of banking services in unbanked/underbanked areas using IT-enabled banking services/Banking Correspondent/Banking Facilitator module to promote financial inclusion, enhancing credit flow, Electronic Benefits Transfer (EBT), development of SHGs, improving CD Ratio and measures to tackle the menace of forged notes, particularly in border areas,

Directors/Members of the Central Board/Local Boards - Changes

X.49 Dr. Subir Gokarn assumed the Office of Deputy Governor of the Bank on November 24, 2009.

X.50 Dr. Ashok S. Ganguly resigned as a Director of the Central Board consequent upon his nomination to the Rajya Sabha.

Awards

X.51 Dr. Y. V. Reddy, former Governor and Shri K.P. Singh, former Member of the Central Board were awarded Padma Vibhushan and Padma Bhushan for their outstanding contribution towards Public Affairs and Trade and Industry, respectively, on Republic Day, 2010.

Felicitation

X.52 Shri Y.H. Malegam, Director of the Central Board was felicitated by the Hon'ble Finance Minister, Shri Pranab Mukherjee on March 6, 2010 on the occasion of his attending the 100th meeting of the Board.

Obituary

X.53 Dr. D. Jayavarthanavelu, Director of the Central Board of the Bank passed away on June 11, 2010 at Chennai. Dr. D. Jayavarthanavelu was nominated on the Bank's Central Board on June 27, 2006.

FOREIGN DIGNITARIES

X.54 During the year, 37 delegations from 16 countries visited the Bank. The maximum number of delegations came from the US (7), followed by the UK (6) and China (5) (Annex III). The delegations held interactive meetings with the Governor and other senior executives. A wide spectrum of issues came up for discussion, including the functions and policies of the Reserve Bank, facets of monetary policy, banking supervision, economic policy, trade and bilateral relations.

X.55 For the first time in the Bank's history, the Bank received a visiting Head of State, His Excellency, the President of the Federal Republic of Germany, Mr. Horst Kohler. Mr. Kohler, who had earlier served as the MD of the IMF was accompanied by a commercial and industrial delegation. Mr. Horst Kohler had one-to-one meeting with Governor, followed by a meeting of his delegation with the top management of the Bank. The subject matter for discussion with the President and his delegation included, among other things, the global financial crisis, international monetary system and our views on the future strategies for India's domestic financial markets. The other VVIPs, who visited the Bank were Hon. John Lenders, the Victorian Treasurer and the Minister for Financial Affairs and his delegation from Australia, Mr. Merwyn Davies, Hon. Minister for Trade and Investment, UK, Alderman Ian David Ludar, Mayor of the City of London, Mrs. Anne Marie Idrac, Hon. Minister of State for Foreign Trade, Republic of France, Mr. Mark Carney, Governor of Bank of Canada and Lord Adair Turner, Chairman of Financial Services Authority, UK, Mr. Simon Crean MP, Australian Minister for Trade, Prof. Joseph E. Stiglitz, Nobel Laureate for Economic Sciences and Ms Sheila Bair, Chairman, Federal Deposit Insurance Corporation, US. These high level visits signified the keen interest taken by the world community to understand India's economic and financial sector policies, which had enabled the country to successfully cope with the global crisis. Such visits also helped in exchange of ideas on the nuances of the emerging international financial architecture in the aftermath of the global crisis.

XI THE RESERVE BANK'S ACCOUNTS FOR 2009-10

The balance sheet of the Reserve Bank changed significantly during the course of the year, reflecting the impact of monetary and liquidity management operations undertaken by the Bank to manage the recovery in growth while containing inflation. Monetary policy measures effected through increases in the Cash Reserve Ratio (CRR) contributed to the expansion in the Bank's liabilities in the form of banks' deposits while notes in circulation continued to dominate the liability side. Foreign currency assets of the Bank continued to dominate on the asset side. As return on foreign assets tracked the near zero policy rates maintained by the central banks of the advanced economies, income on such assets declined significantly. In monetary operations, sustained period of large net absorption of liquidity through reverse repo also involved higher net interest outgo. Reflecting these, the Bank's gross income fell from ₹60,732 crore in 2008-09 to ₹32,884 crore in 2009-10. Gross expenditure of the Bank rose modestly from ₹8,218 crore to ₹8,403 crore. After meeting the needs of necessary transfer to the Contingency Reserve (CR) and the Asset Development Reserve (ADR), ₹18,759 crore was allocated for transferring to the Government.

XI.1 The size of the Reserve Bank's balance sheet increased significantly in 2009-10 (July-June) in response to its policy actions and market operations. On the liability side, there was a high growth in notes in circulation, banks' deposits with the Reserve Bank due to the policy driven increases in CRR as well as deposit growth in the banking system and the Central Government's deposits with the Reserve Bank. The outstanding balances maintained by the Central Government under the Market Stabilisation Scheme (MSS), however, declined.

XI.2 On the asset side, there was significant increase in Bank's portfolio of domestic assets in the form of government securities parked by the banks with the Reserve Bank for availing funds under repo. Foreign currency assets declined largely due to valuation effect and use of a part of such assets for purchase of gold from the IMF.

XI.3 The Reserve Bank has continued to present its accounts covering the period July-June for the last 70 years. The financial statements of the Bank 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. The Bank presents two balance sheets. The first one relating to the sole function of currency management is presented as the Balance Sheet of the Issue Department. The second one reflecting the impact of all other functions of the Bank is known as the Balance Sheet of the Banking Department. The key financial results of the Reserve Bank's operations during the year 2009-10 (July-June) are presented in this Chapter.

INCOME

XI.4 The Reserve Bank's assets and liabilities reflect the outcome of its operations guided by the overall policy objectives relating to the economy and the financial system and not by commercial considerations.

XI.5 The two major components of the Bank's income are earnings from foreign sources and earnings from domestic sources. The net interest receipts are augmented by relatively small amounts of income from other sources *viz*., Discount Exchange, Commission *etc*.

Table XI.1: Gross Income

(Rupees crore)

Item	2005-06	2006-07	2007-08	2008-09	2009-10
1	2	3	4	5	6
A. Foreign Sources					
Interest, Discount, Exchange	24,538.03	35,152.99	51,883.27	50,796.21	25,102.55
B. Domestic Sources					
(i) Interest	1,207.04	5,144.52	4,958.35	9,056.27	6,646.35
(ii) Profit on sale of investment in shares of SBI	-	34,308.60	-	-	-
(iii) Other Earnings	575.24	742.22	909.17	879.50	1,135.24
Total : [(i)+(ii)+(iii)]	1,782.28	40,195.34 (5,886.74)	5,867.52	9,935.77	7,781.59
C. Total Income (Gross) (A+B)	**26,320.31**	**75,348.33 (41,039.73)**	**57,750.79**	**60,731.98**	**32,884.14**

Note: Figures in parentheses indicate the amount excluding profit on sale of shares in SBI of ₹34,308.60 crore.

XI.6 The gross income of the Reserve Bank for the year 2009-10 at ₹32,884.14 crore fell by 45.85 per cent from ₹60,731.98 crore in the previous year. (Table XI.1 and Charts XI.1a and b).

Earnings from Foreign Sources

XI.7 The earnings from deployment of foreign currency assets are given in Table XI.2.

XI.8 The Reserve Bank's earnings from the deployment of foreign currency assets and gold decreased by ₹25,693.66 crore (50.58 per cent) from ₹50,796.21 crore in 2008-09 to ₹25,102.55 crore in 2009-10 (Table XI.2). This was due to lower yield on foreign securities and lower interest received on balances held abroad in the face of very low interest rate environment prevailing in the international markets. The rate of earnings on foreign currency assets and gold was lower at 2.09 per cent in 2009-10 as compared with 4.16 per cent in 2008-09. During the year, the Reserve Bank changed the accounting policy for valuation of securities, the impact of which is disclosed in the notes to accounts. As per the revised policy, depreciation as well as appreciation in foreign securities is being booked as a balance sheet item under the head "Investment Revaluation Account" under the broad group of "Other Liabilities" in lieu of the earlier system of depreciation being booked to the Profit & Loss Account and appreciation being ignored.

Chart XI.1: Assets and Income

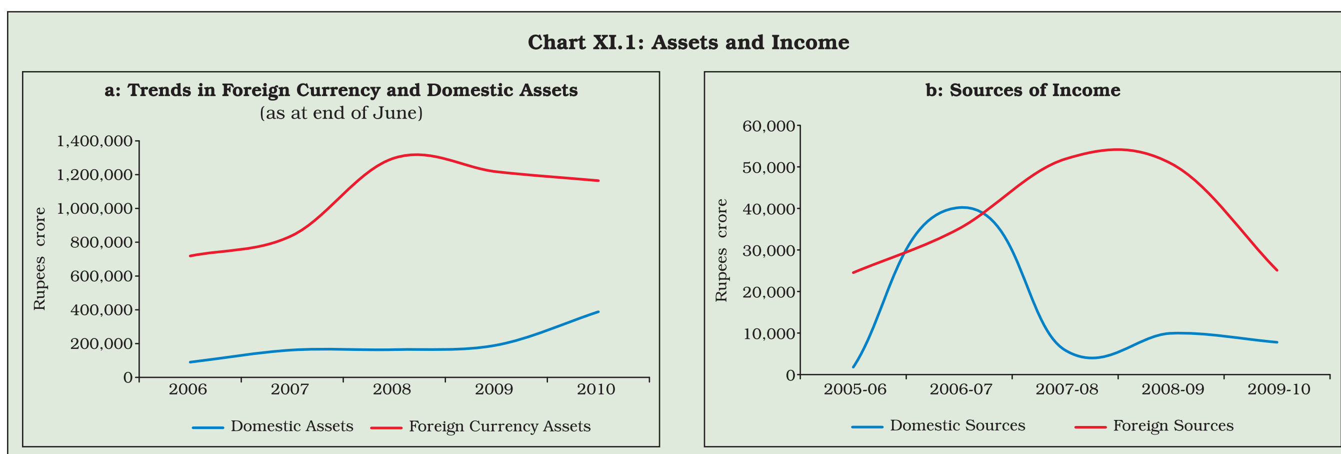


Table XI.2: Earnings from Foreign Sources

(Rupees crore)

Item	As on		Variation	
	June 30, 2009	June 30, 2010	Absolute	Per cent
1	2	3	4	5
Average Foreign Currency Assets (FCA)	12,19,693.16	12,03,828.90	(-)15,864.26	(-)1.30
Earnings (Interest, Discount, Exchange gain/loss, Capital gain/loss on securities) [a]	51,688.38	25,102.55	(-)26,585.83	(-)51.43
Depreciation on Securities [b]	892.17	-	(-)892.17	(-)100.00
Earnings Net of Depreciation [a-b]	50,796.21	25,102.55	(-)25,693.66	(-)50.58
Memo :				
Unrealised appreciation on Securities	10,896.95	-	(-)10,896.95	(-)100.00
Earnings as percentage of Average FCA	4.24	2.09		
Earnings (net of depreciation) as percentage of Average FCA	4.16	2.09		

Earnings from Domestic Sources

XI.9 The earnings from domestic sources decreased from ₹9,935.77 crore in 2008-09 to ₹7,781.59 crore in 2009-10, registering a decrease of 21.68 per cent (Table XI.3). The decline was the combined effect of increase in coupon income on a larger portfolio of government securities and decrease in depreciation on securities on the one hand and increase in net interest outgo under the

Table XI.3: Earnings from Domestic Sources

(Rupees crore)

Item	As on		Variation	
	June 30, 2009	June 30, 2010	Absolute	Per cent
1	2	3	4	5
Domestic Assets	1,90,652.64	3,88,594.36	1,97,941.72	103.82
Weekly Average of Domestic Assets	1,72,220.65	2,25,373.78	53,153.13	30.86
Earnings	**9,935.77**	**7,781.59**	**(-) 2,154.18**	**(-) 21.68**
of which:				
Interest and Other Income	9,056.27	6,646.35	(-) 2,409.92	(-) 26.61
(i) Profit on Sale of Securities	16,500.32	8,667.27	(-) 7,833.05	(-) 47.47
(ii) Interest on Securities [a - b]	(-) 8,747.54	(-) 2,435.08	6,312.46	72.16
of which				
(a) Interest on Domestic Securities, LAF operations and Dividend	8,683.11	13,027.82	4,344.71	50.04
(b) Depreciation on Securities	17,430.65	15,462.90	(-)1,967.75	(-) 11.29
(iii) Interest on Loans and Advances	1,254.80	378.97	(-) 875.83	(-) 69.80
(iv) Other Interest Receipts	48.69	35.19	(-) 13.50	(-) 27.73
Other Earnings	879.50	1,135.24	255.74	29.08
(i) Discount	-	-	-	-
(ii) Exchange	0.01	0.01	0.00	0.00
(iii) Commission	778.12	687.08	(-) 91.04	(-) 11.70
(iv) Rent realised and others	101.37	448.15	346.78	342.09
Memo:				
Earnings in percentage terms (on average domestic assets)	5.77	3.45	-	-

Table XI.4: Expenditure

(Rupees crore)

Item	2005-06	2006-07	2007-08	2008-09	2009-10
1	2	3	4	5	6
I. Interest Payment	**1,524.41**	**1,135.38**	**2.58**	**1.33**	**1.02**
of which:					
Scheduled Banks	1,523.72	1,134.85	1.90*	0.00*	0.00*
II. Establishment	**919.88**	**1,425.81**	**1,430.87**	**2,448.25**	**1,986.82**
III. Non-Establishment	**3,404.81**	**4,603.06**	**4,663.68**	**5,768.30**	**6,415.28**
of which:					
a) Agency charges	1,833.55	2,042.50	2,111.14	2,999.19	2,855.02
b) Security printing	1,034.86	2,020.89	2,032.23	2,063.17	2,754.12
Total [I+II+III]	**5,849.10**	**7,164.25**	**6,097.13**	**8,217.88**	**8,403.12**

* Pursuant to amendment to the Reserve Bank of India Act, 1934, interest payable on eligible CRR balances was withdrawn with effect from fortnight beginning March 31, 2007.

LAF operations and decrease in interest earnings on loans and advances as well as profit on sale of securities on the other.

EXPENDITURE

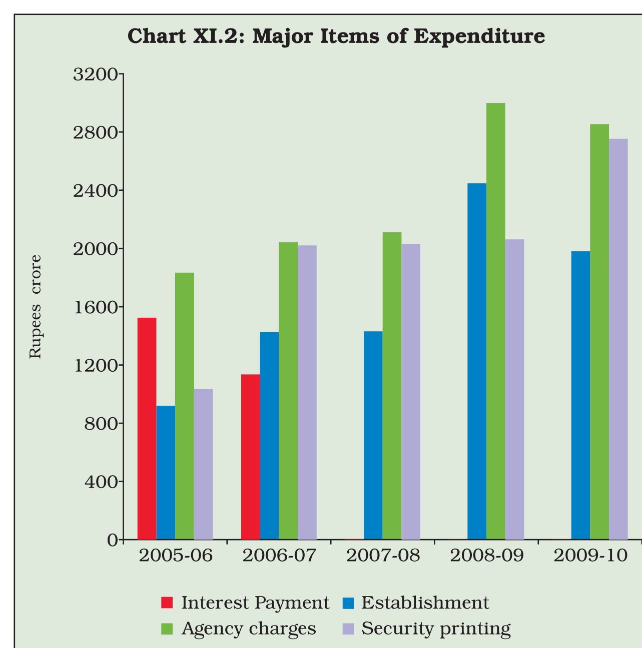
XI.10 Expenditure comprises the establishment expenses, besides expenditure that arises in the process of performing statutory functions of the Bank, such as agency charges and security printing charges. Total expenditure of the Reserve Bank increased by ₹185.24 crore (2.25 per cent) from ₹8,217.88 crore in 2008-09 to ₹8,403.12 crore in 2009-10 despite a decline of ₹461.43 crore in establishment expenditure (Table XI.4 and Chart XI.2). The increase in expenditure was mainly on account of increase in security printing charges.

Establishment Expenditure

XI.11 The establishment expenditure for the year 2009-10 declined by ₹461.43 crore mainly on account of the lower provisions required to be made this year on long term employee benefits which are computed based on actuarial valuation. In 2008-09 there was an upward revision in the statutory limit of gratuity amount payable which required higher provision towards accrued liabilities.

Non-Establishment Expenditure

XI.12 The amount of agency charges paid during 2009-10 was ₹2,855.02 crore as against ₹2,999.19 crore during 2008-09 which includes a small component of fees paid by the Bank to the Primary Dealers as underwriting commission. This component decreased by ₹185.31 crore from ₹249.45 crore in 2008-09 to ₹64.14 crore in 2009-10 and constituted 2.25 per cent of the agency charges in 2009-10.



XI.13 The security printing charges (cheque, note forms *etc.*) increased substantially by ₹690.95 crore (33.49 per cent) from ₹2,063.17 crore in 2008-09 to ₹2,754.12 crore in 2009-10 mainly due to increase in procurement of bank notes by 24.7 per cent. There was also a moderate increase (3 to 11 per cent) in the cost of printing bank notes in different denominations.

Surplus Transferable to the Government of India

XI.14 The surplus transferable to the Government of India for the year 2009-10 amounted to ₹18,759 crore, including ₹1,407 crore payable to the Government towards the interest differential on special securities converted into marketable securities for compensating the Government for the difference in interest expenditure which the Government had to bear consequent on conversion of such special securities. The position of income, expenditure and net disposable income transferred to the Government in the last five years is given in Table XI.5.

Internal Reserves

XI.15 Contingency Reserve represents the amount set aside on a year-to-year basis for meeting unexpected and unforeseen contingencies, including depreciation in value of securities, exchange guarantees and risks arising out of monetary/exchange rate policy compulsions. In order to meet the needs of internal capital expenditure and make investments in subsidiaries and associate institutions, a further sum is provided and credited to the Asset Development Reserve. The amounts of transfer to the Contingency Reserve and the Asset Development Reserve and the surplus transferred to the Government as a percentage to the total income are set out in Table XI.6.

BALANCE SHEET

XI.16 The size of the overall balance sheet of the Bank increased noticeably during 2009-10 due to (a) expansion of notes in circulation (liabilities of

Table XI.5: Trends in Gross Income, Expenditure and Net Disposable Income

(Rupees crore)

Item	2005-06	2006-07	2007-08	2008-09	2009-10
1	2	3	4	5	6
Total Income (Gross)	**26,320.31**	**41,039.73 (75,348.33) #**	**57,750.79**	**60,731.98**	**32,884.14**
Less transfer to:					
(i) Contingency Reserve	10,936.42	20,488.97	33,430.74	26,191.40	5,168.39
(ii) Asset Development Reserve	1,126.79	1,971.51	3,207.92	1,309.70	549.63
Total (i + ii)	12,063.21	22,460.48	36,638.66	27,501.10	5,718.02
Total Income (Net)	14,257.10	18,579.25 (52,887.85) #	21,112.13	33,230.88	27,166.12
Total Expenditure	**5,849.10**	**7,164.25**	**6,097.13**	**8,217.88**	**8,403.12**
Net Disposable Income	8,408.00	11,415.00 (45,723.60) #	15,015.00	25,013.00	18,763.00
Less : Transfer to Funds *	4.00	4.00	4.00	4.00	4.00
Transfer of surplus to the Government	8,404.00	11,411.00 (45,719.60) #	15,011.00	25,009.00	18,759.00

Figures in parentheses indicate amounts including profit on sale of shares of the State Bank of India (SBI) divested on June 29, 2007.

* An amount of Rupees one crore each has been transferred to the National Industrial Credit (Long Term Operations) Fund, National Rural Credit (Long Term Operations) Fund, National Rural Credit (Stabilisation) Fund and National Housing Credit (Long Term Operations) Fund during each of the five years.

Table XI.6: Contingency and Asset Development Reserves and Surplus Transfer to the Government

(Rupees crore)

Item	2005-06	2006-07	2007-08	2008-09	2009-10
1	2	3	4	5	6
Total Income (Gross)	**26,320.31**	**41,039.73** *	**57,750.79**	**60,731.98**	**32,884.14**
Transfer to Contingency Reserve	10,936.42 (41.55)	20,488.97 (49.92)	33,430.74 (57.89)	26,191.40 (43.13)	5,168.39 (15.72)
Transfer to Asset Development Reserve	1,126.79 (4.28)	1,971.51 (4.80)	3,207.92 (5.55)	1,309.70 (2.16)	549.63 (1.67)
Transfer of Surplus to the Government	8,404.00 (31.93)	11,411.00 * (27.80)	15,011.00 (25.99)	25,009.00 (41.18)	18,759.00 (57.05)

* Excluding profit on sale of shares of SBI.

Note : Figures in parentheses indicate proportion to the total income.

the Issue Department) and (b) increase in the deposits of banks with the Reserve Bank (liabilities of the Banking Department), partly reflecting the increase in CRR. While the first component is demand driven, the second component changes in relation to growth in deposits as well as monetary policy changes effected through the instrument of CRR.

Issue Department – Liabilities

XI.17 The liabilities of the Issue Department equal the currency notes issued by the Government of India before the commencement of operations of Reserve Bank on April 1, 1935 plus the bank notes issued by the Reserve Bank since then in terms of Section 34(1) of the RBI Act. Notes in circulation increased by 20 per cent over the last year.

Issue Department - Assets

XI.18 In terms of RBI Act, the eligible assets for the Issue Department consist of gold coin & bullion, foreign securities, rupee coin, Government securities and internal bills of exchange. The total holding of gold by the Reserve Bank stands at 557.75 metric tons including purchase of 200 metric tons of gold from the IMF on November 3, 2009. A part of gold stock is marked as assets of the Issue Department and the remaining stock is reckoned as assets of the Banking Department and shown under "Other Assets" in the balance sheet of the Banking Department.

Banking Department – Liabilities

XI.19 The liabilities of the Banking Department include the following:

(a) Capital paid-up: The Reserve Bank of India was constituted as a private share holders' Bank in 1935 with an initial paid-up capital of ₹5 crore. The Bank was nationalised with effect from January 1, 1949 and the entire ownership is now vested in the Government of India. The paid-up capital continues to be ₹5 crore as per section 4 of the RBI Act.

(b) Reserve Fund: The original Reserve Fund of ₹5 crore was created in terms of section 46 of the RBI Act as contribution from the Central Government for the currency liability of the then sovereign government taken over by the Reserve Bank. Thereafter, ₹6,495 crore was credited to this Fund by way of gain on periodic revaluation of gold up to October 1990, thus taking it to ₹6,500 crore. Since then such valuation gain / loss is booked in the "Currency and Gold Revaluation Account" under the head "Other Liabilities" in the balance sheet.

(c) National Industrial Credit (Long Term Operations) Fund: This Fund was created on

July 1, 1964 under section 46C of the RBI Act with an initial corpus of ₹10 crore plus annual contributions by the Bank for financial assistance to eligible Financial Institutions. Since 1992-93, only a token amount of ₹1 crore each year is being contributed.

(d) National Housing Credit (Long Term Operations) Fund: This Fund was created in January 1989 under section 46D of the RBI Act with an initial corpus of ₹50 crore plus annual contributions by the Bank thereafter for extending financial accommodation to the National Housing Bank. Since 1992-93, only a token amount of ₹1 crore each year is being contributed.

There are two other Funds *viz*. National Rural Credit (Long Term Operations) Fund and National Rural Credit (Stabilisation) Fund constituted under section 46A of the RBI Act which are now placed with the National Bank for Agriculture and Rural Development. A token contribution of ₹1 crore is made each year to each of these two Funds.

(e) Deposits: These represent the cash balances with the Reserve Bank of the Central and the State Governments, banks, all India financial institutions such as EXIM Bank, NABARD *etc.,* foreign central banks, international financial institutions, the balance in different accounts relating to the Employees' Provident Fund, Gratuity and Superannuation Funds.

(f) Bills payable: This represents Demand Drafts (DDs) and Payment Orders outstanding for payment and balances under the Remittance Clearance Account pending encashment of the DDs issued.

(g) Other Liabilities: Internal reserves and provisions of the Reserve Bank are the major components of other liabilities. In terms of specific sub-heads, other liabilities include balances lying in Contingency Reserve (CR), Asset Development Reserve (ADR), Currency and Gold Revaluation Account (CGRA), Exchange Equalisation Account (EEA), Investment Revaluation Account (IRA) and also the surplus pending transfer to the Government and provision for outstanding expenses. Other liabilities decreased from ₹3,95,707.55 crore as on June 30, 2009 crore to ₹3,28,809.36 crore as on June 30, 2010 .

XI.20 The Contingency Reserve and the Asset Development Reserve reflected in "Other Liabilities" are in addition to the 'Reserve Fund' of ₹6,500 crore held by the Reserve Bank as a distinct balance sheet head.

Currency and Gold Revaluation Account (CGRA), Exchange Equalisation Account (EEA) and Investment Revaluation Account (IRA)

XI.21 Gains / losses on valuation of foreign currency assets and gold due to movements in the exchange rates and / or prices of gold are not taken to the Profit and Loss Account but instead booked as a balance sheet item named as the Currency and Gold Revaluation Account (CGRA). The balance in this account represents accumulated net gain on such valuation of foreign currency assets and gold. During 2009-10, the balances in CGRA declined by ₹79,708.05 crore, decreasing its balance from ₹1,98,842.03 crore as on June 30, 2009 to ₹1,19,133.98 crore as on June 30, 2010. The decrease was mainly on account of appreciation of the Indian Rupee against the US dollar and depreciation of other currencies against the US dollar.

XI.22 The balance in the Exchange Equalisation Account (EEA) represents provision made for exchange losses that could arise from forward commitments. The balance in EEA as on June 30, 2010 stood at ₹18.87 crore.

XI.23 As per the revised policy, the Reserve Bank has started valuing foreign dated securities at market price prevailing on the last business day of each month and appreciation/depreciation, as the case may be, is being adjusted against the balance held in the Investment Revaluation Account (IRA).

Table XI.7: Balances in CGRA, EEA and IRA

(Rupees crore)

As on June 30	CGRA	EEA	IRA
1	2	3	4
2006	86,789.18	3.28	-
2007	21,723.52	9.68	-
2008	1,63,211.83	0.00	-
2009	1,98,842.03	26.98	-
2010	1,19,133.98	18.87	9,370.96

The balance in IRA as on June 30, 2010 stood at ₹9,370.96 crore. The balances in CGRA, EEA and IRA are grouped under "Other Liabilities" in the balance sheet (Table XI.7).

Contingency Reserve

XI.24 The Reserve Bank maintains a Contingency Reserve (CR) to enable it to absorb unexpected and unforeseen contingencies. With a transfer of ₹5,168.39 crore to CR during 2009-10 from the Reserve Bank's income, the balance in CR increased to ₹1,58,560.60 crore as on June 30, 2010 from ₹1,53,392.21 crore as on June 30, 2009. The balance available in the CR is sufficient to meet the contingent liabilities.

Asset Development Reserve

XI.25 To meet the internal capital expenditure and make investments in its subsidiaries and associate institutions, the Reserve Bank had created a separate Asset Development Reserve (ADR) in 1997-98 with the aim of reaching one per cent of the Reserve Bank's total assets within the overall indicative target of 12 per cent set for CR and ADR taken together. In the year 2009-10, an amount of ₹549.63 crore was transferred from income to ADR raising its level from ₹14,081.95 crore as on June 30, 2009 to ₹14,631.58 crore as on June 30, 2010. CR and ADR together constituted 11.15 per cent of the total assets of the Bank as on June 30, 2010 (Table XI.8). ADR now accounts for 0.94 per cent of the total assets of the Bank as against one per cent last year due to expansion of the asset size.

Table XI.8: Balances in Contingency Reserve and Asset Development Reserve

(Rupees crore)

As on June 30	Balance in CR	Balance in ADR	Total	Percentage to total assets
1	2	3	4 (2+3)	5
2006	73,281.10	7,592.82	80,873.92	10.00
2007	93,770.07	9,564.33	1,03,334.40	10.31
2008	1,27,200.81	12,772.25	1,39,973.06	9.57
2009	1,53,392.21	14,081.95	1,67,474.16	11.89
2010	1,58,560.60	14,631.58	1,73,192.18	11.15

Banking Department - Assets

XI.26 The assets of the Banking Department comprise Notes, Rupee Coin, Small Coin, Bills Purchased and Discounted, Balances Held Abroad, Investments, Loans and Advances and Other Assets. They are presented in the balance sheet in the descending order of liquidity.

Notes, Rupee Coin and Small Coin

XI.27 This is the stock of bank notes, 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 arising out of usual receipt and payment transactions as a banker.

Balances Held Abroad

XI.28 This represents foreign currency balances held abroad. This is part of Bank's foreign currency assets shown under assets of the Banking Department.

Foreign Currency Assets

XI.29 The foreign currency assets (FCA) comprise foreign securities held in Issue Department, balances held abroad and investments in foreign securities held in Banking Department. The RBI Act provides the legal framework for deployment of the FCAs as well as gold. FCAs comprise deposits with other central banks, the BIS, foreign commercial banks,

securities representing debt of sovereigns and supra-national institutions with residual maturity not exceeding 10 years and any other instruments or institutions as approved by the Central Board of the Reserve Bank in accordance with the provisions of the Act. The decrease in the level of foreign currency assets in Rupee terms was mainly on account of appreciation of Rupee against US Dollar and revaluation of non-US dollar currency assets and use of a part of such assets for purchase of gold from the IMF. The position of outstanding foreign currency assets and domestic assets over the last five years is given in Table XI.9.

XI.30 FCAs form a major part of the foreign exchange reserves of the country. The comparative position of the foreign exchange reserves in the last two years is given in Table XI.10. It may be noted that although SDRs and Reserve Tranche Position (RTP) formed part of India's official reserves, these are held by the Government of India and therefore not reflected in the Reserve Bank's balance sheet.

XI.31 Following the commitment made by India, as part of the G-20 framework, RBI agreed to purchase SDR denominated notes from the International Monetary Fund up to a total amount of US$10 billion (₹46,600 crore). As on June 30, 2010, US$ 527.55 million (₹2,458.40 crore) was invested in notes of the IMF. The Reserve Bank can be called upon to invest the remaining amount of US$ 9.47 billion (₹44,141.60 crore).

Table XI.9: Outstanding Foreign Currency and Domestic Assets

(Rupees crore)

As on June 30	Foreign Currency Assets	Domestic Assets
1	2	3
2006	7,18,701.18	90,106.99
2007	8,39,878.79	1,62,058.59
2008	12,98,552.05	1,64,431.13
2009	12,17,541.80	1,90,652.64
2010	11,64,431.33	3,88,594.36

XI.32 The Reserve Bank has agreed to invest up to an amount, the aggregate of which shall not exceed US$ 5 billion (₹23,300 crore), in the bonds issued by the India Infrastructure Finance Company (UK) Limited. The Reserve Bank has so far invested US$ 250 million (₹1,165 crore) in such bonds.

XI.33 Gold includes ₹31,462.88 crore (US$ 6,699 million) reflecting the purchase of 200 metric tons of gold from the IMF under its limited gold sales programme. The purchase was an official sector transaction and was executed over a two week period during October 19-30, 2009 at market-based prices. As a result of this purchase, the Reserve Bank's gold holdings have increased from 357.75 metric tons to 557.75 metric tons.

XI.34 Special Drawing Rights include SDR 3,082.5 million (₹21, 243.57 crore) allocated under general allocation and SDR 214.6 million (₹1478.95 crore) allocated under special allocation by the IMF on August 28 and September 9, 2009, respectively.

Table XI.10: Foreign Exchange Reserves

(Rupees crore)

Item	As on		Variation	
	June 30, 2009	June 30, 2010	Absolute	Per cent
1	2	3	4	5
Foreign Currency Assets (FCA)	12,17,541.80	11,64,431.33	-53,110.47	-4.36
Gold	46,914.09	92,704.13	45,790.04	97.60
Special Drawing Rights (SDR)	2.48	22,718.63	22,716.15	9,15,973.79
Reserve Position in the IMF*	5,973.89	6,117.62	143.73	2.41
Total Foreign Exchange Reserves (FER)	**12,70,432.26**	**12,85,971.71**	**15,539.45**	**1.22**

* Reserve Position in the International Monetary Fund (IMF), which was shown as a *memo item* from May 23, 2003 to March 26, 2004 has been included in the reserves from the week ended April 2, 2004.

Investment in Government of India Rupee Securities

XI.35 Without adjusting for transfer of securities under the Liquidity Adjustment Facility (LAF) operations, the investment in Government of India securities decreased by ₹5,725.57 crore from ₹1,98,627.19 crore as on June 30, 2009 to ₹1,92,901.62 crore as on June 30, 2010. The decline was the combined effect of increase on account of purchase of securities under the open market operations and decrease on account of depreciation in value of securities held by the Bank as well as increase in sale of securities from the Bank's portfolio to the Government of India towards investment of their surplus cash balances.

Investments in Shares of Subsidiaries and Associate Institutions

XI.36 There was no change in the Reserve Bank's investments in shares of its subsidiaries and associate institutions during the year (Table XI.11). Investments in shares are valued at cost.

Table XI.11: Investments in Shares of Subsidiaries and Associate Institutions

(Rupees crore)

Institution	Book value of shares held as on	
	June 30, 2009	June 30, 2010
1	2	3
1. Deposit Insurance and Credit Guarantee Corporation	50.00	50.00
2. National Bank for Agriculture and Rural Development	1,450.00	1,450.00
3. National Housing Bank	450.00	450.00
4. Bharatiya Reserve Bank Note Mudran (Pvt.) Ltd.	800.00	800.00
Total	**2,750.00**	**2,750.00**

Other Assets

XI.37 'Other Assets' comprise income accrued but not received, fixed assets (net of depreciation), gold holdings in the Banking Department, amounts spent on projects pending completion and staff advances *etc*. The level of 'Other Assets' increased by ₹27,537.93 crore from ₹31,138.75 crore as on June 30, 2009 to ₹58,676.68 crore as on June 30, 2010 mainly on account of purchase of 200 metric tons of gold from IMF during October 19-30, 2009 at a value of ₹31,462.88 crore (US$ 6,699 million).

Auditors

XI.38 The accounts of the Reserve Bank for the year 2009-10 were audited by M/s. Mukund M. Chitale & Co., Mumbai and M/s. V. Sankar Aiyar & Co., Mumbai as the Statutory Central Auditors. Branch offices were audited by the statutory branch auditors, namely, M/s. Basant Ram & Sons, New Delhi, M/s. Vedprakash Agrawal & Co., Nagpur, M/s. G. Natesan & Co., Chennai and M/s. S. K. Basu & Co., Kolkata. The auditors were appointed by the Central Government in terms of section 50 of RBI Act, 1934.

RESERVE BANK OF INDIA
BALANCE SHEET AS AT 30TH JUNE 2010
ISSUE DEPARTMENT

(Rupees thousands)

2008-09	LIABILITIES		2009-10	2008-09	ASSETS		2009-10
	Notes held in the				Gold Coin and Bullion:		
21,25,80	Banking Department	32,61,51		38326,27,06	(a) Held in India	48577,21,52	
701655,32,71	Notes in Circulation	842008,36,40		–	(b) Held outside India	–	
				662064,41,42	Foreign Securities	792300,92,96	
701676,58,51	Total Notes issued		842040,97,91	700390,68,48	Total		840878,14,48
				239,47,03	Rupee Coin		116,40,43
				1046,43,00	Government of India Rupee Securities		1046,43,00
				–	Internal Bills of Exchange and other Commercial Paper		–
701676,58,51	Total Liabilities		842040,97,91	701676,58,51	Total Assets		842040,97,91

BANKING DEPARTMENT

2008-09	LIABILITIES	2009-10	2008-09	ASSETS	2009-10
5,00,00	Capital paid-up	5,00,00	21,25,80	Notes	32,61,51
6500,00,00	Reserve Fund	6500,00,00	4,77	Rupee Coin	6,34
18,00,00	National Industrial Credit (Long Term Operations) Fund	19,00,00	3,41	Small Coin	3,08
192,00,00	National Housing Credit (Long Term Operations) Fund	193,00,00			
	Deposits			Bills Purchased and Discounted :	
	(a) Government		–	(a) Internal	–
22990,42,88	(i) Central Government	36457,41,08	–	(b) External	–
41,34,50	(ii) State Governments	41,33,15	–	(c) Government Treasury Bills	–
	(b) Banks				
250664,49,62	(i) Scheduled Commercial Banks	307759,41,00			
3520,91,11	(ii) Scheduled State Co-operative Banks	4065,43,76	512320,77,65	Balances Held Abroad	339226,34,23
3489,08,20	(iii) Other Scheduled Co-operative Banks	4986,76,82			
67,07,47	(iv) Non-Scheduled State Co-operative Banks	68,63,80	151675,42,39	Investments	310068,81,35
6671,76,11	(v) Other Banks	9224,79,62			
16475,59,86	(c) Others	12807,72,53		Loans and Advances to :	
			–	(i) Central Government	–
			–	(ii) State Governments	73,38,00
195,86,03	Bills Payable	79,45,62		Loans and Advances to:	
			280,00,00	(i) Scheduled Commercial Banks	2623,17,00
			–	(ii) Scheduled State Co-operative Banks	–
			–	(iii) Other Scheduled Co-operative Banks	41,00,00
			–	(iv) Non-Scheduled State Co-operative Banks	–
			–	(v) NABARD	–
			11102,82,48	(vi) Others	275,22,98
395707,55,24	Other Liabilities	328809,35,60		Loans, Advances and Investments from National Industrial Credit (Long Term Operations) Fund:	
				(a) Loans and Advances to:	
			–	(i) Industrial Development Bank of India	–
			–	(ii) Export Import Bank of India	–
			–	(iii) Industrial Investment Bank of India Ltd.	–
			–	(iv) Others	–
				(b) Investments in bonds/debentures issued by:	
			–	(i) Industrial Development Bank of India	–
			–	(ii) Export Import Bank of India	–
			–	(iii) Industrial Investment Bank of India Ltd.	–
			–	(iv) Others	–
				Loans, Advances and Investments from National Housing Credit (Long Term Operations) Fund:	
			–	(a) Loans and Advances to National Housing Bank	–
			–	(b) Investments in bonds/ debentures issued by National Housing Bank	–
			31138,74,52	Other Assets	58676,68,49
706539,11,02	Total Liabilities	711017,32,98	706539,11,02	Total Assets	711017,32,98

Significant Accounting Policies and Notes to the Accounts as per the Annex.

PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 30TH JUNE 2010

(Rupees thousands)

2008-09	INCOME		2009-10
33230,88,41	**Interest, Discount, Exchange, Commission** *etc.*[1]		**27166,12, 24**
33230,88,41	**Total**		**27166,12,24**
	EXPENDITURE		
1,32,87	**Interest**		**1,01,60**
2448,25,15	**Establishment**		**1986,82,29**
1,66,90	**Directors' and Local Board Members' Fees and Expenses**		**2,08,15**
32,45,84	**Remittance of Treasure**		**37,12,10**
2999,19,46	**Agency Charges**		**2855,02,06**
2063,16,97	**Security Printing (Cheque, Note forms** ***etc.*****)**		**2754,12,35**
20,63,03	**Printing and Stationery**		**26,58,89**
52,69,10	**Postage and Telecommunication Charges**		**42,48,93**
85,87,49	**Rent, Taxes, Insurance, Lighting** ***etc.***		**85,15,56**
2,26,68	**Auditors' Fees and Expenses**		**2,51,17**
2,32,80	**Law Charges**		**2,75,54**
234,56,38	**Depreciation and Repairs to Bank's Property**		**274,21,93**
273,45,74	**Miscellaneous Expenses**		**333,21,67**
8217,88,41	**Total**		**8403,12,24**
25013,00,00	**Available Balance**		**18763,00,00**
	Less: Contribution To:		
	National Industrial Credit (Long Term Operations) Fund	1,00,00	
	National Rural Credit (Long Term Operations) Fund [2]	1,00,00	
	National Rural Credit (Stabilisation) Fund [2]	1,00,00	
	National Housing Credit (Long Term Operations) Fund	1,00,00	
4,00,00			**4,00,00**
25009,00,00	**Surplus Payable to the Central Government**		**18759,00,00**

1. After making the usual or necessary provisions in terms of section 47 of the Reserve Bank of India Act, 1934 amounting to ₹5718,01,83 thousands (2008-09 - ₹27501,09,93 thousands).
2. These funds are maintained by National Bank for Agriculture and Rural Development (NABARD).

S.V. Raghavan	**Subir Gokarn**	**K.C. Chakrabarty**	**Usha Thorat**	**Shyamala Gopinath**	**D. Subbarao**
Chief General Manager	Deputy Governor	Deputy Governor	Deputy Governor	Deputy Governor	Governor

REPORT OF THE AUDITORS

TO THE PRESIDENT OF INDIA

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, 2010 and the Profit and Loss Account for the year ended on that date.

We have examined the Balance Sheet of the Bank as at June 30, 2010 and the Profit and Loss Account of the Bank for the year ended on that date and report that where we have called for information and explanations from the Bank, such information and explanations have been given to our satisfaction.

These financial statements include the accounts of nineteen Accounting Units of the Bank which have been audited by the Statutory Branch Auditors. The branch audit reports have been furnished to us which we have considered in preparing our report.

These financial statements are the responsibility of the Bank's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion and according to the best of our information and explanations given to us and as shown by the books of account of the Bank, the Balance Sheet read with Significant Accounting Policies and Notes to the Accounts is a full and fair Balance Sheet containing all necessary particulars and is properly drawn up in accordance with the Reserve Bank of India Act, 1934 and Regulations framed thereunder so as to exhibit a true and correct view of the state of the Bank's affairs in conformity with the accounting principles generally accepted in India.

For Mukund M.Chitale & Co	For V. Sankar Aiyar & Co
Firm Registration No.106655W	Firm Registration No.109208W
Chartered Accountants	Chartered Accountants
Abhay V. Kamat	S.Venkatraman
Partner	Partner
(M. No. 39585)	(M. No. 34319)

Dated August 12, 2010
Place: Mumbai

ANNEX

RESERVE BANK OF INDIA

SIGNIFICANT ACCOUNTING POLICIES AND NOTES TO THE ACCOUNTS FOR THE YEAR 2009-10

SIGNIFICANT ACCOUNTING POLICIES

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 and are based on historical cost except where it is modified to reflect revaluation.

The accounting practices and policies followed in the financial statements are consistent with those followed in the previous year unless otherwise stated.

2. REVENUE RECOGNITION

Income and expenditure are recognised on accrual basis except penal interest and dividend, which are accounted for on receipt basis. Only realised gains are recognised.

Balances unclaimed and outstanding for more than three consecutive years in certain transitory 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 in this respect are considered and charged against income in the year of payment.

Income and expenditure in foreign currency are recorded at the exchange rates prevailing on the last business day of the preceding week/preceding month/year-end rates, as applicable.

3. GOLD AND FOREIGN CURRENCY ASSETS AND LIABILITIES

(a) Gold

Gold is revalued at the end of the month at 90 per cent of the daily average price quoted at London for the month. The rupee equivalent is determined on the basis of the exchange rate prevailing on the last business day of the month. Unrealised gains/ losses are adjusted to the Currency and Gold Revaluation Account (CGRA).

(b) Foreign Currency Assets and Liabilities

All foreign currency assets and liabilities are translated at the exchange rates prevailing on the last business day of the week as well as on the last business day of the month. At the year-end, assets and liabilities in foreign currencies are translated at the exchange rates prevailing on the last business day except in cases where rates are contractually fixed. Exchange gains and losses arising from such translation of foreign currency assets and liabilities are accounted for in CGRA and remain adjusted therein. Forward exchange contracts are evaluated half-yearly and net loss, if any, is provided for.

Foreign securities other than Treasury Bills are valued at market price prevailing on the last business day of each month. The appreciation or depreciation, if any, is transferred to the Investment Revaluation Account (IRA). Credit balance in IRA is carried forward to the subsequent year. Debit balance, if any, at the end of the year in IRA is charged to the Profit and Loss Account and the same is reversed to the credit of the Profit and Loss Account on the opening day of the succeeding 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, except in the case of foreign dated securities, where it is recognised with reference to the amortised cost. Further, on sale/ redemption of foreign dated securities, gain/loss in relation to the securities sold, lying in IRA is transferred to the Profit and Loss Account.

4. RUPEE SECURITIES

Rupee securities, other than Treasury Bills, held in the Issue and Banking Departments, are valued at lower of book value or market price (LOBOM). Where the market price for such securities is not available, the rates are derived based on the yield curve prevailing on the last business day of the month. The depreciation in the value, if any, is adjusted against current interest income.

Treasury Bills are valued at cost.

5. SHARES

Investments in shares are valued at cost.

6. FIXED ASSETS

Fixed Assets are stated at cost less depreciation.

Depreciation on computers, microprocessors, software (costing ₹1 lakh and above), motor vehicles, furniture, *etc.*, is provided on straight-line basis at the following rates.

Asset Category	Rate of depreciation
Motor vehicles, furniture *etc.*	20%
Computers, Microprocessors, Software *etc.*	33.33%

Depreciation on leasehold land and building(s) is provided on written-down value basis at the following rates.

Asset Category	Rate of depreciation
Leasehold Land and Building(s) constructed thereon	Proportionate to Lease Period but not less than 5%
Building(s) constructed on Freehold Land	10%

Fixed Assets costing less than ₹1 lakh (except easily portable electronic assets such as laptops, mobile phones, *etc*. costing more than ₹10,000) are charged to the Profit and Loss Account in the year of acquisition.

Depreciation is provided on year-end balances of the Fixed Assets.

7. EMPLOYEE BENEFITS

The liability on account of long term employee benefits is provided based on an actuarial valuation.

8. CONTINGENCY RESERVE AND ASSET DEVELOPMENT RESERVE

Contingency Reserve (CR) represents the amount set aside on a year-to-year basis for meeting unexpected and unforeseen contingencies including depreciation in value of securities, exchange guarantees and risks arising out of monetary / exchange rate policy compulsions.

In order to meet the internal capital expenditure and make investments in subsidiaries and associate institutions, a further sum is provided and credited to the Asset Development Reserve (ADR).

NOTES TO THE ACCOUNTS

1. SURPLUS TRANSFER TO GOVERNMENT OF INDIA

Surplus transferable to the Government includes ₹1,407.00 crore (previous year – ₹1,436.00 crore) representing interest differential pertaining to the period April 1, 2009-March 31, 2010 on account of conversion of special securities issued by the Government of India into marketable securities.

2. CHANGES IN ACCOUNTING POLICIES AND PROCEDURES

2.1 Reserve Bank has changed the accounting policy for valuation of foreign dated securities which were hitherto being valued on the basis of lower of book value or market price (LOBOM) prevailing on the last business day of each month wherein depreciation was being adjusted against current income and appreciation was being ignored. Further, discount/ premium, if any, was not being amortised. As per revised policy, Reserve Bank has started valuing foreign dated securities at market price prevailing on the last business day of each month, wherein appreciation/ depreciation as the case may be is being transferred to the Investment Revaluation Account. Credit balance in IRA is carried forward to the subsequent year. Debit balance, if any, at the end of the year in IRA is charged to the Profit and Loss Account and the same is reversed to the credit of the Profit and Loss Account on the opening day of the succeeding financial year. Further, discount/premium, if any, is now being amortised on daily basis over the remaining period till maturity.

Due to aforesaid change, valuation of investment in foreign securities is higher by ₹7,768.11 crore and Other Liabilities (IRA and CGRA) is higher by ₹8,234.10 crore. Interest, Discount, Exchange, Commission *etc.* is, however, lower by ₹465.99 crore.

2.2 A new Fixed Asset Policy has been implemented with effect from July 1, 2009 in terms of which threshold limit for capitalising items of fixed assets has been raised from ₹10,000 to ₹1 lakh. Accordingly, items of fixed assets, individually costing ₹1 lakh and more (previous year – ₹10,000) are capitalised. However, valuable but easily portable electronic assets such as laptops, mobile phones, *etc.* are capitalised where the individual cost is more than ₹10,000. Further, expenditure on renovation/modernisation of an existing asset is not capitalised unless such renovation/modernisation results in capacity increase or structural improvement of the existing assets and such expenditure is charged to Profit and Loss Account for the year in which expenditure is incurred.

Due to the aforesaid changes, the net expenditure debited to Profit and Loss Account for the year is higher by ₹48.02 crore and the Fixed Assets shown under Other Assets in the Balance Sheet is lower by ₹48.02 crore.

3. EARMARKED SECURITIES

The Reserve Bank has earmarked certain Government securities having a book value of ₹9,466.68 crore (previous year ₹8,849.97 crore) from its Investment Account in order to cover the liabilities in the Provident Fund, Gratuity and Superannuation Fund and Leave Encashment (Retiring Employees) Fund.

4. RESERVE FUND

Reserve Fund comprises initial contribution of ₹5.00 crore made by the Government of India and appreciation of ₹6,495.00 crore on account of revaluation of Gold up to October 1990. Subsequent gains / losses on monthly revaluation of Gold are taken to the Currency and Gold Revaluation Account (CGRA).

5. DEPOSITS

(a) Government

Deposits of Central Government include ₹317.00 crore (previous year – ₹22,889.92 crore) on account of operations under the Market Stabilisation Scheme (MSS). Deposits of State Governments include balance of Government of the Union Territory of Puducherry.

(b) Others

(Rupees crore)

Particulars	As on June 30	
	2009	2010
1	2	3
I. Rupee Deposits from the Foreign Central Banks and the Foreign Financial Institutions	3,758.94	3,246.36
II. Deposits from the Indian Financial Institutions	335.08	516.33
III. Accumulated Retirement Benefits	8,303.08	8,817.13
IV. Miscellaneous	4,078.50	227.91
Total	**16,475.60**	**12,807.73**

6. DETAILS OF OTHER LIABILITIES

(Rupees crore)

Particulars	As on June 30	
	2009	2010
1	2	3
I. Contingency Reserve		
Balance at the beginning of the year	1,27,200.81	**1,53,392.21**
Add: Accretion during the year	26,191.40	5,168.39
Balance at the end of the year	**1,53,392.21**	**1,58,560.60**
II. Asset Development Reserve		
Balance at the beginning of the year	12,772.25	**14,081.95**
Add: Accretion during the year	1,309.70	549.63
Balance at the end of the year	**14,081.95**	**14,631.58**
III. Currency and Gold Revaluation Account		
Balance at the beginning of the year	1,63,211.83	**1,98,842.03**
Add: Net Accretion (+) /	35,630.20	-
Net Depletion (-) during the year	-	(-)79,708.05
Balance at the end of the year	**1,98,842.03**	**1,19,133.98**
IV. Investment Revaluation Account		
Balance at the beginning of the year	-	-
Add: Net Accretion (+) /	-	9,370.96
Net Utilisation (-) during the year	-	-
Balance at the end of the year	-	**9,370.96**
V. Exchange Equalisation Account		
Balance at the beginning of the year	-	**26.98**
Transfer from Exchange Account	26.98	18.87
Add: Net Accretion (+) /	-	-
Net Utilisation (-) during the year	-	(-) 26.98
Balance at the end of the year	**26.98**	**18.87**
VI. Provision for Outstanding Expenses	**1,822.88**	**1,548.02**
VII. Surplus transferable to the Government of India	**25,009.00**	**18,759.00**
VIII. Miscellaneous	**2,532.50**	**6,786.35**
Total (I to VIII)	**3,95,707.55**	**3,28,809.36**

7. EMPLOYEE BENEFITS

In accordance with the Accounting Standard (AS) 15 – Employee Benefits (Revised), the liability for long term employee benefits has been ascertained under the 'Projected Unit Credit' method and provided for in the accounts.

8. RBI GENERAL ACCOUNT

'Other Assets' include ₹18.37 crore (previous year ₹7.61 crore under 'Other Liabilities') in respect of inter–office transactions and balances under reconciliation which are at various stages of reconciliation and necessary adjustments are being effected as and when reconciled.

9. RUPEE INVESTMENTS

Securities purchased (Repo) and sold (Reverse Repo) under the Liquidity Adjustment Facility (LAF) are added to and reduced from 'Investments' respectively. As at the year-end, the outstanding Repos and Reverse Repos amounted to ₹78,630.00 crore (previous year ₹895.00 crore) and ₹20.00 crore (previous year ₹88,335.00 crore) respectively.

10. DETAILS OF FOREIGN CURRENCY ASSETS

(Rupees crore)

Particulars	As on June 30	
	2009	2010
1	2	3
I. Held in Issue Department	6,62,064.41	7,92,300.93
II. Held in Banking Department -		
a) Included in Investments	43,156.61	32,904.06
b) Balances Held Abroad	5,12,320.78	3,39,226.34
Total	**12,17,541.80**	**11,64,431.33**

Note :

1. Uncalled amount on partly paid shares of the Bank for International Settlements (BIS) as at June 30, 2010 was ₹82.98 crore (SDR 1,20,41,250). The amount was ₹89.47 crore (SDR 1,20,41,250) in the previous year.
2. RBI has agreed to purchase SDR denominated notes from the International Monetary Fund (IMF) up to a total amount of US Dollar 10 billion (₹46,600 crore). As on June 30, 2010, USD 527.55 million (₹2458.40 crore) was invested in notes of IMF. RBI can be called upon to invest the remaining amount of US Dollar 9.47 billion (₹44,141.60 crore).
3. RBI has agreed to invest up to an amount, the aggregate of which shall not exceed US Dollar 5 billion (₹23,300 crore), in the bonds issued by India Infrastructure Finance Company (UK) Limited. Presently, RBI has invested US Dollar 250 million (₹1,165 crore) in such bonds.

11. DETAILS OF OTHER ASSETS

(Rupees crore)

Particulars		As on June 30	
		2009	2010
1		2	3
I.	Fixed Assets (net of accumulated depreciation)	609.40	516.08
II.	Gold	8,587.82	44,126.92
III.	Income accrued but not received	16,734.04	12,969.29
IV.	Miscellaneous	5,207.49	1,064.39
	Total	**31,138.75**	**58,676.68**

12. INTEREST, DISCOUNT, EXCHANGE, COMMISSION, *etc.*

Interest, Discount, Exchange, Commission, *etc.*, include the following:

(Rupees crore)

Particulars		Year ended	
		June 30, 2009	June 30, 2010
1		2	3
I.	Profit on sale of Foreign and Rupee Securities	18,957.36	14,764.45
II.	Net profit on sale of Bank's Property	7.36	1.87

13. Previous year's figures have been regrouped / reclassified, wherever necessary, to conform to current year's presentation.

ANNEX I

LIST OF SPEECHES BY GOVERNOR AND DEPUTY GOVERNORS: APRIL 2009 TO AUGUST 2010

Sl. No.	Title of Speech	Speech by	Date
1	2	3	4
1	Platinum Jubilee Celebrations - Governor's Address to Staff	Dr. Duvvuri Subbarao, Governor	April 01, 2009
2	Global Financial Crisis: Causes, Impact, Policy Responses and Lessons	Dr. Rakesh Mohan, Dy. Governor	April 23, 2009
3	Statement by Governor at IMFC	Dr. Duvvuri Subbarao, Governor	April 25, 2009
4	Sub-National Fiscal Reforms and Debt Management - Indian Experience	Smt. Shyamala Gopinath, Dy. Governor	April 29, 2009
5	Information Technology and Banking - A Continuing Agenda	Dr. Duvvuri Subbarao, Governor	May 18, 2009
6	Risk Management in the Midst of the Global Financial Crisis	Dr. Duvvuri Subbarao, Governor	May 22, 2009
7	Addressing the Regulatory Perimeter Issues - Indian Experience	Smt. Shyamala Gopinath, Dy. Governor	June 03, 2009
8	Emerging Contours of Financial Regulation: Challenges and Dynamics	Dr. Rakesh Mohan, Dy. Governor	June 10, 2009
9	Impact of Global Financial Crisis on Reserve Bank of India as a National Regulator	Smt. Usha Thorat, Dy. Governor	June 29, 2009
10	Governor's Inaugural Address: Third Annual Statistics Day Conference	Dr. Duvvuri Subbarao, Governor	July 02, 2009
11	An Interview with centralbanking.com, London	Dr. Duvvuri Subbarao, Governor	July 02, 2009
12	Pushing Financial Inclusion - Some Regulatory Issues and Recent Developments	Dr. K. C. Chakrabarty, Dy. Governor	July 17, 2009
13	Global Financial Crisis: Questioning the Questions	Dr. Duvvuri Subbarao, Governor	July 31, 2009
14	Technology, Financial Inclusion and Role of Urban Co-operative Banks	Dr. K. C. Chakrabarty, Dy. Governor	August 09, 2009
15	Banking: Key Driver for Inclusive Growth	Dr. K. C. Chakrabarty, Dy. Governor	August 10, 2009
16	Panel Discussion on 'Challenges for the Central Banks'	Dr. M. Narasimham, Dr. C. Rangarajan, Dr. Y.V. Reddy and Dr. Duvvuri Subbarao	August 14, 2009
17	Ethics and the World of Finance	Dr. Duvvuri Subbarao, Governor	August 28, 2009
18	Banking and Finance in India: Developments, Issues and Prospects	Dr. K. C. Chakrabarty, Dy. Governor	August 31, 2009
19	India's Economic Transformation - A Snapshot	Dr. K. C. Chakrabarty, Dy. Governor	September 07, 2009
20	Global Agenda for Regulatory and Supervisory Reforms: The Stock Taking and Way Forward	Smt. Usha Thorat, Dy. Governor	September 08, 2009
21	Financial Stability: Issues and Challenges	Dr. Duvvuri Subbarao, Governor	September 10, 2009
22	Sustaining Growth Potential - Focus on Key Sectors	Smt. Usha Thorat, Dy. Governor	September 11, 2009
23	Global Crisis: Genesis, Challenges and Opportunities Unleashed	Dr. K. C. Chakrabarty, Dy. Governor	September 25, 2009

Sl. No.	Title of Speech	Speech by	Date
24	Emerging Market Concerns: An Indian Perspective	Dr. Duvvuri Subbarao, Governor	October 05, 2009
25	Learning from Crises	Smt. Usha Thorat, Dy. Governor	October 12, 2009
26	Changing Dynamics of Legal Risks in Financial Sector	Smt. Shyamala Gopinath, Dy. Governor	October 30, 2009
27	Philosophy and Practice of Financial Sector Regulation - Space for Unorthodoxy	Smt. Shyamala Gopinath, Dy. Governor	November 02, 2009
28	Financial Crisis and Beyond	Smt. Shyamala Gopinath, Dy. Governor	November 10, 2009
29	Should Banking be Made Boring? - An Indian Perspective	Dr. Duvvuri Subbarao, Governor	November 25, 2009
30	GenNext Banking: Issues and Perspectives	Dr. K. C. Chakrabarty, Dy. Governor	November 25, 2009
31	Emerging Blueprint for Prudential Regulation - Assessment and Challenges	Smt. Shyamala Gopinath, Dy. Governor	November 27, 2009
32	Furthering Financial Inclusion through Financial Literacy and Credit Counselling	Dr. K. C. Chakrabarty, Dy. Governor	November 30, 2009
33	Mobile Commerce, Mobile Banking - The Emerging Paradigm	Dr. K. C. Chakrabarty, Dy. Governor	December 04, 2009
34	Financial Inclusion: Challenges and Opportunities	Dr. Duvvuri Subbarao, Governor	December 09, 2009
35	India's Economic Recovery: Drivers & Risks	Dr. Subir Gokarn, Dy. Governor	December 24, 2009
36	Current Macroeconomic Developments in India	Smt. Shyamala Gopinath, Dy. Governor	December 28, 2009
37	Financial Markets - Some Regulatory Issues and Recent Developments	Smt. Shyamala Gopinath, Dy. Governor	January 04, 2010
38	Risk Management - Priorities for the Indian Banking Sector	Smt. Usha Thorat, Dy. Governor	January 12, 2010
39	Address by Governor on the occasion of release of the book - 'Perspectives on Central Banking: Governors Speak' by the Hon'ble Prime Minister	Dr. Duvvuri Subbarao, Governor	January 15, 2010
40	Welcome address by Governor on the occasion of release of the RBI Commemorative Stamp by Her Excellency the President of India	Dr. Duvvuri Subbarao, Governor	January 16, 2010
41	Inaugural Address: Funding of Deposit Insurance System	Dr. Duvvuri Subbarao, Governor	January 18, 2010
42	Key Note Address: Funding of Deposit Insurance System	Smt. Usha Thorat, Dy. Governor	January 18, 2010
43	Financial Development and Deposit Insurance: Some Linkages	Dr. Subir Gokarn, Dy. Governor	January 18, 2010
44	Interview with Business Standard	Dr. Subir Gokarn, Dy. Governor	February 01, 2010
45	Infrastructure Finance: Experiences and the Road Ahead	Dr. K. C. Chakrabarty, Dy. Governor	February 05, 2010
46	Indian Perspective on Banking Regulation	Smt. Usha Thorat, Dy. Governor	February 08, 2010
47	'Exit from the Crisis Cannot be Drastic' - Interview with Mint Newspaper	Dr. Subir Gokarn, Dy. Governor	February 08, 2010
48	Inaugural Address by Governor at the First International Research Conference on 'Challenges for Central Banking in the Context of Financial Crisis'	Dr. Duvvuri Subbarao, Governor	February 12, 2010

LIST OF SPEECHES BY GOVERNOR AND DEPUTY GOVERNORS: APRIL 2009 TO AUGUST 2010

Sl. No.	Title of Speech	Speech by	Date
49	Welcome Remarks: Fourteenth C. D. Deshmukh Memorial Lecture	Dr. Duvvuri Subbarao, Governor	February 15, 2010
50	Welcome Remarks: Eleventh L. K. Jha Memorial Lecture	Dr. Duvvuri Subbarao, Governor	February 24, 2010
51	Pursuit of Complete Markets - The Missing Perspectives	Smt. Shyamala Gopinath, Dy. Governor	February 28, 2010
52	Joint Function of RBI and Government of Karnataka on Financial Literacy Projects in Karnataka	Dr. Duvvuri Subbarao, Governor	March 22, 2010
53	Some Issues in Currency Management	Dr. Duvvuri Subbarao, Governor	March 22, 2010
54	Financial Education: Worthy and Worthwhile	Dr. Duvvuri Subbarao, Governor	March 22, 2010
55	Foundation Laying Ceremony for Security Paper Mill at Mysore: Welcome Address	Smt. Usha Thorat, Dy. Governor	March 22, 2010
56	RBI-OECD Workshop - Delivering Financial Literacy: Challenges, Strategies and Instruments - Welcome Address	Dr. K. C. Chakrabarty, Dy. Governor	March 22, 2010
57	People, Jobs and Productivity: The 'Simple' Dynamics of Inclusive Growth	Dr. Subir Gokarn, Dy. Governor	March 26, 2010
58	Looking Back and Looking Ahead	Dr. Duvvuri Subbarao, Governor	April 01, 2010
59	Silver Jubilee Function of Institute of Banking Personnel Selection	Dr. K. C. Chakrabarty, Dy. Governor	April 02, 2010
60	The Economics of Ecosystems and Biodiversity Workshop	Smt. Usha Thorat, Dy. Governor	April 13, 2010
61	Statement at the IMFC	Dr. Duvvuri Subbarao, Governor	April 24, 2010
62	India and the Global Financial Crisis: Transcending from Recovery to Growth	Dr. Duvvuri Subbarao, Governor	April 26, 2010
63	New Paradigms in IT Security in Indian Banks	Dr. K. C. Chakrabarty, Dy. Governor	April 26, 2010
64	Key Note Address at Review Meet on Implementation of Revival Package for Short Term Rural Co-operative Credit Structure	Dr. K. C. Chakrabarty, Dy. Governor	April 30, 2010
65	Volatility in Capital Flows: Some Perspectives	Dr. Duvvuri Subbarao, Governor	May 11, 2010
66	Bank Credit to MSMEs: Present Status and Way Forward	Dr.K.C.Chakrabarty, Dy. Governor	May 21, 2010
67	RBI Archives - Way Forward	Dr. Duvvuri Subbarao, Governor	June 01, 2010
68	Financial Regulation and Financial Inclusion - Working Together at Cross Purposes	Smt. Usha Thorat, Dy. Governor	June 02, 2010
69	Financial Deepening by Putting Financial Inclusion Campaign in Mission Mode	Dr. K. C. Chakrabarty, Dy. Governor	June 17, 2010
70	Harnessing Technology to Bank the Unbanked	Dr. Duvvuri Subbarao, Governor	June 18, 2010
71	Central Banks Must Distill Lessons from the Global Crisis and Make Concrete Reforms	Dr. Duvvuri Subbarao, Governor	July 02, 2010
72	Banking Technology Beyond CBS	Dr. K. C. Chakrabarty, Dy. Governor	July 02, 2010
73	Over the Counter Derivative Markets in India - Issues and Perspectives	Smt. Shyamala Gopinath, Dy. Governor	July 28, 2010
74	Financial Crisis - Some Old Questions and May be Some New Answers	Dr. Duvvuri Subbarao, Governor	August 05, 2010
75	Securitisation Markets in India - A Post Crisis Perspective	Smt. Shyamala Gopinath, Dy. Governor	August 10, 2010
76	Managing Inflation in the Post Crisis Environment	Dr. Subir Gokarn, Dy. Governor	August 12, 2010

ANNEX II

RBI PLATINUM JUBILEE : MAJOR EVENTS AND ACTIVITIES

Date/Month/Year	Events and Activities
1	2
June 2009	
	(i) Commencement of outreach visits by the Bank's Regional Offices to select areas in the respective State/region.
	(ii) Beginning of "Down Memory Lane" sessions in the form of get-togethers with retired employees at all Regional Offices.
July 2009	
2nd	Conference to mark "Statistics Day" in Mumbai.
29th	Launch of "Issue of Issues" of the Bank's In-house journal, "*Without Reserve*".
30th	Cultural Meet for East Zone Offices at Bhubaneswar.
August 2009	
14th	High-level Symposium on "Challenges for Central Banks" at Hyderabad.
29th	Cultural Meet for North Zone Offices at Chandigarh.
September 2009	
18th	Cultural Meet for South Zone Offices at Chennai.
October 2009	
30th	Seminar on "Changing Dynamics of Legal Risks in Financial Sector" at Kochi.
November 2009	
17th	Cultural Meet for West Zone Offices at Ahmedabad.
19th to 21st	RBI Senior Management Retreat at Alibaug near Mumbai.
December 2009	
7th	Release of a Brochure on RBI and RBI Platinum Jubilee Calendar for the year 2010 at Mumbai.
11th to 17th	All India RBI Sports Meet at Kolkata.
January 2010	
15th	Release of a "Compendium of Speeches" by the RBI Governors over the years by the Hon'ble Prime Minister of India at his residence in New Delhi.
16th	Release of RBI Commemorative Stamp by Her Excellency, the President of India at RBI office, New Delhi.
18th to 20th	8th IADI Asia Regional Committee meeting and International Conference at Goa.
26th	Investiture Ceremony on the Republic Day celebrations at Mumbai.
29th	All India RBI Cultural Meet at Birla Matoshree Auditorium, Mumbai.
February 2010	
1st	NDTV Profit Open House Panel Discussion on "RBI and the Common Person" at Egmore Museum, Chennai.
1st	Financial Education Exhibition at Kolkata.
12th and 13th	First International Research Conference in Mumbai.
15th	Platinum Jubilee CD Deshmukh Memorial Lecture delivered in Mumbai by Lord Adair Turner, Chairman, FSA, UK.
24th	Platinum Jubilee LK Jha Memorial Lecture delivered in Mumbai by Prof. John Taylor of Stanford University.

Date/Month/Year	Events and Activities
1	2
March 2010	
5th	CNBC Awaaz Open House Panel Discussion at Asiatic Society, Mumbai.
6th	(i) Post-Budget meeting of the Central Board of Directors with Hon'ble Union Finance Minister at Mumbai.
	(ii) Release of film on outreach visits.
	(iii) Release of Report of the Working Group on Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE).
20th	Get-together over a Cultural Event with popular performers in Andheri, Mumbai.
22nd and 23rd	(i) International Seminar in collaboration with OECD on Financial Literacy at Bangalore.
	(ii) Release of book on Financial Literacy.
	(iii) Launch of Financial Inclusion and Literacy (including Electronic Benefit Transfer) Initiative in Karnataka.
24th to 30th	Illumination of all RBI Office Buildings for one week.
April 2010	
1st	(i) Grand Finale event in Mumbai in the presence of Hon'ble Prime Minister of India, Hon'ble Union Finance Minister and other dignitaries at National Centre for Performing Arts (NCPA), Mumbai.
	(ii) Commemorative Coin on RBI, released by the Hon'ble Prime Minister of India.
	(iii) "Mint Road Milestones" – an illustrated chronology of the landmark events in the RBI's History, released by the Hon'ble Union Finance Minister.

ANNEX III

VISITS OF FOREIGN DELEGATIONS TO THE RESERVE BANK DURING JULY 1, 2009 TO JUNE 30, 2010

No.	Date	Foreign Delegates/Delegation	RBI Executives
1	2	3	4
1.	July 13, 2009	Mr. Yang Kaisheng, President of Industrial and Commercial Bank of China Ltd.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath, Dr. K. C. Chakrabarty, Deputy Governors, S/Shri V.K.Sharma, Anand Sinha and Deepak Mohanty, Executive Directors.
2.	July 15, 2009	NDRC Chinese delegation headed by Dr. Kong Jingyuan, Director General, Department of Economic System Reform, National Development and Reform Commission.	S/Shri Anand Sinha and Deepak Mohanty, Executive Directors.
3.	August 14, 2009	Mr. Raymond J. Ellis, Vice President of US Exim Bank.	Dr. K. C. Chakrabarty, Deputy Governor.
4.	August 24, 2009	Dr. Jim Walker, Founder and Managing Director of Asianomics Ltd., Hong Kong.	Dr. K. C. Chakrabarty, Deputy Governor.
5.	August 26-28, 2009	Kenya Monetary Policy Committee.	Shri Deepak Mohanty, Executive Director.
6.	September 02, 2009	Lord Leon Brittan of Spennithorne, Vice Chairman of UBS Investment Bank, London.	Dr. K. C. Chakrabarty, Deputy Governor.
7.	September 10, 2009	Mr. Atiur Rehman, Governor, Bangladesh Bank.	Smt. Usha Thorat, Deputy Governor.
8.	September 10, 2009	Small Group of very large and distinguished Investors from institutions such as the Government of Singapore's Sovereign Wealth Fund.	Shri V.K. Sharma, Executive Director.
9.	September 11, 2009	Dr. Derek Scissors, Asia Economics Research Fellow, The Heritage Foundation, Washington, USA.	Dr. K. C. Chakrabarty, Deputy Governor, Shri H. R. Khan, Executive Director.
10.	September 17, 2009	Mr. Merwyn Davies, UK Minister for Trade and Investment.	Smt. Usha Thorat and Dr. K. C. Chakrabarty, Deputy Governors.
11.	September 23, 2009	Mr. Nkosana Mashiya, Chief Director, Financial Markets and Stability, South African National Treasury, Mr. Charles Nevhutanda, Deputy Head, Exchange Control Department, South African Reserve Bank and Mr. Unathi Kamlana, Director, Prudential Regulation, South African National Treasury.	Smt. Shyamala Gopinath, Deputy Governor.
12.	October 20, 2009	Alderman Ian David Ludar, The Mayor of the City of London.	Dr. K. C. Chakrabarty, Deputy Governor.
13.	October 27, 2009	Mr. Jean Pierre Landau, Vice Governor, Banque de France.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath and Dr. K. C. Chakrabarty, Deputy Governors.
14.	October 27, 2009	Mrs. Anne Marie Idrac, Minister of State for Foreign Trade, Republic of France.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath and Dr. K. C. Chakrabarty, Deputy Governors.
15.	November 11, 2009	Mr. M. A. Delun, Deputy Governor, People's Bank of China.	Smt. Shyamala Gopinath, Deputy Governor, S/Shri G. Gopalakrishna and Deepak Mohanty, Executive Directors.
16.	November 11, 2009	British Treasury Delegation led by Mr. Thomas Scholar, Second Permanent Secretary.	Smt. Shyamala Gopinath, Deputy Governor, S/Shri H. R. Khan and Deepak Mohanty, Executive Directors.
17.	November 17, 2009	Mr. David Mulford, Vice-Chairman, International of Credit Suisse Pvt. Ltd. and his delegates.	Smt. Usha Thorat, Deputy Governor.
18.	November 17, 2009	Dr. Metz, Head of the Consumer Protection Directorate within the German Federal Ministry of Food, Agriculture and Consumer Protection.	Shri V. K. Sharma, Executive Director.

VISITS OF FOREIGN DELEGATIONS TO THE RESERVE BANK DURING JULY 01, 2009 TO JUNE 30, 2010

No.	Date	Foreign Delegates/Delegation	RBI Executives
1	2	3	4
19.	November 26, 2009	Mr. FANG Shangpu, Deputy Administrator of State Administration of Foreign Exchange (SAFE) of People's Republic of China and his delegation.	Shri H. R. Khan, Executive Director.
20.	November 30, 2009	Mr. Michael D. Carson, Emerging Markets Group, Federal Reserve Bank of New York.	Shri Deepak Mohanty, Executive Director.
21.	January 19, 2010	Mr.Wataru SAKATA, Director, Office of Foreign Exchange Reserve Management, Foreign Exchange Markets Division, International Bureau, Ministry of Finance, Japan.	S/Shri V.K.Sharma and H. R. Khan, Executive Directors.
22.	February 05, 2010	Hon'ble Horst Kohler, President, Federal Republic of Germany and his delegation.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath, Dr. K. C. Chakrabarty and Dr. Subir Gokarn, Deputy Governors and Shri Anand Sinha, Executive Director.
23.	February 08, 2010	Hon'ble John Lenders, the Victorian Treasurer and the Minister for Financial Affairs, Australia.	Smt. Usha Thorat, Deputy Governor, S/Shri V. K. Sharma, H. R. Khan and Deepak Mohanty, Executive Directors.
24.	February 09, 2010	Mr. Edgardo Torija-Zne, economist responsible for the emerging Asia macroeconomic scenario at the Economic Research Department of Natixis, France.	Shri Deepak Mohanty, Executive Director.
25.	February 11, 2010	Microfinance Advisory Board delegation constituted by the Royal Bank of Scotland (RBS), UK.	Shri V. K. Sharma, Executive Director.
26.	February 15, 2010	Mr. Mark Carney, Governor, Bank of Canada.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath, Smt. Usha Thorat, Dr. K. C. Chakrabarty. and Dr. Subir Gokarn, Deputy Governors.
27.	February 15, 2010	Lord Adair Turner, Chairman, Financial Services Authority, UK.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath, Smt. Usha Thorat, Dr. K. C. Chakrabarty and Dr. Subir Gokarn, Deputy Governors.
28.	February 24, 2010	Prof. John. B. Taylor, Stanford University, USA.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath, Smt. Usha Thorat, Dr. K. C. Chakrabarty and Dr. Subir Gokarn, Deputy Governors.
29.	March 25, 2010	Mr. Gudin de Vallerin and Mr. Delozier, leading French economists of French Treasury.	Dr. Subir Gokarn, Deputy Governor.
30.	April 07, 2010	US Treasury delegation led by Mr. Charles Collyns, Treasury Assistant Secretary for International Finance.	Dr. Subir Gokarn, Deputy Governor, S/Shri H. R. Khan and Deepak Mohanty, Executive Directors.
31.	May 05, 2010	Hon'ble Simon Crean MP, Australian Minister for Trade.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath, Deputy Governor, S/Shri Anand Sinha and Deepak Mohanty, Executive Directors.
32.	May 05, 2010	Swedish Association of Corporate Treasurers.	Shri Anand Sinha, Executive Director.
33.	May 25, 2010	Prof. Joseph E Stiglitz, Professor and Nobel Laureate on Economic Sciences.	Dr. D. Subbarao, Governor, Smt. Shyamala Gopinath and Dr. K. C. Chakrabarty, Deputy Governors, S/Shri V. K. Sharma, C. Krishnan, Anand Sinha, V. S. Das, G. Gopalakrishna, H. R. Khan and Deepak Mohanty, Executive Directors.
34.	June 15, 2010	Ms. Sheila Bair, Chairman, Federal Deposit Insurance Corporation, USA.	Dr. D. Subbarao, Governor, Smt. Usha Thorat, Deputy Governor, S/Shri V. K. Sharma, C. Krishnan, Anand Sinha, G. Gopalakrishna, H. R. Khan and Deepak Mohanty Executive Directors and Shri H. N. Prasad, CEO of DICGC.

ANNEX IV

MACROECONOMIC AND FINANCIAL INDICATORS

Item	Average 1990-91 to 1999-2000 (10 years)	Average 2000-01 to 2009-10 (10 years)	Average 2003-04 to 2007-08 (5 years)	2007-08	2008-09	2009-10
1	2	3	4	5	6	7
I. Real Economy						
I.1 Overall Real GDP (% change)	5.7	7.3	8.9	9.2	6.7	7.4
a) Agriculture (% change)	3.2	2.4	4.7	4.7	1.6	0.2
b) Industry (% change)	5.7	7.4	9.1	9.3	3.1	10.4
Of which: Manufacturing (% change)	5.6	8.1	10.0	10.3	3.2	10.8
c) Services (% change)	7.1	8.8	10.1	10.4	9.3	8.3
Demand Side Aggregates						
d) Final Consumption Expenditure (% change)	5.0	6.1	7.3	9.8	8.3	5.3
Of which: PFCE (% change)	4.8	6.2	7.6	9.8	6.8	4.3
GFCE (% change)	6.3	5.8	5.6	9.7	16.7	10.5
e) Gross Fixed Capital Formation (% change)	7.2	10.3	15.5	15.2	4.0	7.2
I.2 Share in GDP						
a) Agriculture (%)	28.4	19.3	18.7	16.4	15.7	14.6
b) Industry (%)	20.1	20.0	20.1	20.7	20.0	20.5
c) Services (%)	51.5	60.7	61.2	62.9	64.4	64.9
I.3 Foodgrains Production (Million tonnes)	188.6	210.5	213.6	230.8	234.5	218.2
Of which						
Rice	80.1	89.2	90.7	96.7	99.2	89.1
Wheat	63.9	73.4	72.9	78.6	80.7	80.7
Pulses	13.5	13.5	14.1	14.8	14.6	14.6
1.4 Commercial Crops (Million tonnes)#	308.0	341.9	347.9	415.0	345.4	337.9
Of which: Oilseeds	21.3	23.8	26.3	29.8	27.7	24.9
Sugarcane	265.5	289.9	291.2	348.2	285.0	277.8
1.5 Food Stocks (Million tonnes)						
a) Procurement	23.3	42.0	38.4	37.4	55.3	58.0
b) Off-take	20.6	39.5	41.5	37.4	39.5	48.9
c) Stocks at end-March	19.3	30.1	18.6	19.8	35.6	43.4
I.6 Index of Industrial Production (% change)	6.3	7.0	8.7	8.5	2.8	10.5
Sectoral						
a) Mining	3.4	4.3	4.2	5.1	2.6	9.9
b) Manufacturing	6.5	7.5	9.4	9.0	2.8	10.9
c) Electricity	7.0	4.8	5.8	6.3	2.8	6.0
Use-Based						
d) Basic Goods	6.3	5.6	7.0	7.0	2.6	7.2
e) Capital Goods	5.5	11.5	15.9	18.0	7.3	19.2
f) Intermediate Goods	7.5	5.8	7.2	8.9	-1.9	13.6
g) Consumer Goods	5.9	8.0	9.4	6.1	4.7	7.3
I.7 Core Infrastructure Industries (% change)	6.3	5.5	6.6	5.9	3.0	5.5
I.8 Gross Domestic Saving Rate (% of GDP)	23.0	30.2	33.2	36.4	32.5	-
Of which: Household	17.7	22.8	23.2	22.6	22.6	-
Private Corporate	3.8	6.1	7.1	8.7	8.4	-
Public	1.5	1.3	2.9	5.0	1.4	-
I.9 Gross Domestic Investment Rate (% of GDP)	24.4	30.9	34.0	37.7	34.9	35.0

Item	Average 1990-91 to 1999-2000 (10 years)	Average 2000-01 to 2009-10 (10 years)	Average 2003-04 to 2007-08 (5 years)	2007-08	2008-09	2009-10
1	2	3	4	5	6	7
II. Prices						
II.1 Wholesale Price Index Annual Average (% change)						
All Commodities	8.1	5.3	5.3	4.7	8.4	3.8
All Commodities-Point to Point	-	-	-	7.7	1.2	11.0
Primary Articles	9.4	5.7	5.3	7.6	10.1	11.0
of which : Food Articles	10.2	5.3	4.4	5.5	8.0	14.7
Non-food Articles	8.3	5.7	5.3	12.7	11.2	4.6
Fuel Group	10.6	8.1	6.5	1.0	7.4	-2.4
Manufactured Products	7.1	4.3	4.9	5.0	8.1	3.2
of which: Food Products	8.6	5.0	4.5	4.3	10.0	16.7
Non-Food Products	6.8	4.2	5.0	5.1	7.7	0.1
II.2 Consumer Price Index (CPI) (Average % Change)						
a) CPI- Industrial Workers	9.5	5.9	5.0	6.2	9.1	12.4
Of which: CPI- Industrial Workers Food	9.8	6.2	5.5	8.4	12.3	15.2
b) CPI- Agricultural Labourers	9.3	5.4	5.1	7.5	10.2	13.9
III. Money and Credit						
III.1 Reserve Money (M_0) (% change)	13.9	15.4	20.4	31.0	6.4	17.0
Adjusted Reserve Money (% change)	-	-	-	25.3	19.0	13.0
a) Currency in Circulation (% change)	15.2	15.1	15.9	17.2	17.0	15.7
b) Bankers' Deposits with RBI (% change)	13.3	17.9	32.6	66.5	-11.3	21.0
III.2 Narrow Money (M_1) (% change)	15.6	15.4	18.3	19.4	9.0	18.6
III.3 Broad Money (M_3) (% change)	17.2	17.0	17.7	21.4	19.3	16.8
a) Currency with Public (% change)	15.2	15.1	16.0	17.7	17.1	15.4
b) Bank Credit to Commercial Sector (% of GDP)	28.7	43.6	44.7	52.1	54.1	56.1
c) Bank Credit to Government (% of GDP)	22.7	23.6	21.6	18.2	22.9	26.8
d) Currency-Deposit Ratio (%)	23.1	17.8	17.8	16.5	16.1	15.9
e) Money Multiplier	3.4	4.6	4.6	4.3	4.9	4.8
III.4 Scheduled Commercial Banks						
a) Aggregate Deposits (% change)	17.2	18.1	19.0	22.4	19.9	17.2
b) Time Deposits (% change)	17.4	18.5	18.5	22.5	23.9	16.2
c) Demand Deposits (% change)	16.5	16.4	21.9	22.0	-0.2	23.4
d) Bank Credit (% change)	15.9	21.8	25.5	22.3	17.5	16.9
e) Non-food Credit (% change)	15.4	22.4	26.7	23.0	17.8	17.1
f) Investment in Government Securities (% change)	20.9	17.7	13.3	23.5	20.6	19.3
g) Credit-Deposit Ratio (%)	55.1	64.8	68.0	73.9	72.4	72.2
h) Credit-GDP Ratio (%)	20.6	38.0	39.6	47.7	49.8	52.1
IV. Financial Markets						
IV.1 Interest rates (%)						
a) Call / Notice Money rate	11.72	6.07	5.63	6.07	7.06	3.24
b) 10 year G-Sec yield	12.33	7.53	6.97	7.91	7.54	7.23
c) 91-Days T-bill yield	9.35+	6.13	5.79	7.11	7.10	3.57
d) Weighted Average interest rate on Central Government Borrowings	12.33	7.78	7.16	8.12	7.69	7.23
e) Commercial Paper**	12.45	8.19	7.74	9.81	10.84	6.26
IV.2 Liquidity (₹ crore)						
a) LAF Outstanding@	-	-	-	-50350	1485	990
b) MSS Outstanding*	-	-	-	168392	88077	2737
c) Average Daily Call Money Market Turnover	-	-	18492	21393	22436	15924
d) Average Daily G-Sec Market Turnover®	-	-	7709	8104	10879	14426

Item	Average 1990-91 to 1999-2000 (10 years)	Average 2000-01 to 2009-10 (10 years)	Average 2003-04 to 2007-08 (5 years)	2007-08	2008-09	2009-10
1	2	3	4	5	6	7
IV.3 Policy Rates (%)						
a) Cash Reserve Ratio	12.78	5.75	5.61	7.50	5.50	5.75
b) Repo rate ©	-	6.80	6.29	7.75	5.00	5.00
c) Reverse Repo rate ©	-	5.2	4.8	6.0	3.5	3.5
IV.4 Capital Market						
a) BSE Sensex: Level	-	-	-	15,644	9,709	17,528
Variation	-	-	-	19.7	-37.9	80.5
Coefficient of Variation	-	-	-	13.7	24.2	11.9
b) S&P CNX Nifty: Level	-	-	-	4735	3021	5249
Variation	-	-	-	23.9	-36.2	73.8
Coefficient of Variation	-	-	-	14.5	23.2	11.3
c) Turnover in BSE (₹ crore)						
Cash Segment	-	-	-	1,578,856	1,100,074	1,378,809
Derivative Segment	-	-	-	242,308	12,268	234
d) Turnover in NSE (₹ crore)						
Cash Segment	-	-	-	3,551,038	2,752,023	4,138,024
Derivative Segment	-	-	-	13,090,478	11,010,482	17,663,665
e) PE Ratio (as at end-March)						
BSE	-	-	-	20.1	13.7	21.3
NSE	-	-	-	20.6	14.3	22.3
f) Market Capitalisation (at end-March)						
BSE	-	-	-	5,138,015	3,086,076	6,164,157
NSE	-	-	-	4,858,122	2,896,194	6,009,173
Market Capitalisation to GDP (%)	-	-	-	103.8	55.4	98.9
g) Institutional Investments in Equity Markets (₹ crore)						
FIIs	-	-	-	52,574	-48,248	112,236
Mutual Funds	-	-	-	16,304	6,985	-10,512
h) Public Issues	-	-	-	83,707	14,671	32,607
Public Sector	-	-	-	20,069	-	7,128
Private Sector	-	-	-	63,638	14,671	25,479
i) ADR/GDR Issues	-	-	-	26,556	4,788	15,967
j) Private Placements	-	-	-	212,725	204,057	342,445
Public Sector	-	-	-	82,998	108,368	108,345
Private Sector	-	-	-	129,727	95,689	234,100
k) Net Resource Mobilisation by Mutual Funds (₹ crore)	-	-	-	153,802	-28,296	83,080
V. Government Finances						
V.1 Central Government Finances (% of GDP)						
a) Total Revenue Receipts	9.2	9.6	9.9	11.0	9.7	9.3
i) Tax Revenue	6.8	7.2	7.6	8.9	8.0	7.5
ii) Non Tax Revenue	2.5	2.3	2.3	2.1	1.7	1.8
b) Total Expenditure	16.0	15.5	14.8	14.4	15.9	16.4
i) Revenue Expenditure	12.3	13.0	12.2	12.0	14.2	14.5
of which						
Interest Payment	4.2	4.0	3.8	3.5	3.4	3.5
ii) Capital Expenditure	3.7	2.5	2.7	2.4	1.6	1.8
c) Revenue Deficit	3.0	3.4	2.3	1.1	4.5	5.3
d) Fiscal Deficit	5.9	4.9	3.6	2.6	6.0	6.7
e) Primary Deficit	1.6	0.8	-0.2	-0.9	2.6	3.2
f) Domestic Debt	48.0	57.0	58.3	55.1	54.5	54.2
V.2 State Finances ##						
a) Revenue Deficit (% of GDP)	1.2	1.0	0.5	-0.9	-0.2	0.8
b) Gross Fiscal Deficit (% of GDP)	3.1	3.2	2.7	1.5	2.4	3.4
c) Primary Deficit (% of GDP)	1.2	0.8	0.3	-0.5	0.6	1.6
d) Outstanding Liabilities (% of GDP)§	22.3	29.4	30.2	26.8	26.2	26.2

Item	Average 1990-91 to 1999-2000 (10 years)	Average 2000-01 to 2009-10 (10 years)	Average 2003-04 to 2007-08 (5 years)	2007-08	2008-09	2009-10
1	2	3	4	5	6	7
VI. External Sector						
VI.1 Balance of Payments						
a) Merchandise Exports (% change)Δ	8.6	17.7	25.4	28.9	13.7	-3.6
Oil Exports (% change)Δ	-13.5	-	62.6	52.2	-2.9	2.1
Non Oil Exports (% change)Δ	8.9	15.6	21.9	24.8	17.2	-4.6
b) Merchandise Imports (% change)Δ	9.6	20.2	32.7	35.4	20.8	-5.6
Oil Imports (% change)Δ	17.7	22.9	35.7	39.9	17.6	-7.0
Non Oil Imports (% change)Δ	8.8	19.4	31.6	33.4	22.3	-4.9
c) Trade Balance/GDP (%)	-2.8	-5.3	-5.4	-7.4	-9.8	-8.9
d) Invisible Balance/GDP (%)	1.6	4.8	5.1	6.2	7.4	6.0
e) Current Account Balance/GDP (%)	-1.3	-0.5	-0.3	-1.3	-2.4	-2.9
f) Net Capital Flows /GDP(%)	2.2	3.4	4.6	8.7	0.6	4.1
g) Current Account Balance (US$ billion)	-4.4	-8.4	-4.7	-15.7	-28.7	-38.4
Net Invisibles	6.0	44.0	45.8	75.7	89.9	78.9
Of which: Services	1.3	21.0	23.4	38.9	49.6	34.2
Private Transfers	7.8	27.9	27.6	41.7	44.6	52.1
Investment Income	-3.5	-4.7	-4.9	-4.4	-4.0	-6.6
h) Net Capital Flows (US$ billion)	7.7	31.1	44.4	106.6	7.2	53.6
Of which :FDI to India	1.6	15.9	15.3	34.7	35.0	31.7
FIIs	1.3	7.1	10.6	20.3	-15.0	29.0
NRI Deposits	1.3	2.5	2.0	0.2	4.3	2.9
i) Reserve Changes (BoP basis) (US $ billion) [(Increase (-)/Decrease (+)]	-3.3	-22.9	-40.3	-92.2	20.1	-13.4
Reserves Outstanding (US$ billion)*	22	162	183	310	252	279
VI.2 External Debt Indicators						
a) External Debt Stock (US$ billion)*	93	157	156	224	225	261
b) Debt-GDP Ratio (%)	29.0	19.2	17.6	18.1	20.5	18.9
c) Import cover of Reserves (in Months)*	6.5	12.6	14.0	14.4	9.8	11.2
d) Short-term Debt to Total Debt (%)*	6.0	11.8	13.6	20.4	19.3	20.1
e) Debt Service Ratio (%)	24.9	9.8	8.5	4.7	4.4	5.5
f) Reserves to Debt (%)*	23.0	96.0	114.2	138.0	112.2	106.7
VI.3 Openness Indicators (%)						
a) Export *plus* Imports of Goods/GDP	18.8	29.7	30.5	34.5	41.0	36.7
b) Export *plus* Imports of Goods & Services/GDP	22.9	39.4	40.9	46.0	53.7	48.4
c) Current Receipts *plus* Current Payments/GDP	26.8	45.4	46.7	52.5	60.5	55.2
d) Gross Capital Inflows *plus* Outflows/GDP	15.1	33.8	36.9	62.7	51.0	48.3
e) Current Receipts & Payments *plus* Capital Receipts & Payments /GDP	41.9	79.2	83.6	115.2	111.5	103.5
V.4 Exchange Rate Indicators						
a) Exchange Rate (Rupee/US Dollar)						
End of Period	34.1	45.4	43.1	40.0	50.9	45.1
Average	32.7	45.6	44.1	40.2	45.9	47.4
b) 36- Currency REER (Percentage Change)	-0.04@@	0.4	1.0	1.4	-13.6	13.3
c) 36- Currency NEER (Percentage Change)	-1.3@@	-0.3	0.5	3.3	-10.3	9.3
d) 6- Currency REER (Percentage Change)	0.4@@	1.5	2.5	3.3	-14.0	20.0
e) 6- Currency NEER (Percentage Change)	-4.0@@	-1.4	0.4	1.0	-14.8	10.2

- : Not Available/Not Applicable.
** : Average of high and low discount rates.
# : Includes oilseeds, sugarcane, cotton (lint), and raw jute and mesta.
: Data for 2008-09 (Accounts) and 2009-10 (Revised Estimate) based on budgets of 27 State Governments.
§ : Data for 2008-09 (Accounts) and 2009-10 (Revised Estimate) are provisional.
@ : (-)/(+)indicates injection/absorption of liquidity at end-March.
* : At end of the period.
® : Outright turnover in Central Government dated securities.
@@ : Average of 1994-95 to 1999-2000.
© : With effect from October 29, 2004, nomenclature of repo and reverse repo has been interchanged as per international usage. Prior to that date, repo indicated absorption of liquidity, while reverse repo meant injection of liquidity.
+ : Average of 1992-93 to 1999-2000.
Δ : Based on DGCI&S data.

Notes:
PFCE: Private Final Consumption Expenditure; GFCE: Government Final Consumption Expenditure; LAF: Liquidity Adjustment Facility; MSS: Market Stabilisation Scheme; BSE: Bombay Stock Exchange; NSE: National Stock Exchange; REER: Real Effective Exchange Rate; NEER: Nominal Effective Exchange Rate.